University of Southern California Catalogue 2021–2022

University of Southern California
University Park Campus
Los Angeles, CA 90089

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https://about.usc.edu/

Student Life

https://studentaffairs.usc.edu/

Campus Maps

UPC: https://maps.usc.edu/?id=1928#!s/?ct/53723,53722,55414,55415,55418
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Senior Administration

USC is governed by a Board of Trustees and led by President Carol L. Folt in conjunction with a senior administrative team responsible for managing institutional operations through administrative units and schools. Additionally, the Academic Senate, Undergraduate Student Government, and Graduate and Professional StudentSenate have power to make studies, reports and recommendations to the president in matters pertaining to their constituencies.

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USC Viterbi School of Engineering

Admission and Orientation

Orientation

New Student Orientation

"Welcome Trojans" is what we call USC orientation because it welcomes new students to the Trojan Family and provides events that promote success for all graduate and undergraduate students beginning their studies at USC. Due to the COVID-19 pandemic, variations to orientation programming have been necessary. The university strongly recommends that all students participate in the Welcome Trojans orientation events that are offered to familiarize themselves with the campus services and academic requirements that will assist them in their transition to USC.

During these offerings, students will meet with academic advisers to plan their first-semester schedule. There will be opportunities for guests to participate in information sessions that are designed for their new role as a support team member for their student. Please see the Office of Orientation Programs website at orientation.usc.edu for details.

All international students are required to complete their Passport Verification (PPV). More details can be found on the Orientation website at orientation.usc.edu or by visiting the Office of International Services (OIS) website for the Passport Verification link at ois.usc.edu/new-students/firstweeks/passport-verification-ppv/.

Graduate orientation events are offered through individual departments; a centralized event is offered as well through the Office of Orientation Programs. Instructions on making reservations for the appropriate orientation event will be sent directly to all students. If you have any questions, visit the Orientation website at orientation.usc.edu. Sessions are also available for graduate assistants through the Center for Excellence in Teaching (CET). For information about CET's programs, see Special Study Options or visit cet.usc.edu. Email usccet@usc.edu to subscribe to the *Friends of CET* weekly updates.

All students entering USC for the first time will be assessed a New Student Fee that will appear on the fee bill. This is a one-time fee assessed for all services available on campus, internationally and online. Fee details can be found on the Orientation website at orientation.usc.edu.

Undergraduate Education Admission

Offices of Admission and Financial Aid
(213) 740-1111

Admission to undergraduate programs is granted by the USC Office of Admission. This office receives and processes all applications, evaluates credentials, and sends notifications of acceptance to applicants who qualify for entrance. Admission to the university's degree programs must be granted in all cases by the USC Office of Admission and the appropriate selection committees. Only a letter from the Office of Admission grants official admission.

As a private university, USC seeks a wide geographical distribution among its student body, and evaluates its out-of-state applicants using the same criteria as those used for California residents. Tuition and fees are the same for all students, regardless of state or country of residence.

The University of Southern California admits qualified individuals as students regardless of race, color, religion, gender, national origin, age, handicap, sexual orientation or status as a disabled veteran. After admission, students are accorded equal rights to participate in all university-sponsored programs and activities. The university does not discriminate on the basis of race, color, religion, gender, national origin, age, handicap, sexual orientation or status as a disabled veteran in the administration of its educational policies, scholarship and loan programs, athletics and other student activities.

Applicants with Disabilities

The University of Southern California is committed to full compliance with the Rehabilitation Act (Section 504) and the Americans with Disabilities Act Amendments Act (ADAAA). As part of the implementation of this law, the university will continue to provide reasonable accommodation for academically qualified students with disabilities so that they can participate fully in the university's educational programs and activities. Although USC is not required by law to change the "fundamental nature or essential curricular components of its programs in order to accommodate the needs of students with disabilities," the university will provide reasonable academic accommodation. It is the specific responsibility of the university administration and all faculty serving in a teaching capacity to ensure the university's compliance with this policy.

The general definition of a student with a disability is any person who has "a physical or mental impairment which substantially limits one or more of such person's major life activities," and any person who has "a history of, or is regarded as having, such an impairment." Reasonable accommodations are determined for students based on an interactive review process, incorporating the student's self-report, supporting documentation according to the university's documentation guidelines, requirements of the student's program of study and university policies.

Office of Student Accessibility Services (OSAS) is designated by the university as the unit responsible for ensuring equal access in compliance with state and federal disability law as it relates to students with disabilities. OSAS serves undergraduate, graduate and professional students; on-ground and online students; and students in all credit-granting programs of study.

For information about how to connect with OSAS, as well as information about the university's documentation guidelines, please visit our website: osas.usc.edu.

Retention of Records

Credentials submitted to the Office of Admission become the property of the university and cannot be returned to the student or duplicated for any purpose.

Application Procedures

Students submit applications online through the Common Application at commonapp.org. A nonrefundable fee will be charged with the completed application, although students with financial need may request a fee waiver. For specific application deadlines and requirements, refer to admission.usc.edu or the *Meet USC* brochure.

Credentials for admission must include complete records of all previous high school and college or university work and any required test scores.

The application for admission and complete credentials should be submitted via the Common App by the appropriate deadlines.

Factors given prime consideration for admission to undergraduate study are an applicant's previous academic success and the quality of all records presented. To ensure diversity in the composition of the student body, other considerations may include outstanding talent and abilities, extracurricular activities and letters of recommendation.

Deferring Admission

In specific cases relating to medical issues, religious obligations or required military/national service, admission deferrals may be available. However, deferral requests for other reasons will not generally be granted. New students who have committed to enroll at USC but fail to do so will forfeit their spot in the entering class and will need to reapply (with no guarantee of admission) should they wish to attend the university in a future term.

Students wishing to request an admission deferral should contact their admission counselor.

School and Department Application Requirements

Because of strong competition for admission, several schools and academic departments require supplementary application materials and may employ separate deadlines.

Leventhal School of Accounting Transfer applicants interested in accounting must first apply to business administration. A formal request to transfer to the Leventhal School of Accounting can be made once the resident introductory accounting course(s) are successfully completed. High school students who have demonstrated exceptional scholastic aptitude for the accounting major will be considered for admission as first-year students. For more information, write or call the USC Marshall School of Business, Office of Undergraduate Admission, Los Angeles, CA 90089-0805, (213) 740-8885, email lsoa_undergrad@marshall.usc.edu or ACC100@marshall.usc.edu or visit marshall.usc.edu/departments/leventhal-school-accounting.

School of Architecture (BArch, BS, Architectural Studies) A portfolio is required of all applicants. Transfer students should note that the core curriculum will take five years to complete. For more information, write or call the USC School of Architecture, Los Angeles, CA 90089-0291, (213) 740-2420, email uscarch@usc.edu or visit arch.usc.edu.

Roski School of Art and Design (BFA and BA) Portfolios are required of all applicants to the BFA and BA (Studio Arts and Design) programs. Applicants may contact the USC Roski School of Art and Design, Watt Hall 104, Los Angeles, CA 90089-0292, (213) 740-2787, email roski@usc.edu or visit roski.usc.edu/admissions/undergraduate-admission for questions about applications and required supplementary materials.

Jimmy Iovine and Andre Young Academy for Arts, Technology and the Business of Innovation (BS) To apply, first-year and transfer applicants must submit the Common Application and supplemental portfolio materials by December 1. The portfolio includes a one-minute proposal video and samples of creative work. For more information, please call (213) 821-6140, email iovine-young@usc.edu or visit iovine-young.usc.edu.

Marshall School of Business Students may be admitted as incoming first-year students, as USC undergraduates transferring from another major or as students transferring from another college or university. Transfer students will be considered for admission to the Marshall School of Business once they have completed the prerequisite college writing and business calculus courses. Students should contact the Marshall School for a detailed list of equivalent courses. For further information, write or call the USC Marshall School of Business, Office of Undergraduate Admission, Los Angeles, CA 90089-0805, (213) 740-8885, send email to busadm@marshall.usc.edu or refer to marshall.usc.edu.

School of Cinematic Arts (Animation and Digital Arts, Cinema and Media Studies, Film and Television Production, Interactive Entertainment, Media Arts and Practice, and Writing for Screen and Television) To apply for admission, first-year and non-USC transfer applicants must submit the Common Application, USC Writing Supplement and SlideRoom application. Current USC transfer applicants must submit the SCA Supplemental Application for Admission and SlideRoom application. All application requirements are due by December 1 for freshmen applicants and transfer applicants applying to the Writing for Screen & Television Program and February 1 for all transfer applicants. Transfer applicants to the Writing program should note that the major will take four years to complete. Detailed application procedures may be found at cinema.usc.edu and any questions may be directed to the SCA Office of Admissions at (213) 740-8355 or admissions@cinema.usc.edu.

Annenberg School for Communication and Journalism (Communication, Journalism and Public Relations) Transfer applicants to an Annenberg major must submit a letter of recommendation from a college/university instructor or academic adviser to USC Admission. Also, an Annenberg essay is required as part of the USC Writing Supplement. For more information, contact USC Annenberg School for Communication and Journalism, Admissions Office, Los Angeles, CA 90089-0281, (213) 821-0770, email ascadm@usc.edu or visit annenberg.usc.edu.

Glorya Kaufman School of Dance (BFA) Admission to USC Kaufman is competitive: The school looks to enroll about 24 students. In addition to the Common Application, applicants must submit the USC Kaufman Portfolio via SlideRoom. All required materials must be received by December 1. Finalists will be invited to audition in person. Current USC students and transfer students are welcome to apply but should note that the BFA in Dance is a four-year program. For more information, contact the USC Kaufman School at 849 West 34th Street, Los Angeles, CA 90089-3521, email uscdance@usc.edu or visit kaufman.usc.edu.

Herman Ostrow School of Dentistry (Dental Hygiene) No dental hygiene applications are accepted for 2021-2022. For further information, write or call the Herman Ostrow School of Dentistry, Office of Admissions and Student Affairs, 925 West 34th Street, Room 201, Los Angeles, CA 90089-0641, (213) 740-2841 or visit dentistry.usc.edu.

School of Dramatic Arts (BFA and BA) Applicants must complete both the Common Application and SlideRoom supplemental application in order to be considered for admission. The deadline for all BFA programs, both freshman and transfer, is December 1. The BA deadline is January 15 for freshman and February 1 for transfer applicants. An audition/interview is required for admission to the BFA program. Creative submission videos are required for BA applicants. Applicants will be notified of the dates and locations for auditions and interviews after the departmental application is received. Additional information is available by calling (213) 740-1286 or visiting dramaticarts.usc.edu.

Viterbi School of Engineering Applicants to engineering and computer science majors must respond to the two additional short-answer questions on the USC Writing Supplement. For first-year applicants to all majors in engineering and computer science, four years of mathematics are required for admission consideration, with calculus in progress or completed by senior year. Three years of natural sciences are also required. Transfer applicants to all majors in engineering and computer science should have completed two or more semesters of college-level calculus and meet USC admission requirements. Transfer students are encouraged to complete additional pre-engineering course work

as available; visit viterbiadmission.usc.edu/transfer for a list of relevant courses. For more information, contact the Viterbi School of Engineering Admission and Student Engagement Office at (213) 740-4530 or viterbi.admission@usc.edu.

Thornton School of Music The deadline for all major programs in music (first-year and transfer) is December 1. All required supplementary materials must be received by this date. An audition (including prescreen material by the December 1 deadline) is required for most majors. Application and audition requirements can be found at music.usc.edu or by contacting the Thornton School of Music Office of Admission, uscmusic@usc.edu, (213) 740-8986.

USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy This program accepts applications from first-year students only. For information about admission criteria, program course sequence and application procedures, visit chan.usc.edu. Alternatively, write or call the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy at 1540 Alcazar Street, Los Angeles, CA 90089-9003, (866) 385-4250.

School of Pharmacy The Trojan Admission Pre-Pharmacy (TAP) program is a unique program for entering first-year students: a pre-pharmacy/doctor of pharmacy curriculum that affords students continuity in their professional education. Students admitted to TAP begin their pre-pharmacy course work at USC in the freshman year and are given priority admission status to the USC School of Pharmacy, provided they meet specified criteria. All applicants should contact the School of Pharmacy for instructions at USC School of Pharmacy, 1985 Zonal Avenue, PSC 206A, Los Angeles, CA 90089-9121, (323) 442-1466 or pharmacyschool.usc.edu/programs.

Admission from Secondary Schools

Prospective first-year students are evaluated on the content and rigor of their high school course work, their grades, standardized test scores, activity summary, essay, short answers and counselor/teacher recommendations. There are no absolute "cutoffs" or minimums for grades, rank in class or test scores. We are interested in the interplay of these elements as well as personal accomplishments and potential for success.

Academic Expectations

Outside of mathematics, no specific curriculum is prescribed or required, though students offered admission typically pursue the most rigorous program available to them in English, science, social studies, foreign language and the arts. Students are expected to have earned a grade of C or better in at least three years of high school mathematics, including Advanced Algebra (Algebra II). Transfer applicants may also meet this requirement by completing Intermediate Algebra or a higher-level math class at the college level with a grade of C or better. Careful attention is paid to preparation for the intended major.

Grade Point Average

When assessing grade point average, consideration is also given to class rank and to the strength and frequency of Advanced Placement, International Baccalaureate or A-Level course work in a student's curriculum, if this course work is offered by the student's school. Naturally, we are interested in consistently strong academic performance throughout the four-year high school record. However, we realize that some bright students, for one reason or another, may encounter difficulties in ninth grade. In these cases, special attention is given to steady and substantial improvement throughout the sophomore, junior and senior years.

Standardized Test Requirements

SAT and ACT

USC has adopted a test-optional policy for applicants applying to the 2021-2022 and 2022-2023 academic years. This means that prospective first-year students may apply without submitting SAT or ACT scores, though students may still choose to submit SAT or ACT scores if they wish. Please see admission.usc.edu/apply/test-optional-policy-faq for additional information.

For students who choose to submit test scores, USC will record the highest scores for those who have taken tests more than once. For the SAT, the highest scores for both the Evidence-Based Reading and Writing and the Mathematics sections will be recorded, even if achieved in different sittings. For the ACT, USC will take the highest of each subscore and average them into a new composite.

For more information on the SAT exam, visit collegeboard.org; for the ACT exam, visit act.org.

Other Standardized Exams

Although USC's test optional policy extends to all students, we find it helpful to have externally graded or examined work when evaluating first-year applicants who do not attend a regionally accredited high school (e.g., students who are home-schooled, or who attended some non-accredited parochial or community-based programs).

Therefore, we recommend submitting either SAT/ACT results, SAT subject exam results, AP exam results, or transcripts from college courses or other accredited online schooling programs if possible.

First-year applicants who have taken Advanced Placement (AP), International Baccalaureate (IB) or A-Level examinations are encouraged to provide those results.

English Language Proficiency Exams for International Students

International students (see USC's definition of international students below) applying for undergraduate admission whose native language is not English must demonstrate English proficiency by submitting the results from one of the following tests:

- Test of English as a Foreign Language (TOEFL)
- International English Language Testing System (IELTS)
- PTE Academic test
- Duolingo English Test*

Test scores must be recent, earned within two years of the application date. International first-year applicants with minimum scores of 650 on the SAT Evidence-Based Reading test or a 27 on the ACT English are exempt from having to submit these test scores.

**Please note that although the Duolingo English Test may be submitted to demonstrate English proficiency, it will not waive the International Student English Exam (ISE) requirement.*

Credit by Examination

Students may earn a total of 32 semester units of credit toward their bachelor's degree by examination. Advanced Placement, International Baccalaureate and A-Level credit is granted at USC for exams taken before matriculation at a two-year or four-year college and will be evaluated solely according to USC's standardized exam policies. Refer to the Transfer Credit Services' website at arr.usc.edu/transfercredit for more complete information regarding transfer credit for these standardized exams.

Students who have also earned credit for college courses taken while in high school should refer to the Course Work Taken Elsewhere page.

Advanced Placement Examinations (AP)

USC grants college credit for the Advanced Placement Examinations of the Educational Testing Service. A student may be granted 4 semester units of credit for most AP tests with scores of four or five. Results should be sent directly from the College Board to: University of Southern California, Transfer Credit Services, Los Angeles, CA 90089-0912. For specific AP credit information, call the Office of Admission at (213) 740-1111 or visit arr.usc.edu/transfercredit.

International Baccalaureate (IB)

USC grants either 20 units of credit to students who earn the International Baccalaureate diploma with a score of 30 or higher, or 6 units for each score of 5 or higher on the IB Higher Level exams, for a maximum of four exams, whichever is higher. International Baccalaureate results should be sent directly from the International Baccalaureate Organization to: University of Southern California, Transfer Credit Services, Los Angeles, CA 90089-0912. For more information, visit arr.usc.edu/transfercredit.

Secondary School Exams (A-Level, etc.)

USC typically awards 8 semester units for most A-Level exams with an appropriate score from schools in a British-style educational system. Results must be sent directly from the examining agency, not from the student or the student's former school. Secondary schools in many other countries offer some kind of comprehensive exam similar to the British A-Level. These exams may be eligible for transfer credit. See arr.usc.edu/transfercredit for information about the process of evaluation, which requires a fee paid by the student.

Subject Credit by Special Examination

See the Subject Credit by Special Examination section for further information.

Admission from Colleges and Universities

An applicant may be admitted by transfer from a fully accredited college, university or community college, under the following conditions: (1) if the applicant has completed 30 or more transferable college semester units with an appropriately strong grade point average in an academically rigorous selection of courses; (2) if the applicant is not under the penalty of academic or disciplinary disqualification at any college or university previously attended and is entitled to an honorable dismissal; and (3) if proof of high school graduation on a high school transcript, or the equivalent (such as a GED or finishing certificate), has been provided as part of the application materials. If fewer than 30 transferable semester units have been completed at the time of application, the applicant may choose to submit — in addition to the high school transcript — the results of the SAT or the ACT assessment test. See admission.usc.edu/apply/test-optional-policy-faq for more information.

Students intending to transfer to USC should refer to the *Transferring to USC* brochure for detailed information about the university's transfer, admission and credit policies. Call the USC Office of Admission at (213) 740-1111 or visit admission.usc.edu/transferring.

The amount of advanced standing granted to a student transferring from another institution is determined in each individual case by the Office of Academic Records and Registrar. A minimum of 64 units toward the bachelor's degree must be earned in residence at USC. For a degree in Architecture, a minimum of 80 units must be earned in residence at USC. A maximum of 70 of the transferable units for this program may be earned at two-year colleges. For students in Engineering's "3-2" Program, at least 48 units must be earned in residence at USC. Two-thirds of any transferable course work must be completed at one of USC's four-year partner institutions.

It is the student's responsibility to report all college-level course work completed outside USC to the Office of Admission when completing the application form. Omitting such information constitutes a violation of the applicant's affidavit and may result in the revocation of admission to the university.

Records of all courses including correspondence study, extension or summer session courses taken in other institutions after the student's admission to USC must also be filed with the Office of Academic Records and Registrar immediately following completion of the work.

Admission of International Students

The University of Southern California has an outstanding record of commitment to international education. From a small presence during our early history, our international enrollment grew to an average of 200 students by the 1930s. After declining international enrollments in the years surrounding World War II, USC began rebuilding and in 1951 began providing specialized admission services to international students. By 1964, more than 1,000 international students were enrolled at USC. Today, the Office of Admission serves thousands of prospective students each year by providing both general and specialized information and by maintaining the expertise necessary to evaluate academic records from the various educational systems around the world. The Office of Admission also issues the required eligibility certificates for students who require non-immigrant student visas to study in the United States.

At USC, an international student is an individual of foreign nationality who will be entering or has already entered the United States with a student visa. However, students already residing in the United States and holding other non-immigrant visas (such as E2, H2 or L2) are also international students and may remain on those visas to pursue their studies at USC, if they so choose. International students do not qualify for need-based financial aid. U.S. permanent residents, naturalized U.S. citizens and U.S. citizens residing and attending school outside the United States are not considered international students and are eligible for need-based financial aid.

English Language Requirements

Academic success at USC is strongly dependent upon the ability to communicate in English. Listening, speaking, reading and writing proficiency must be well developed in order to assimilate large amounts of difficult material under limited time conditions with full comprehension. Such proficiency is much greater than that required for ordinary everyday living. Therefore, every effort should be made to acquire English proficiency prior to entering the university.

Admitted international students whose first language is not English are normally required to take the International Student English Examination (ISE Exam) before the beginning of the first term of study. The examination results determine whether students must take additional English for academic purposes course work. The ISE Exam is administered by the American Language Institute (ali.usc.edu).

International students who meet one of the following conditions may be exempt from taking the ISE Exam:

- International students who have completed their entire bachelor's degree at regionally accredited universities located in the United States or in another country in which English is both the language of instruction and the only official language of the country.
- Applicants to master's programs who have attained an Internet Based TOEFL (iBT) score of 90, with no less than 20 on each sub-score; or an IELTS score of 6.5, with no less than 6 on each band score.
- PhD and undergraduate applicants who have achieved an Internet Based TOEFL (iBT) score of 100 with no less than 20 on each sub-score; or an IELTS score of 7, with no less than 6 on each band score.

USC does not accept "superscores" or TOEFL "MyBest scores." Some departments may have higher requirements for English proficiency than what is listed above. USC must receive scores electronically from the testing service for them to be considered official. Photocopies or paper copies of scores are not acceptable. Scores must be received no later than the Friday before classes begin. Students should contact the American Language Institute (ALI) Office before the deadline to confirm that their scores have been received.

American Language Institute

Any student who has not demonstrated adequate English proficiency based on the criteria outlined above will be required to enroll in courses at the American Language Institute (ALI) at USC. The ALI provides courses designed to improve an international student's oral and written communication skills in English. The

extent to which a student may be required to take courses at the ALI is determined by the student's performance on the International Student English Examination (ISE Exam) or, in the case of potential teaching assistants, the ITA Exam.

ALI tuition units are charged at the regular university rate. Entering students who need English language classes should be aware that the ALI course requirements will likely increase the overall cost of their degree program. ALI classes can normally be taken concurrently with a student's other university classes and must be completed at the earliest opportunity.

Graduate and Professional Education Admission

Office of Graduate Admission
(213) 740-1111
gradadm.usc.edu

At the graduate level, admission to graduate and professional programs is granted by the dean of the school conferring the degree. However, only a letter from the university's Office of Graduate Admission constitutes an official offer of admission; correspondence with department chairs, program directors or individual faculty members does not constitute admission.

The University of Southern California admits qualified individuals as students regardless of race, color, religion, gender, national origin, age, handicap, sexual orientation or status as a disabled veteran. After admission, students are accorded equal rights to participate in all university-sponsored programs and activities. The university does not discriminate on the basis of race, color, religion, gender, national origin, age, disability, sexual orientation or status as a disabled veteran in the administration of its educational policies, scholarship and loan programs, athletics and other student activities.

Application

The USC Application for Graduate Admission (usc.liaisoncas.com) should be used by all applicants to all programs except law, medicine, the physician assistant program, and some professional programs in the schools of dentistry and pharmacy, and the divisions of physical therapy, occupational therapy and public health. Applicants should confirm application requirements with their intended school or academic program before application submission.

Online Graduate Programs

Admission to the University of Southern California's online graduate programs is offered to candidates meeting the university's admission standards. USC's online programs are designed to be as rigorous and comprehensive as their traditional on-campus counterparts. Official offers of admission to some of our online programs may come directly from the administering school or college.

Prospective online program students must submit an application for admission, application fee, official academic records and supplemental documents as required by their intended program. Applicants are encouraged to contact the department, program or school to which they are applying for further program information and additional requirements.

Applicants with Disabilities

The University of Southern California is committed to full compliance with the Rehabilitation Act (Section 504) and the Americans with Disabilities Act Amendments Act (ADAAA). As part of the implementation of this law, the university will continue to provide reasonable accommodation for academically qualified students with disabilities so that they can participate fully in the university's educational programs and activities. Although USC is not required by law to change the "fundamental nature or essential curricular components of its programs in order to accommodate the needs of students with disabilities," the university will provide reasonable academic accommodation. It is the specific responsibility of the university administration and all faculty serving in a teaching capacity to ensure the university's compliance with this policy.

The general definition of a student with a disability is any person who has "a physical or mental impairment which substantially limits one or more of such person's major life activities," and any person who has "a history of, or is regarded as having, such an impairment." Reasonable accommodations are determined for students based on an interactive review process, incorporating the student's self-report, supporting documentation according to the university's documentation guidelines, requirements of the student's program of study and university policies.

Office of Student Accessibility Services (OSAS) is designated by the university as the unit responsible for ensuring equal access in compliance with state and federal disability law as it relates to students with disabilities. OSAS serves undergraduate, graduate and professional students; on-ground and on-line students; and students in all credit-granting programs of study.

For information about how to connect with OSAS, as well as information about the university's documentation guidelines, please visit our website: osas.usc.edu.

Retention of Records and All Application Documents

All documents and credentials submitted to the Office of Admission, at the time of application and thereafter, become the property of the university and cannot be returned to the student or duplicated for any purpose.

Continuing Registration Requirement

The minimum standard for graduate admission is a U.S. bachelor's degree or its equivalent (as determined by the USC Office of Admissions), from a regionally accredited institution (for schools located in the United States) or an institution officially recognized by the ministry of education of the country in which it is located. The Graduate School and some professional schools have additional minimum requirements for applicants seeking degrees. Continuing registration requirement status is applied to those students who have not yet met all requirements for admission to full graduate status or who have not filed all relevant documents with the appropriate school or department. Students admitted in this status must satisfy their continuing registration requirements by the end of the first term of enrollment, or within the time period deemed appropriate by the department, program or Office of Degree Progress. Students who fail to satisfy their continuing registration requirement within the allotted time frame will not be allowed to register for classes for future terms.

Students who have continuing registration requirement holds on their records for academic standards must complete a stipulated number of units of graduate-level course work with no grade below a B in each class and must be recommended for regular admission by a faculty committee. Once those academic requirements have been met within the stipulated term period, the department chair or program director can authorize registration for the following semester. If these requirements are not met, the student may be dismissed from the program.

Individual exceptions must be approved by the dean of the degree-conferring unit.

Doctoral Admission with Advanced Standing

Some doctoral programs at USC admit students with Advanced Standing (entry with an appropriate completed graduate degree from an accredited institution).

A minimum of 36 units of course work beyond the first graduate degree, exclusive of 794 Doctoral Dissertation preparation, is required for the doctoral degree if students are admitted with Advanced Standing. Additional course work may be required if deemed necessary by the student's faculty. See the Course Work Taken Elsewhere page.

Admission to Candidacy

Admission to graduate study does not imply admission to candidacy for an advanced degree and gives no right or claim to be so admitted. Candidacy is determined after the student has demonstrated the ability to do graduate work with originality and independence at USC.

University Faculty

Faculty members shall not be candidates for degrees in the same schools in which they have appointments. In addition, assistant professors on the tenure track should not simultaneously be candidates for degrees anywhere at the university. Individual exceptions to either of these policies may be made only with the approval of the provost or of a special committee appointed by the president. Individual exceptions are considered when the individual submits a request for tuition waiver, which is forwarded for approval to the vice provost for faculty affairs. The form should be accompanied by a memo from the dean of the school. For candidacy within the same school, the dean's memo explains how conflict of interest issues will be dealt with; for assistant professors on the tenure-track, the memo explains how pursuit of the degree will advance rather than detract from meeting the criteria for tenure.

The Graduate School

The Graduate School establishes and monitors the standards under which students are admitted for study in all graduate degree programs except the Doctor of Dental Surgery, Juris Doctor and Doctor of Medicine. An alphabetical listing of degree programs by school can be found under Programs, Minors and Certificates. Details of admission standards are provided in the Graduate School section of this catalogue and in the sections of schools and departments providing the curricula for these programs.

Professional Master's and Doctoral Degrees

Details of admission standards to professional degrees available at USC are detailed in appropriate school listings as well as on the Office of Graduate Admission website .

Dual Degree Programs

Applicants wishing to pursue a dual degree program offered by the university must apply separately to each degree program, meet the admission requirements of each school, and be admitted by both academic units. Applicants to a professional degree program should consult the particular school for information on admission requirements and programs of study.

Admission of International Students

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At USC, an international student is an individual of foreign nationality who will be entering or has already entered the United States with a non-immigrant student visa. However, students already residing in the United States and holding other non-immigrant visas (such as E2, H1 or L2) are also international students and are eligible to pursue their degrees at USC on these visas, if they so choose. International students do not qualify for need-based financial aid. U.S. permanent residents, naturalized U.S. citizens and U.S. citizens residing abroad and attending school outside the United States are not considered to be international students and are eligible for need-based financial aid.

Admission

International applicants (those who are or will be in the United States on non-immigrant visas) are required to submit the following documents:

1. Application for Admission;
2. Application fee paid by credit card; the fee is non-refundable and cannot be deferred;
3. Official scores on all examinations required for admission (e.g., GRE, GMAT, TOEFL, IELTS, etc.) sent to USC electronically by the testing agency;
4. One official copy of academic records from every postsecondary institution attended, along with certified English translation, where applicable;
5. Documented evidence of financial support with a passport copy (see financial guarantee statement); and
6. Letters of recommendation, as per the guidelines provided by the intended program of study.

Additional information may be required by the academic departments. General admission guidelines are available by country on the USC Graduate Admission website and subject to change without prior notice.

English Language Requirements

Academic success at USC is strongly dependent upon the ability to communicate in English. Listening, speaking, reading and writing proficiency must be well developed in order to assimilate large amounts of difficult material under limited time conditions with full comprehension. Such proficiency is much greater than that required for ordinary everyday living. Therefore, every effort should be made to acquire English proficiency prior to entering the university.

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International students who meet one of the following conditions may be exempt from taking the ISE Exam:

- International students who have completed their entire bachelor's degree at regionally accredited universities located in the United States or in another country in which English is both the language of instruction and the only official language of the country.
- Applicants to master's programs who have attained an Internet Based TOEFL (iBT) score of 90, with no less than 20 on each sub-score; or an IELTS score of 6.5, with no less than 6 on each band score.
- PhD and undergraduate applicants who have achieved an Internet Based TOEFL (iBT) score of 100 with no less than 20 on each sub-score; or an IELTS score of 7, with no less than 6 on each band score.

USC does not accept "superscores" or TOEFL "MyBest scores." Some departments may have higher requirements for English proficiency than what is listed above. USC must receive scores electronically from the testing service for them to be considered official. Photocopies or paper copies of scores are not acceptable. Scores must be received no later than the Friday before classes begin. Students should contact the American Language Institute (ALI) Office before the deadline to confirm that their scores have been received.

American Language Institute

Any matriculated student who has not demonstrated adequate English proficiency based on the criteria outlined above will be required to enroll in courses at the American Language Institute (ALI) at USC. The ALI provides courses designed to improve an international student's oral and written communication skills in English. The extent to which a student may be required to take

courses at the ALI is determined by his or her performance on the International Student English Examination (ISE Exam) or, in the case of potential teaching assistants, the ITA Exam.

ALI tuition units are charged at the regular university rate. Entering students who need English language classes should be aware that the ALI course requirements will likely increase the overall cost of their degree program. ALI classes can normally be taken concurrently with a student's other university classes and must be completed at the earliest opportunity.

Teaching Assistantships

All new teaching assistants (TAs) for whom English is a second language must demonstrate their competence in spoken English before assuming classroom or laboratory duties. Normally, new international teaching assistants (ITAs) demonstrate their English proficiency by taking the ITA Exam, administered by the American Language Institute (ALI) located on the USC University Park Campus.

The exam must be taken before assuming classroom or laboratory duties and no later than the first day of classes. The ITA exam is graded on a scale of 1 to 7. Those who achieve a score of 6 or higher are cleared for classroom duties and have no English oral skills requirement. Those who score 5 or 5.5 are cleared for classroom duties, but are required to enroll in an English language course through the ALI while performing their ITA responsibilities. Those who score below 5 on the exam are not cleared for classroom duties. These students are normally required to enroll in an English language course offered by ALI until adequate English proficiency is obtained. For more information, call (213) 740-0079 or visit ALI's website at ali.usc.edu.

Those ITAs denied clearance for teaching duties may have their offer of graduate assistantship withdrawn or alternative responsibilities assigned. An ITA who is denied clearance to teach should immediately seek assistance from the chair of the ITA's home department or program director.

Financial Guarantee Statement

The United States government requires all international applicants to provide proof of ability to pay tuition and living expenses before a formal letter of admission or the forms needed for obtaining a visa will be issued. International students are also required to have health and accident insurance. The cost of university-provided insurance will be added to the student's fees unless the student presents proof of adequate coverage.

Each applicant relying on personal or family support must furnish, at the time of application, an official financial-guarantee letter — preferably a bank letter — indicating the sponsor's name and address and verifying the ability to pay the annual cost in education-related expenses for the first academic year. This document must be verified by a bank seal. It is not necessary to show proof of funding in order to be considered for admission to USC. However, it is crucial for students to submit their financial-guarantee letters once they have submitted their applications in order to expedite the issuance of the I-20/DS-2019 in the timeliest manner possible, if they are admitted to the university.

Prospective doctoral students do not need to submit a financial-guarantee letter since most admitted students will be fully funded by the university. Applicants whose financial support will come from their home governments or other official agencies (e.g., AMIDEAST, IIE, etc.) must submit similarly appropriate documents from their sponsors.

International students cannot meet the full amount of their educational expenses by working while in the United States. The U.S. Citizenship and Immigration Services (USCIS) only allows students to work on and off-campus under limited circumstances, and employment opportunities are further limited by legislation that requires holders of student visas to be full-time students.

Additionally, all international students must submit a copy of a valid passport.

Official Document to Enter the United States

The Office of Admission will issue the I-20 (for the F-1 visa) or DS-2019 (for the J-1 visa), whichever is appropriate, for the student to apply for the visa required to enter the United States. Any students entering the United States by means of these documents issued by USC must register for the semester to which they are admitted to USC.

Registration Requirements for International Students

International students must maintain full-time student status as determined by the Office of International Services and the departmental adviser. Such students are not eligible to be considered students without formal registration and are in violation of immigration laws when not properly registered. International students are also restricted in terms of the number of online courses they can apply to full-time enrollment. Any international student having questions about registration requirements should consult the Office of International Services, Royal Street Parking Structure, Suite 101.

Admission Evaluations

Admission evaluations for international students are completed by the Office of Admission. Official transcripts for all previous academic work completed should be directed to the Office of Admission. Evaluations by credential evaluations services/ companies are not accepted.

Tuition and Fees (Estimated), Fall 2021

Tuition is payable in advance unless special arrangements are made for deferred payments as described below. Tuition is the same for resident and nonresident students. Registration is completed when the bill has been settled.

Auditors pay the regular tuition rate. Auditors are not required to participate in class exercises (discussions and examinations); they receive no grades or credit and there is no transcript notation of courses taken for audit. An instructor, dean or university officer may give permission to an individual to attend a class as a guest. Otherwise, attendance in class is limited to enrolled students.

These fees are based upon current information available at the time of publication and are subject to possible later change. The university reserves the right to change without notice any of the terms stated herein.

The number of units for which tuition is charged is indicated by the unit number below the title of each course listed in the Courses of Instruction.

Tuition (semester), (Estimated)

Undergraduate Students	
(12–18 units)	$30,223.00
unit basis	2,035.00
Graduate Students	
(15–18 units)	30,223.00
unit basis	2,035.00
Advanced Dentistry (per trimester)	34,758.00
Dentistry (per trimester)	
Session 006	34,389.00
Dental Hygiene (per trimester)	
Session 007	28,011.00
Special Dental International Students	
(per trimester) Session 008	34,389.00
Engineering Graduate units (500 level and above)	
unit basis	2,199.00
Law Session 002	
flat fee basis (13–17 units)	34,999.00
unit basis	2,707.00
Medicine Session 003	
flat fee basis	33,736.00
Master of Physician Assistant Practice	
flat fee basis	30,223.00
Pharmacy Session 004, 005	
flat fee basis (15–18 units)	30,448.00
unit basis	2,029.00
Graduate Cinema Session 037	
unit basis (no flat fee)	2,164.00
Business Graduate (500-level and above)	
unit basis	2,092.00
Doctor of Physical Therapy	
full year for year 1 and 2 students	73,634.00
partial year for year 3 students	44,487.00
Master of Real Estate Development Session 038	
flat fee basis (16–18 units)	36,112.00
unit basis	2,257.00

Mandatory Fees (Estimated)

Application Fee, undergraduate (not refundable)	85.00
Application Fee, graduate applicants (not refundable)*	90.00
*Please note that professional programs have their own separate fees (e.g. MD, JD, DDS, PharmD)	
Commitment Deposit, undergraduate (not refundable but applicable to tuition and fees)	300.00
Commitment Deposit, graduate and professional (not refundable but applicable to tuition and fees): Students should consult their academic department or school.	
Orientation Fee	
New Student Fee (undergraduate)	450.00
New Student Fee (graduate)	55.00
Student Health Center Fee (for students with a load of 6 units or more)	
Fall 2021	427.00

Student Programming Fee, per semester	
Undergraduate	64.00
Graduate (UPC, HSC and nearby campuses)	40.00
Graduate (All other locations and online)	20.00
Norman H. Topping Student Aid Fund, per semester, all students	8.00

Special Fees (Estimated)

Parking Fees: please visit the Transportation website at usc.edu/parking.	
Deferment Service Charge	
Thirty days deferments are granted for up to $2,000 of the tuition balance. There is a non-refundable service charge of 5 percent of the deferred abount due at the time the deferment is granted, in addition to the remaining billing balance.	
Student Identification Card (USCard)	
Replacement with mag stripe	25.00
Replacement with Prox contactless	25.00
Required of all students. Students must be registered before a card is issued. The fee may be assessed for each replacement of identification card.	
Laboratory Fees	5.00 – 500.00
For certain laboratory courses in architecture, biological sciences, chemistry, engineering, fine arts, geological sciences, physical education and physics. These fees are variable, and students should consult the current Schedule of Classes for amount of individual fees.	
Dissertation Fee	115.00
For USC Libraries and Graduate School processing of doctoral dissertation	
Thesis Fee	105.00
For USC Libraries and Graduate School processing of master's thesis	
Application for re-entry	no charge
Special Subject Examination (one-half per-unit rate regardless of units per course)	1,017.00
Late articulation petition fee	150.00
Articulation of international undergraduate transfer credit	205.00
Diploma reissue fee	125.00
Petition processing fee for registration exceptions	150.00

Late Registration and Late Settlement Fees

First week	100.00
Second week	100.00
Third week	100.00

Registration is not permitted after the third week of classes.

The university currently assesses a monthly finance charge on all past due balances. The current annual rate is 12 percent, subject to change.

A "returned check charge" of $25 is assessed for a check or e-check returned by the bank for any reason. Under California Civil Code #1719, a returned check may create a liability for treble (three times) the amount owed, but not less than $100. Any returned items will void outstanding deferments, making all balances due in full immediately. The university may, at its option, cancel enrollment of any student whose check is returned unpaid by the bank. If the university does not exercise this option, the student will be responsible for all tuition and fees incurred. Students and parents should be aware that non-local checks may be held by the bank for the maximum time allowed by law. Please allow ample time for non-local funds to be made available by the date payment is due.

Obligation for Payment

Request for registration constitutes a legal financial obligation to which students will be held liable if they do not follow the proper procedure to change or cancel their registration through the Office of Academic Records and Registrar. They must receive written confirmation (the Registration Confirmation form) to verify that their requested change has been made.

By registering, students agree to be held responsible for all tuition and fees, including, but not limited to, payments denied by student loan lenders, agencies of the United States government, and agencies of foreign governments.

Tuition and fees for all students, including those whose tuition has been deferred, become an obligation in accordance with the provisions of the Withdrawal Refund Policy as follows: Tuition and fees are due, in full, by the settlement deadline. Failure to make payments of any indebtedness to the university when due, including but not limited to tuition, deferred tuition, housing, student loans, lab fees and USCard, is considered sufficient cause, until the debt is settled with the university to (1) bar the student from classes and examinations; (2) withhold diploma or scholastic certificate; (3) bar the student from university housing; (4) suspend all university services and privileges; (5) suspend the student;

(6) assign the student to a collection agency (students who have been assigned to an outside collection agency may be required to pay in advance for all future registrations and services); and (7) report the student to a credit bureau. This policy will be equally enforced against debts discharged through bankruptcy.

Permission to cancel enrollment does not constitute, nor shall it be construed as, a waiver by the university of a student's financial obligation. Students are still responsible for all outstanding debts and contracts with the university. Furthermore, a student must not have any delinquent financial obligations to USC at the time classes begin or his or her registration may be revoked.

For additional information please contact the Cashier's Office, Student Union 106 (STU 106), (213) 740-7471.

Methods of Payment

You may pay your bill online (sfs.usc.edu/epay), by mail or in person. If you are paying by mail, be sure to mail your payment early enough for the university to receive it by the settlement deadline.

USCe.pay allows you to manage your student account online. You can pay your tuition and fees by transferring funds from your savings or checking account (via ACH) or by wire. As of July 1, 2020, USC will no longer accept credit cards for payment of tuition and fees. You can also print e-receipts and view your billing statements or current account information. In addition, you can set up individual guest user access for parents or anyone else you choose so they can make payments on your account. For more information, visit sfs.usc.edu/epay. To access your USCe.pay account, log in to myUSC (my.usc.edu) and select the USCe.pay link.

In fall and spring semesters, USC offers a monthly payment plan. An application must be made each term after the student has registered for classes but before the settlement deadline.

More detailed information about student accounts, settlement options and procedures is available at sfs.usc.edu.

Financial Aid

Financial aid recipients will have most of their available financial aid (such as scholarships, grants, loans and graduate assistantship tuition awards) applied to their university accounts each semester as direct credits against their total charges. Federal and state aid such as Pell Grants, Supplemental Educational Opportunity Grants, Cal Grants, Direct Loans and Direct PLUS Loans are applied only to tuition, mandatory fees, room and board unless the student has completed a Title IV Charges and Credit Balance Authorization to grant permission to apply these funds to other charges. Federal and state aid will disburse to student accounts no sooner than 10 days before the first day of classes for the term. Students must complete all application steps and meet all disbursement requirements before funds will be applied to their accounts. For details, visit financialaid.usc.edu.

Federal Work-Study awards are not reflected as credits on a student's account. These awards are earned through employment, either on-campus or with an approved off-campus employer. The student is paid by check or direct deposit bi-weekly for hours worked and may earn up to the amount of the Federal Work-Study award under the program.

Billing Information

Monthly billing notifications on all active student accounts are emailed to the student's official USC email address (ends in @usc.edu) and to their designated guest users. USC does not mail printed statements to currently enrolled students.

In accordance with the Family Educational Rights and Privacy Act, university representatives will not disclose any specific information about a student's account to any third party (including family members) without the student's permission. Information about granting permission is available on the Student Financial Services website for parents and sponsors (sfs.usc.edu/epay/).

Although the university will accept payments from a third party, the student is responsible for settling all debts to the university by the appropriate deadlines.

Refund of Tuition

Tuition is refundable entirely at the discretion of the university. Refunds will be computed as of the date on which a student cancels or drops a course through the Registration Department. Request for a refund must be made to the Cashier's Office.

Refunds for the regular/general 12- to 15-week fall or spring session are made through the end of the third week of classes (the refund deadline). No refunds are issued for classes canceled after the deadline.

If you are enrolled in any other fall or spring session, or if you are enrolled in the summer, a different refund deadline may apply. Verify the refund deadline for a specific course on the *USC Schedule of Classes* by clicking the calendar icon that appears next to the course.

If students receive Title IV federal financial aid funds (Pell Grant, SEOG, Federal Direct Loan, Federal Direct PLUS Loan) and withdraw from all classes after the refund deadline, they may be required to return any "unearned" Title IV federal financial aid, even if they are not entitled to a refund of tuition. Refer to Withdrawal Implications for Recipients of Financial Aid for more information.

Tuition Refund Insurance

Elective insurance is available that provides full coverage for tuition and mandatory fees (excluding health insurance) for you if you suffer a serious illness or accident that makes it necessary for you to leave the university before the semester is completed.

What Tuition Refund Insurance Covers

The insurance covers 85 percent of the tuition and mandatory fees (excluding the student health insurance fee) for the semester if a student withdraws from all classes due to injury or sickness. For withdrawals from all classes due to a psychological or emotional condition (as defined in the DSM-IV manual), the coverage is 85 percent provided the student is confined in a hospital for two consecutive days during the term. The plan covers payments made directly by the student, loans, grants or scholarships. USC grants and scholarships are credited back to the university and loans may be credited back to the lender as determined by the Financial Aid Office.

By default, at the time you register, Web Registration will enroll you in Tuition Refund Insurance. This will result in a charge equal to approximately .32 of 1 percent of your tuition and mandatory fees, which will be added to your student account.

If you wish to remove Tuition Refund Insurance after you have registered, you may make the change on Web Registration (my.usc.edu and webreg.usc.edu) by clicking the Tuition Refund Insurance tab and following the prompts. You may decline tuition refund insurance up until the end of week three (session 001) or the 20 percent mark of all other sessions in the fall or spring semester. For all summer sessions, the deadline is the 80 percent mark of session 050, deadline to drop with a mark of W. In summer 2021, the deadline is June 23, 2021.

The Tuition Refund Plan is offered through a private insurance carrier, A.W.G. Dewars, Inc. (collegerefund.com). Further information and application brochures are available from the Cashier's Office and Academic Records and Registrar. Information is also available online at arr.usc.edu/services/registration/tuitionrefund.html.

Exit Loan Counseling

All students who borrowed a Direct Loan or Direct Graduate PLUS Loan must complete exit loan counseling when they graduate, withdraw or are no longer enrolled at least half time. Exit loan counseling is a two-part requirement for borrowers of Direct and/or Direct Graduate PLUS loans. First, a borrower must complete online exit loan counseling at iGrad. This online process takes about 30 minutes. Second, a borrower must also participate in an in-person exit loan counseling information session or an exit loan counseling webinar. Information and schedules for in-person exit loan counseling and webinars is available online at financialaid.usc.edu at the end of each semester.

Students who have borrowed a Health Professions Student Loan, Loans for Disadvantaged Students, Primary Care Loan or any academic loan, must complete an online session at heartlandecsi.com. Diplomas and transcripts will not be released if the student does not complete exit loan counseling.

Tuition Assistance Benefits

The Tuition Assistance Benefits program provides USC tuition payments for eligible faculty and staff and their spouses or registered domestic partners and children. The amount of tuition payment varies based on who is taking the class, the type of class and the maximum number of units eligible for assistance. Tuition assistance is limited to tuition and does not apply to any fees or books. See the Tuition Assistance Benefits Program document available online at benefits.usc.edu for complete information about eligibility and requirements.

Tuition assistance eligibility does not guarantee the student admission to the university. The prospective student must apply for university admission through the USC Admission Office.

Only those USC classes for which a student may register and receive a registration confirmation are eligible for Tuition Assistance Benefits. Special education programs, seminars, certificate programs and other classes not listed in the *USC Catalogue* are not eligible for tuition remission.

An employee must meet all eligibility criteria before the submission of the tuition assistance application. Eligibility criteria is outlined in the official Tuition Assistance plan document, which can be found on the Benefits website. Applications must be submitted to Benefits on or before the start of the applicable semester. Please refer to the Academic Calendar for start and end dates of semesters. A student who receives tuition assistance is responsible for payment of a prorated amount of tuition assistance if certain changes in employment status of the employee or sponsoring employee occur during the semester. The tuition assistance benefit may be considered taxable income in some situations. The official Tuition Assistance plan document contains information about the tax liability for certain types of tuition assistance. Application forms for tuition assistance may be found on the Benefits website at benefits.usc.edu by clicking the icon "Forms" and then "Tuition Assistance Application Forms." For additional information, contact the HR Service Center at (213) 821-8100 or uschr@usc.edu.

Cancellations

Defined as complete withdrawal from the semester or session, cancellation refunds are computed based on the date the application to cancel enrollment is presented to the Registration Department.

Drops

Drops are defined as withdrawal from one class or part of registration. The refund schedule applies as of the date the drop is processed by the Registration Department.

This policy is enforced equally for settled and unsettled registrations.

Financing Alternatives

Prepayment Program (PP)

This option offers individuals the opportunity to stabilize tuition costs by avoiding future tuition increases. Under this plan, the university will accept the prepayment of the student's total USC tuition plus mandatory fees at the current tuition rate for up to the next four or five years. The student must be admitted to the university before establishing a prepayment account. For further information, contact Student Financial Services at (213) 740-4077 or visit our website at sfs.usc.edu.

USC Payment Plan

The USC Payment Plan, administered by Student Financial Services, enables students and parents to pay tuition, fees and university housing and meal plan charges in monthly installments rather than in a single payment at the beginning of each semester. Payments are made over a five-month period for each semester, beginning August 1 for the fall semester and January 1 for the spring semester, and may be made only by electronic transfer. A trimester plan is offered to law, dental, nursing, MBA-PM, MS marketing and Bovard College students. There is a small application fee each semester. The student must be in good financial standing at the university. For further information, contact Student Financial Services, (213) 740-4077 or by email at uscsfs@usc.edu. Application must be made on USCe.pay. For more information, please visit our website at sfs.usc.edu.

Private and Federal Financing

USC participates in a number of long-term financing options that are available to all families regardless of eligibility for scholarships or financial aid. These programs can relieve students' and families' cash-flow restrictions and enable them to meet their expected contributions for the cost of college education. Information about loan programs is available online at financialaid.usc.edu or at the USC Financial Aid Office.

Student Health Insurance

Please visit usc.edu/studenthealth for 2021-2022 student health insurance rates. The university requires that all students have supplemental health insurance to help cover the cost of health care that cannot be obtained at the health center, especially in emergency situations where hospitalization may be required.

All domestic students carrying 6 units or more will be automatically enrolled in the USC student health insurance plan. Some class registration codes, for example Special Tuition programs, do not generate this automatic charge. All students are required to review their fee bill after registering for classes and if the automatic insurance charge does not appear, must contact the insurance office by the add date to enroll in this plan if they wish to continue coverage for the semester. Domestic students carrying less than 6 units or who drop classes before the add date resulting in enrollment in less than 6 units, must enroll themselves in the plan by the add date if they wish to continue coverage for the semester. All international and/or health sciences students are automatically enrolled in the USC student health insurance plan regardless of the number of units in which they are enrolled. Online degree program students studying online or at a satellite campus will also be enrolled in the USC student health insurance plan if they are carrying 6 units or more.

The USC student health insurance plan works in conjunction with the university's student health centers. All students studying on the UPC or HSC campus are assessed the mandatory student health center fee (which is a separate fee from the health insurance) and are required to access their primary care at the student health centers. Referrals are required in order to see providers outside the student health centers for non-emergency situations.

Waiver Requirements

Enrollment in the USC student health plan will only be waived and the premium charge removed from the fee bill if documented proof of health coverage from another plan is presented using the online waiver application by the deadline date. Please visit usc.edu/studenthealth to get the deadline date. In order to receive a waiver of the USC student health insurance, the insurance presented must meet certain criteria. For details about the waiver criteria, please visit usc.edu/studenthealth and see the insurance menu.

Waivers are submitted online at the Aetna Student Health website. Go to aetnastudenthealth.com to complete the waiver process. For more information, call USC Student Health at (213) 740-9355 (WELL).

Graduate Assistants

Graduate assistants with a .25 award or higher and PhD students may be eligible to have USC pay for the USC student insurance plan and the USC Student Health fee. Their assistantship award must show in the student financial detail system. More information is available in the student's award packet through his or her academic department.

Student Health Insurance for Students Studying Overseas

Students participating in USC-sponsored study abroad programs are required to have USC health insurance coverage. These students are automatically enrolled in the USC overseas studies health insurance plan unless they are enrolled in the USC health plan. For more information, please call USC Student Health at (213) 740-9355 (WELL).

Student Dental Plan (Optional)

Dental coverage for students is available for purchase and billed to the student's account. Dental coverage is optional and is not automatic. Coverage is for the entire year and must be purchased by the deadline in the fall. Please see usc.edu/studenthealth for details. Spring enrollment will only be allowed for new incoming students in the spring semester. Plan details are available at usc.edu/studenthealth.

Veterans' Benefits

Veterans must register with the Veterans Certification Office each semester in order to receive VA Education Benefits. Students may expect an educational allowance, through the GI Bill or Vocational Rehabilitation, based only on courses that are a legitimate part of the degree program approved for veterans. The student must notify the Veterans Certification Office immediately upon any change in unit load or change of major. The office is located in the Veterans Resource Center in the Tutor Campus Center, Room 330, (213) 740-4619, FAX: (213) 821-3760. Office hours are 8:30 a.m. to 5 p.m. Monday–Friday. For more information, visit our website at usc.edu/va.

Students may visit gibill.va.gov for more information regarding GI Bill Education and Vocational Rehabilitation Assistance.

Naval Reserve Officer Training Corps (NROTC)

The Department of Naval Science courses are structured primarily for those who are participating in the Naval Reserve Officers Training Corps (NROTC) but are open to all undergraduate students. The NROTC program eventually leads to a commission as an officer in the United States Navy or the United States Marine Corps. Most NROTC midshipmen at USC are the recipients of national scholarships earned through competition while seniors in high school. These scholarships pay full tuition, fees, a book stipend and a $250 to $400 monthly subsistence stipend to help defray living expenses. The university also provides an additional automatic scholarship of $4,000 per year for each NROTC scholarship recipient to help pay for living expenses. Navy/Marine Corps scholarships are also available on a competition basis to students who enroll directly in the NROTC college program at the university. College program students receive no NROTC financial aid until they are selected for a scholarship, qualified medically, and meet naval body composition and fitness standards. College program students who are not selected for a scholarship may apply for advanced standing status during their sophomore year, which enables them to continue in the program and makes them eligible to receive a subsistence stipend beginning in their junior year. Upon completion of the bachelor's degree and NROTC requirements, scholarship and advanced standing students are commissioned as active duty Ensigns in the U.S. Navy or as Second Lieutenants in the U.S. Marine Corps, and proceed to advanced training in the Navy Officer communities of aviation, submarines, surface ships, and naval special warfare or Marine Corps Military Occupational specialties such as aviation, infantry, intelligence, artillery, etc. For specific information, contact the Department of Naval Science at (213) 740-2663 or visit usc.edu/dept/nrotc.

Air Force Reserve Officer Training Corps (AFROTC)

The Department of Aerospace Studies and the Air Force Reserve Officer Training Corps (AFROTC) is open to all students pursuing a degree at USC. The open enrollment classes consist of one hour of academics for AEST 100a, AEST 100b and AEST 200a, AEST 200b, and three hours of academics for AEST 300a, AEST 300b and AEST 400a, AEST 400b. Additionally, the Department of Aerospace Studies offers Leadership Laboratory courses. Prerequisites to enroll in Leadership Laboratory include enrollment in at least one AEST course, and application to become an AFROTC cadet. Students who are dual-enrolled as AFROTC cadets receive competitive opportunities to travel to various leadership symposia and professional development opportunities during the academic year and over the summer. AFROTC offers a variety of scholarships, some of which pay the full cost of tuition, books and fees. AFROTC cadets on scholarship and all juniors and seniors receive a monthly tax-free stipend. The university also provides an additional automatic scholarship of $4,000 per year for each AFROTC scholarship recipient to help pay for living expenses. The USC Price School of Public Policy offers an additional scholarship for one unit in excess of 18 units per semester. Upon successful completion of AFROTC academic classes and leadership laboratories, students will qualify for a commission as a second lieutenant in the United States Air Force or United States Space Force. For more information, you may visit our website at priceschool.usc.edu/programs/afrotc/ or contact the Department of Aerospace Studies (AFROTC) by email at AFROTCDET060@rotc.usc.edu or by phone at (213) 740-2670.

Army Reserve Officer Training Corps (AROTC)

The Army Reserve Officer Training Corps is one of the most demanding and successful leadership programs in the country focused on educating, training, and commissioning leaders of character for the Army. Courses take place both in the classroom and in the field throughout the academic year. Students also have opportunities to attend additional summer programs, such as Airborne or Air Assault School as well as a myriad Army internships. Upon completion, an Army ROTC graduate earns the rank of Second Lieutenant in the U.S. Army. The USC Army ROTC program has a limited number of full-tuition scholarships for full-time undergraduate and graduate students. Scholarships are offered on a competitive basis to all qualified applicants and are not based on financial need. Students (cadets) may compete for either Active or Reserve Component Duty. All scholarship and contracted cadets receive a monthly stipend of $450 and a book stipend per semester. The university also provides an additional $4,000 scholarship per year for each AROTC scholarship recipient to offset living expenses. All enrolled cadets receive uniforms, military science textbooks, and any other required items from the department. The AROTC program runs concurrent with all academic majors offered by the university. Prior to degree completion, students will choose from 17 Army officer career fields. Veterans, Reservists, National Guard members, and AROTC Basic Camp graduates qualify for advanced placement. For further information, visit the Army ROTC office located in the Physical Education Building, Room 110, call (213) 740-1850 or visit the website at uscrotc.com.

Academic Calendar

Fall Semester 2021
69 instructional days

Open Registration	Mon-Fri	August 16-20
Move-In	Sat-Wed	August 14-18
Classes Begin	Mon	August 23
Labor Day	Mon	September 6
Fall Recess	Thu-Fri	October 14-15
Thanksgiving Holiday	Wed-Sun	November 24 – November 28
Classes End	Fri	December 3
Study Days	Sat-Tue	December 4-7
Exams	Wed-Wed	December 8-15
Winter Recess	Thu-Sun	December 16 – January 9

Spring Semester 2022
73 instructional days

Open Registration	Thu-Fri	January 6-7
Classes Begin	Mon	January 10
Martin Luther King's Birthday	Mon	January 17
President's Day	Mon	February 21
Spring Recess	Sun-Sun	March 13-20
Classes End	Fri	April 29
Study Days	Sat-Tue	April 30-May 3
Exams	Wed-Wed	May 4-11
Commencement	Fri	May 13

Summer Session 2022
58 instructional days

Registration	Mon-Tue	May 16-17
Classes Begin	Wed	May 18
Memorial Day	Mon	May 30
Independence Day	Mon	July 4
Classes End	Tue	August 9

Academic and University Policies

Students are expected to be familiar with university policies and to monitor their own academic progress. They should keep all records of official grades earned, degree requirements met, transfer credits accepted and actions taken on requests for substitutions or exceptions to university policies and regulations.

Registration

Registration Procedures and Current Course Offerings

The fall, spring and summer issues of the *Schedule of Classes* contain details describing registration procedures, including the Web registration process, courses offered, course descriptions, faculty listings, time and meeting place of classes, textbook information and course syllabi. The *Schedule of Classes* is available before registration each semester at classes.usc.edu. It is recommended that students register as early as possible using Web registration to save time and avoid inconvenience. Registration appointment times and permit to register information are available to continuing students in October and March at my.usc.edu and on OASIS. New students will receive their permits to register during their orientation sessions. Open registration for all students continues the week prior to the start of the semester.

Enrollment Status

A student is considered to be enrolled full time in a semester when the student has registered for 12 or more units as an undergraduate student, 8 or more units as a master's level student or 6 or more units as a doctoral level student. All graduate assistants are classified as full-time students during the semester(s) of their appointments as long as they are enrolled for the minimum units required for their assistantship. The number of courses for which a student has registered is not a basis for determining full-time enrollment status. Units taken for audit do not apply to enrollment status calculation. Other than units, there are additional circumstances that confer full-time enrollment status. These include enrollment in: 594 Master's Thesis, 794 Doctoral Dissertation, Studies for the Qualifying Examination (GRSC 800a, 800b, 800z) and GRSC 810 Studies for Master's Examination, as well as other courses and programs as determined by the Registrar of Academic Records and Registrar. Verification of student enrollment status is provided by the Office of Academic Records and Registrar (JHH Lobby), arr.usc.edu/services/verification/generalinfo.html. Third-party requests for degree and enrollment information are provided by National Student Clearinghouse, studentclearinghouse.org. Enrolled students can also obtain verification on OASIS by logging in to my.usc.edu, clicking on OASIS and clicking on Record Ordering Services.

Extra Units

A normal academic load is 16 units per semester for undergraduate students and 8 units (500-level) for graduate students. The university recommends that undergraduate students register for no more than 18 units and graduate students for no more than 16 units. Registering for more than 18 units for undergraduate students will result in an additional charge equivalent to the number of units beyond 18 times the per-unit rate published on the Tuition and Fees page. Permission to enroll in more than 20 units requires written approval from the school or home department of the student's major.

Declaration of Major

All undergraduate students must record their primary major by the start of their junior year (on completion of 64 semester units). All major and minor programs of study should be recorded three semesters before the intended graduation date. Undergraduate academic departments can also perform changes of major for their students.

Declaration of Minor

Application for a minor must be made to the department or professional school offering the minor.

Classification and Numbering of Courses

The first digit of the course number indicates the year level of the course: 000 — non-credit preparatory courses, 100 — first undergraduate year, 200 — second undergraduate year, 300 — third and fourth undergraduate years without graduate credit, 400 — third and fourth undergraduate years with graduate credit for graduate students, 500 — first graduate year, 600 — second graduate year, 700 — third graduate year.

Upper-division courses (300- and 400-level courses) are generally more sophisticated and demanding. They may have prerequisites or other limitations on enrollment and are usually intended for students who have some preparation, either in the specific discipline or more generally in academic study. They tend to concentrate more narrowly and intensively in scope than lower-division courses in the same discipline.

The lowercase letters *ab*, *abcd*, etc., indicate the semesters of a course more than one semester in length. In such courses the *a* semester is prerequisite to the *b* semester, and so on. Courses designated *g* are available for general education credit. Courses designated *w* offer general education credit for Global Perspectives in Category G: Citizenship in a Diverse World. Courses designated *p* offer general education credit for Global Perspectives in Category H: Traditions and Historical Foundations. Courses designated *m* for multiculturalism meet the diversity requirement. Capital *L* indicates that all or part of the work is supervised laboratory or other work. Courses designated *x* are restricted in some manner. The course description will specify the restriction. Courses designated with a *z* are for repeated registrations for 0 credit, for which 2 units of tuition are charged.

The following are not available for graduate credit: courses numbered 000–399 and 490, courses designated *g* (general education), Senior Seminar courses, courses designated *x* where the description specifically excludes graduate credit.

Unit Value

The unit value of courses is indicated for each term of the course by a numeral in parentheses after the course title. All courses are on the semester unit basis. It is the student's responsibility to verify with the instructor that the number of units in which he or she has registered in any variable unit course is correct. If the units are incorrect, the student must correct them through Web Registration or in person in the lobby of John Hubbard Hall.

Repeating Courses

Ordinarily, courses may not be repeated for credit. For courses that may be repeated for credit, the maximum amount of credit is indicated after the unit value. Courses that may be repeated for credit reflect instances in which the subject matter is progressive in nature, or where special topics or directed research offerings exist, all reflecting unique course work.

Appropriate Course Enrollment

It is recommended that students register in courses appropriate to their academic standing — lower-division students in courses below 300, upper-division students in courses below 500, graduate students in courses numbered 500 or higher.

Preparatory Courses

Preparatory courses (course numbers below 100) impart the minimum skills required for college-level work. Students completing preparatory course work may receive unit credit toward enrollment status but do not receive degree credit.

Prerequisites

Prerequisites are courses that must be passed and/or specific background that must be demonstrated prior to advancing to the next course in a prescribed sequence of courses. Passage of appropriate examinations or consent of the academic unit offering the course will waive prerequisites. However, a prerequisite course within the same discipline taken after the higher level course has been passed will not be available for unit or grade point credit.

Corequisites

Corequisites are courses that must be taken at the same time as, or passed prior to, the designated course. Passage of the appropriate examinations or consent of the academic unit offering the course will waive corequisites. However, a corequisite course within the same discipline taken after the designated course has been passed will not be available for unit or grade point credit.

Recommended Preparation

Recommended preparation indicates course work or specific background that is advisable but not mandatory in preparing the student for the designated course.

Guaranteeing a Space in a Class

Registration in a class does not by itself guarantee a space in that class. An instructor may replace any student who without prior consent does not attend these class sessions: (a) the first two class sessions of the semester, or (b) the first class session of the semester for once-a-week classes. It is then the student's responsibility to withdraw officially from the course. Any class added, whether by Web Registration or in person, after the first week of classes should receive the approval of the instructor.

Pass/No Pass Enrollment Option

Students may enroll for courses with the Pass/No Pass grade option on Web Registration. USC allows students to decide the grade option for any course up until the 20 percent mark of the session in which the course is offered. For the specific deadline to change the grade option of a course, click the Calendar icon next to the course on the *Schedule of Classes*.

As of fall 2015, students who register for a course on a Pass/No Pass basis may request to change the grade option to letter grade 45 percent into the session in which the course is offered. For the specific deadline to change the grade option of a course, click the Calendar icon next to the course on the *Schedule of Classes*.

Certain undergraduate courses (e.g., courses offered by the WRIT department) must be taken for a letter grade. Graduate students must receive departmental approval to enroll in a graduate course on a Pass/No Pass basis. Refer to the Pass/No Pass Graded Work section in the USC Catalogue for details on degree credit restrictions on courses taken on a Pass/No Pass basis. Students should consult an academic adviser before enrolling in any course on a Pass/No Pass basis.

In cases where a student has registered for a course on a Pass/No Pass (P/NP) basis and an academic integrity violation has occurred, a penalty letter grade may be assigned (i.e., "F"), rather than assigning a mark of Pass or No Pass.

Credit/No Credit Courses

Certain courses have been authorized by the University Committee on Curriculum to be graded Credit/No Credit. Students may not enroll in a course on a Credit/No Credit basis unless the course is listed as being offered as Credit/No Credit.

Courses Numbered 490x and 390

Many academic units offer courses numbered 490x and 390. These courses are offered on a letter-graded basis only and carry certain restrictions that are uniformly applied throughout the university.

490x Directed Research (1-8, max 12)

Courses numbered 490x are open to students who have demonstrated the ability to do independent work in the discipline. The courses require consent of the instructor and a written contract of course requirements signed by both the instructor and department chair. They are not available for graduate credit and are not open to students with less than 2.0 GPA overall or with any academic holds that restrict registration. A student may accumulate a maximum of 12 units of 490x in any one department and 16 units toward the degree.

390 Special Problems (1-4, max 4)

Courses numbered 390 are available only to seniors in their last semester who are made aware of a unit shortage after the enrollment period for that semester has passed. Students notified of a unit shortage prior to the close of the enrollment period are expected to register for regularly scheduled classes. Enrollment in a 390 class is available only by petition to the Committee on Academic Policies and Procedures (CAPP). A 390 is a supervised, individual studies course. The student and instructor must prepare a written contract of course requirements for presentation with the petition to CAPP. The petition must be recommended by the dean of the academic unit in which the student is seeking a degree. Evidence must be provided that the unit shortage was the result of circumstances beyond the student's control. Credit for only one 390 registration is accepted toward the student's baccalaureate degree.

Audited Courses

Students may elect to audit courses during the first three weeks of the semester (or the third week equivalent for any session that is scheduled for less than 15 weeks). Consult the *Schedule of Classes* for the deadline to select the audit grade option for a specific course. A course taken for audit (V) will be assessed at the current tuition rate. A course taken for audit (V) will not receive credit and will not appear on the USC transcript or grade report. A course taken for audit is not included in enrollment for purposes of receiving financial aid.

Limited Status Enrollment

Limited status enrollment allows persons who have not been admitted to the university to take a limited number of courses at USC.

Eligibility for Limited Status Enrollment

Students who have not yet completed a bachelor's degree are not eligible for limited status enrollment if they have been denied admission to USC or if they have been academically disqualified or suspended from any community college, college or university.

At the post-baccalaureate level, limited status enrollment is not available to students who have been denied admission to the department offering the course unless prior approval is granted by the department and the appropriate dean.

International Students

Limited status enrollment does not fulfill requirements for issuing a student visa. Non-immigrant visa holders must have the approval of the Office of International Services (Royal Street Structure, PSD 101) before registering for classes.

Limited Status Enrollment Eligibility for Non-immigrant Visa Holders

1. B-1 and B-2 status holders are not eligible for Limited Status enrollment at USC.
2. F-1 status applicants who are on another institution's I-20 are eligible for Limited Status enrollment if they will concurrently

enroll at the I-20 school and USC. A letter from the international office at the I-20 school verifying enrollment will be required when submitting your Limited Status application. F-1 status applicants who are currently not maintaining immigration status/or will not be enrolled at the I-20 school are not eligible for Limited Status enrollment at USC.

3. Individuals on other visa categories such as A, E, H, J, etc. and TN are eligible for Limited Status enrollment if maintaining status on that visa category. A copy of the passport and I-94 card will be required when submitting the Limited Status application.

Restrictions on Limited Status Enrollment

A pre-baccalaureate limited status student may not register for more than 16 units; a post-baccalaureate limited status student may not register for more than 12 units.

Exceptions to this policy will be considered by the Office of Admission for USC employees and for post-baccalaureate students who submit a disclaimer of intent to pursue a USC degree.

Prior approval of the department offering the course is required for all limited status enrollment. If a limited status student is subsequently admitted to regular standing, no more than the first 16 undergraduate or the first 12 graduate units taken through limited status enrollment can be applied toward a degree. In very rare situations, individual undergraduate exceptions may be approved by the dean of the degree-conferring unit. For graduate students, the rare exception must be approved by the Vice Provost for Academic Programs. International students must show proof of proper visa type and demonstrate English language proficiency prior to enrollment in the Limited Status program.

Dropping and Adding Courses

Courses may be added only during the 20 percent mark of the session. After registering, it is the student's responsibility to officially drop from a course if he or she decides not to continue in a course. All such changes must be processed by Web Registration or through the Registration Department. Failure to withdraw officially will result in the mark of "UW," which is computed in the GPA as zero (0) grade points. A student may drop a course without academic or financial penalty up until the 20 percent mark of the session in which the course is offered. If the course is dropped after the 20 percent mark and before 45 percent of the session, the course does not appear on the academic transcript, but the course tuition and fees will be assessed to the student's account. If the course is dropped after the 45 percent mark, it will be recorded with a mark of "W." No course may be dropped after the 80 percent mark of a session. A student may not withdraw from a course in which he or she committed or was accused of committing an academic integrity violation. Please refer to the *Schedule of Classes* to see session dates.

Registration in Graduate-Level Courses by Undergraduate Students

Exceptional undergraduate students may enroll in a graduate course. In order to do so, students must receive approval of the instructor. Students must have prior approval from the chair of the major department to count the course for undergraduate credit or audit the course. The student's major department will notify the One Stop Center regarding the manner in which the graduate course will be used. In no case will a student be allowed to enroll in and receive credit for a graduate course if the student's cumulative USC GPA is below 2.0

Graduate Credit for 400- and 500-Level Work Taken as an Undergraduate

An undergraduate student who is within 12 semester units of the bachelor's degree and has a cumulative grade point average of at least 3.0 may request to enroll in and reserve for graduate credit a limited amount of work at the 400 and 500 levels during the last semester as a senior, provided that the semester program does not exceed 16 semester units. A written request should be submitted to the Registrar One Stop Center and should bear the endorsements of the chair of the student's major department and of the department in which the reserved work is to be taken. One Stop staff verify that the units being reserved are not needed to fulfill requirements for the bachelor's degree.

USC-UCLA Cross-Registration for Graduate Students

As part of an academic resource-sharing program, USC graduate students have an opportunity to take a portion of their program at UCLA. This cross-registration opportunity is only available for courses or seminars not offered at USC and only to selected students. For further information on requirements, contact the USC Graduate School office (Student Union 301).

Credit (CR) will be granted only for work completed with a grade of B (3.0) or higher. The student's transcript will show that the course was taken at UCLA and also record the name of the course. Units attempted at UCLA are on the quarter system. USC students who complete course work at UCLA will have those units converted to semester units for each unit completed at UCLA. Library privileges will be extended at UCLA but other privileges or services cannot be offered.

Conversion of Non-Degree Option Course Work

A student may file a Request for NDO Course Conversion form with the Registration Department to have USC courses previously taken under a non-degree option (NDO) converted to unit credit and thus appear on the USC transcript. Such a request must include all NDO courses previously attempted; requests for partial conversion will be denied. Conversion for credit requires retroactive registration in the term in which the course was attempted, including payment of the tuition differential between the NDO rate originally paid and the tuition rate in effect at the time of conversion. As in all USC courses taken in Limited Status, converted courses may not be considered for degree credit at USC unless the student is formally admitted to full standing at the university. Upon formal admission, only the first 16 NDO units taken that are available for credit toward the intended degree may be applied for baccalaureate credit, and only the first 12 NDO units taken that are available for credit toward the intended degree may be applied toward a graduate degree. Degree credit for units beyond the first 16 undergraduate or 12 graduate available units will not be allowed. All courses converted will appear on the USC transcript and will be included in the calculation of the USC GPA, regardless of whether they are being applied specifically toward the degree being pursued.

Permission to Register at Another Institution

Students who wish to take course work at another institution while continuing as enrolled students at USC will be required to obtain various levels of permission to do so. For details, see the Course Work Taken Elsewhere section (undergraduate) or (graduate).

University Policies

Academic Integrity at USC

The university as an instrument of learning is predicated on the existence of an environment of integrity. As members of the academic community, faculty, students and administrative staff share the responsibility for maintaining this environment. Faculty have the primary responsibility for establishing and maintaining an atmosphere and attitude of academic integrity such that the enterprise may flourish in an open and honest way. Students share this responsibility for maintaining standards of academic performance and classroom behavior conducive to the learning process. Administrative staff are responsible for the establishment and maintenance of procedures to support and enforce those academic standards. Thus, the entire university community bears the responsibility for maintaining an environment of integrity and for confronting incidents of academic dishonesty.

Guidelines governing academic integrity can be found in Scampus at policy.usc.edu/wp-content/uploads/2021/04/SCampus-Part-B.pdf and on the Student Judicial Affairs and Community Standards website at sjacs.usc.edu.

Family Educational Rights and Privacy Act

The University of Southern California maintains the privacy of student education records and allows students the right to inspect their education records as stated in the university's Student Education Records policy, consistent with the requirements of the Family Educational Rights and Privacy Act of 1974 (FERPA). The entire text of the university's policy is located in the Office of the General Counsel, Office of the Vice President for Student Affairs and the Registrar's Office. Additional information regarding FERPA is also available on the Registrar's website, usc.edu/ferpa.

Faculty and staff who request access to student academic records in order to execute their normal duties must first review the information found on the FERPA Website and complete the tutorial before access will be granted.

Students wishing to review or seeking to amend their education records should submit a written request to the university office in which the record is maintained.

At the discretion of university officials, USC may release certain information classified as directory information unless the student requests that such information not be released. A complete listing of directory information is in the FERPA section of the Registrar's website, usc.edu/ferpa.

Students wishing to restrict release of directory information may do so by submitting a completed Student Request to Restrict Directory Information form to the Registrar's Office. Such requests remain in effect for the academic year. Students wishing only to have their information withheld from the online USC Student Directory should contact the Registrar's Office (lobby of John Hubbard Hall).

Recognizing that many students wish to share information from their educational records with their parents and family members, USC has developed an online system that will accomplish the following:

- allow students to grant their parents access to education records;
- allow parents to view elements of the education records that are available in USC's central student information system.

Students may log in to my.usc.edu and click on OASIS, USC's web-based student information system, and use the "Establish Guest Access" feature to grant others permission to education records. Instructions for logging into OASIS and granting access are provided on the university's FERPA website at usc.edu/ferpa.

Parents who wish to gain access to information from the education records of their son or daughter will not be provided the information unless the student has granted access through OASIS or has completed the appropriate release form authorizing the university to release specific information from their education records to approved individuals.

If students grant access through OASIS, parents and family members may access education records information online through the OASIS for Guests website. For more information regarding FERPA, including forms and instructions to log in to OASIS or OASIS for Guests, parents and students should visit the university's FERPA website at usc.edu/ferpa.

Policy on Accommodations for Students with Disabilities

The University of Southern California is committed to full compliance with the Rehabilitation Act (Section 504) and the Americans with Disabilities Act Amendments Act (ADAAA). As part of the implementation of this law, the university will continue to provide reasonable accommodation for academically qualified students with disabilities so that they can participate fully in the university's educational programs and activities. Although USC is not required by law to change the "fundamental nature or essential curricular components of its programs in order to accommodate the needs of students with disabilities," the university will provide reasonable academic accommodation. It is the specific responsibility of the university administration and all faculty serving in a teaching capacity to ensure the university's compliance with this policy.

The general definition of a student with a disability is any person who has "a physical or mental impairment which substantially limits one or more of such person's major life activities," and any person who has "a history of, or is regarded as having, such an impairment." Reasonable accommodations are determined for students based on an interactive review process, incorporating the student's self-report, supporting documentation according to the university's documentation guidelines, requirements of the student's program of study and university policies.

Procedures for Obtaining Accommodations

Students with disabilities are encouraged to contact the Office of Student Accessibility Services (OSAS) prior to or during the first week of class attendance or as early in the semester as possible. It is the student's responsibility to complete a student application and provide documentation that verifies the student's disability in a timely way. The office will work with the student to determine reasonable accommodations and may also work with the course instructor, the department and/or school and program to facilitate implementation of accommodations.

See osas.usc.edu for documentation guidelines, policies and procedures.

Academic Accommodations

Students who would like to make use of their OSAS-approved accommodations should provide an Accommodation Letter to their instructor as early in the semester as possible. Course instructors should require that a student present the Accommodation Letter from OSAS if academic accommodations are requested. Instructors should be aware that students may register with OSAS at any point during a semester or their academic career. Instructors may not establish a deadline for providing Accommodation Letters or notification of OSAS-registration. However, students are expected to provide *reasonable advanced* notice to instructors regarding use of accommodations within a course. Please consult with OSAS for any questions regarding reasonable timing.

The USC Gould School of Law has a unit-specific policy for handling requests for academic accommodations; however, all students with disabilities should register with OSAS. Refer to the *Law School Student Handbook*.

For assistance in how to provide reasonable accommodations for a particular disability, course instructors are encouraged to

consult with the staff at OSAS. Students requesting academic accommodations must have verification of disability.

Grievance Procedures

The University of Southern California is committed to full compliance with laws protecting individuals with disabilities. Students are encouraged to raise concerns and seek resolution if they believe they have not been properly accommodated or provided auxiliary aids or services. Additionally, students are encouraged to seek support if they believe they have experienced discriminatory behavior based on their disability status. Detailed information about resolving concerns or filing a formal grievance can be found at osas.usc.edu.

University Policies' Websites

USC's Policy website contains all university policies, including links to SCampus student policies.

https://policy.usc.edu/

The Office for Equity, Equal Opportunity, and Title IX website contains the non-discrimination policy.

https://eeotix.usc.edu/notice-of-non-discrimination/

Examinations

Final Examinations Make-up Policy

When a final examination falls at a time that conflicts with a student's observance of a holy day, faculty members must accommodate a request for an alternate examination date at a time that does not violate the student's religious creed.

A student must discuss a final examination conflict with the professor no later than two weeks prior to the scheduled examination date to arrange an acceptable alternate examination date.

Administrative Examinations

The following administrative examinations are given at USC:

Placement Examinations

Placement examinations determine the student's level of ability and appropriate placement in mathematics, chemistry and foreign languages. These exams carry no unit credit but can be used to fulfill a prerequisite for a course or to fulfill a required or elective subject area.

Placement exams for mathematics, chemistry and foreign languages are administered by the Language Center.

Mathematics exams place into MATH 108, MATH 117, MATH 118 and MATH 125. Chemistry exams place into CHEM 050, CHEM 102, CHEM 105a and CHEM 105b.

Foreign language exams place into elementary and intermediate courses. Students may fulfill the foreign language requirement through a placement exam. Transfer courses in foreign languages do not fulfill the prerequisite for the next course in the sequence; students are required to take the USC placement exam to continue in language courses at USC. Transfer students may be advised to repeat, without additional credit, a semester or semesters of instruction to qualify for the next level in the sequence if their skills are judged insufficient at the time of testing.

Placement exams are administered throughout the academic year and during summer on the USC campus.

The International Student English (ISE) Exam is administered by the American Language Institute. For exam information regarding the ISE exam, contact the American Language Institute, Royal Street Structure 106, (213) 740-0079, askali@usc.edu.

All exams require a USC ID and/or proof of USC enrollment.

For additional information concerning chemistry, foreign language or mathematics placement exams, contact the Language Center, THH 309, (213) 740-1188, and language.usc.edu.

University Writing Examination

Due to changes in the University policy regarding SAT and ACT scores for the current academic year, the Writing Program will not require students to take the University Writing Examination before enrolling in WRIT 150. See The Writing Program section.

Equivalency Examinations

Equivalency examinations are given at the discretion of the academic unit to determine whether upper division transferred course work may be applied as subject credit to the major requirements for the degree. Passing the examination does not provide additional unit credit. Contact the appropriate academic unit for specific details.

Subject Credit by Special Examination

Special examinations for subject credit establish subject credit in a subject area in which the student is sufficiently prepared but in which no previous credit has been accepted or attempted toward the USC degree.

Students who would like to request a waiver from the normal course requirements may request that the chair of the department in which the course is offered allow them to take a special examination challenging the course for subject credit only. The fee for the examination is one half of a unit per examination.

With the permission of the dean of the academic unit in which the student is a degree candidate, the student may file a Request for Credit by Special Examination form in the Grade Department (John Hubbard Hall lobby). The following rules apply:

1. Credit by special examination is available to undergraduate students only.
2. No more than one special examination may be taken in a given course.
3. Special examinations will not be allowed in any course for which a student has received an unsatisfactory grade or mark on the transcript (e.g., W, UW, IN, IX, F or D) at USC or elsewhere.
4. A special examination will not be allowed if the course is a prerequisite to or sequentially precedes a course or courses that appear on a college level transcript, unless USC allows similar courses to be taken out of sequence.
5. Credit cannot be earned by special examination for the writing requirement, the first three semesters of any foreign language or MATH 040x.
6. Native speakers of a foreign language may challenge only literature or linguistics courses offered through the respective language department.
7. Results of all special examinations taken for subject credit only will appear on the USC transcript with a grade of "CR" (credit) or "NC" (no credit) and will not reflect unit value.

Academic Standards

Definition of Grades

The following grades are used: A — excellent; B — good; C — fair in undergraduate courses and minimum passing in courses for graduate credit; D — minimum passing in undergraduate courses; F — failed. In addition, plus and minus grades may be used, with the exceptions of A plus, F plus and F minus. The grade of F indicates that the student failed at the end of the semester or was doing failing work and stopped attending the course after the twelfth week of the semester. Minimum passing grades are D- for undergraduate credit and C for graduate credit. Additional grades include: CR — credit (passing grade for non-letter-graded courses equivalent to C- quality or better for undergraduate courses and

B (3.0) quality or better for graduate courses); NC — no credit (less than the equivalent of a C- for an undergraduate and a B for a graduate, non-letter-graded course); P – pass (passing grade equivalent to C- quality or better for undergraduate letter-graded courses and B (3.0) quality or better for graduate courses taken on a Pass/No Pass basis); NP – no pass (less than the equivalent of a C- for an undergraduate and a B (3.0) for a graduate, letter graded course taken on a Pass/No Pass basis).

The following marks are also used: W — withdrawn; IP — interim mark for a course exceeding one semester (failure to complete courses in which marks of IP [in progress] appear will be assigned grades of NC); UW —unofficial withdrawal (assigned to students who stopped attending prior to the drop deadline but failed to withdraw); MG — missing grade (an administrative mark used in cases when the instructor fails to submit a final course grade for a student); IN — incomplete (work not completed because of documented illness or some other emergency occurring after the twelfth week of the semester; arrangements for the IN and its completion should be initiated by the student and agreed to by the instructor prior to the final exam); IX — lapsed incomplete.

Grade Point Average Categories and Class Levels

A system of grade points is used to determine a student's grade point average. Grade points are assigned to grades as follows for each unit in the credit value of a course: A, 4 points; A-, 3.7 points; B+, 3.3 points; B, 3.0 points; B-, 2.7 points; C+, 2.3 points; C, 2 points; C-, 1.7 points; D+, 1.3 points; D, 1 point; D-, 0.7 points; F, 0 points; UW, 0 points; IX, 0 points. Wherever these letter grades appear in this catalogue or other university documents, they represent the numerical equivalents listed above. Marks of CR, NC, P, NP, W, IP, MG and IN do not affect a student's grade point average.

Grade Point Average is calculated and truncated; it is not rounded.

There are four categories of class level: Undergraduate, Graduate, Law and Other. Undergraduate comprises freshman (less than 32 units earned); sophomore (32–63.9 units earned); junior (64–95.9 units earned) and senior (at least 96 units earned). Graduate comprises any course work attempted while pursuing a master's and/or doctoral degree. Law comprises any course work (offered by the USC Gould School of Law) attempted while pursuing a Juris Doctor or Master of Laws degree. Other comprises any course work attempted while not admitted to a degree program or course work not available for degree credit.

Grades of Incomplete (IN)

Conditions for Completing a Grade of Incomplete

If an IN is assigned as the student's grade, the instructor will fill out the Assignment of an Incomplete (IN) and Requirements for Completion form, which will specify to the student and to the department the work remaining to be done, the procedures for its completion, the grade in the course to date and the weight to be assigned to the work remaining to be done when computing the final grade. A student may complete the IN by completing only the portion of required work not finished as a result of documented illness or emergency occurring after the twelfth week of the semester. Previously graded work may not be repeated for credit.

Time Limit for Completion of an Incomplete

One calendar year is allowed to complete an IN. Individual academic units may have more stringent policies regarding these time limits. If the IN is not completed within the designated time, the course is considered "lapsed," the grade is changed to an "IX" and will be calculated into the grade point average as 0 points. Courses offered on a Credit/No Credit basis or taken on a Pass/No Pass basis for which a mark of Incomplete is assigned will be lapsed with a mark of NC or NP and will not be calculated into the grade point average.

Extension of Time for Completion of an Incomplete

Completing the IN within the one-year period should be the student's highest priority. A student may petition the Committee on Academic Policies and Procedures (CAPP) for an extension of time for the completion of an IN. Extensions beyond the specified time limit are rarely approved if the student has enrolled in subsequent semesters.

In all cases, a petition for an extension of time for completion of an IN must have departmental approval and include a statement from the instructor explaining what is needed to complete the course and why the instructor feels the student should be given even further time for completion.

Missing Grades

Marks of MG must be resolved before a degree or certificate will be awarded. If a student wishes to graduate and chooses not to resolve the mark(s) of MG, the mark(s) will be defaulted to mark(s) of UW and will be calculated into the grade point average as 0 grade points.

Time Limit for Resolution of a Missing Grade

One calendar year is allowed to resolve an MG. If an MG is not resolved within one year, the grade is changed to UW and it will be calculated into the grade point average as 0 grade points. Courses offered on a Credit/No Credit basis or taken on a Pass/No Pass basis for which an MG was not resolved within one year will be changed to a mark of NC or NP and will not be calculated into the grade point average.

Courses offered on a Credit/No Credit basis or taken on a Pass/No Pass basis for which an MG was not resolved within one year will be changed to a mark of NC or NP and will not be calculated into the grade point average.

Correction of Grades

A grade once reported to the Office of Academic Records and Registrar may not be changed except by request of the faculty member to the Committee on Academic Policies and Procedures on a Correction of Grade form. Changes should be requested only on the basis of an actual error in assigning the original grade, not on the basis of a request by the student or special consideration for an individual student. Students are not permitted to complete course work after the semester has ended.

Disputing a Grade

The instructor's evaluation of the performance of each individual student is the final basis for assigning grades. Through orderly appeal procedures, students have protection against prejudiced or capricious academic evaluation.

Academic Dishonesty Sanctions

When a student is found responsible for a violation of the USC Student Conduct Code standards pertaining to academic dishonesty, the Vice President for Student Affairs (or designee) will inform the Office of Academic Records and Registrar. In appropriate cases, the Office of Academic Records and Registrar will post the sanction information on the student's academic records. Disciplinary sanctions noted on student records include suspension and expulsion from the university and revocation of admission and degree. Disciplinary grade sanctions (e.g., F in course) are not distinguished on a student's transcript from marks assigned for academic work accomplished. In cases of suspension or expulsion, the student's registration for the current term may be cancelled with marks of "W."

Repeated Course Work at USC

Under certain conditions, a student may repeat a course for grade point credit. In no case will additional unit credit be allowed for repeated courses or duplicated work. No student may repeat a course for grade point credit in which a grade of B- or better

was received. A prerequisite course may not be repeated after a student has completed a course for which it is designated a prerequisite. (See prerequisites in the Registration section of the Catalogue.)

Undergraduate students who want to repeat a course in which a grade of C+, C or C- was received and have the subsequent grade calculated in the grade point average must petition the Committee on Academic Policies and Procedures (CAPP) for permission to do so prior to re-registering in the course. *Post hoc* approval will not be granted.

Graduate students may repeat a course in which a grade of C- or below was received, but both grades will be calculated in the grade point average. Graduate students who want to repeat a course in which a grade of C+ or C was received and have the subsequent grade calculated in the grade point average must petition the Committee on Academic Policies and Procedures (CAPP) for permission to do so prior to re-registering in the course. *Post hoc* approval will not be granted.

A special provision governs the repeat of courses by students who enter USC as first-time freshmen. These students may repeat a maximum of three courses taken during the first two semesters at USC in which grades of D+ or below (including UW and IX) were received, and only the subsequent letter grade, even if lower, will be calculated in the grade point average. The courses must be repeated at USC for a letter grade, and both courses with the grades received will appear on the transcript. The same course may be repeated no more than once for the benefit of substitution of grade. Students who have been assigned a grade as a result of a Student Conduct sanction may not repeat the course under this provision. Students who were admitted for spring and were first-time freshmen elsewhere in the previous fall may repeat a maximum of two courses taken during the first semester at USC in which grades of D+ or below were received with the same set of provisions stated above. Students who were admitted as transfer students for either fall or spring may repeat a maximum of one course taken during the first semester at USC in which a grade of D+ or below was received with the same set of provisions stated above. An exception is the case in which a student earns a grade of C- in a course for which a grade of C or higher is required for application to major or minor requirements. In this case the subsequent grade will be calculated in the grade point average without the requirement of a petition.

Excessive Withdrawals (Marks of W)

An undergraduate student who withdraws (a mark of W) from at least 8 units in one semester or from at least 16 units overall must undergo mandatory academic advisement before the student can enroll in a subsequent semester. A restriction enforces this requirement. A student must have his or her academic adviser remove the restriction. This is a one-time requirement. Students will not be denied registration in future terms once advisement has taken place. This advisement is intended to provide students with information and guidance on the negative consequences that excessive withdrawals have on successful and timely completion of degree programs.

The Dean's List

Any undergraduate student with a declared major who earns a grade point average of 3.5 or higher on 12 units or more of letter-graded course work in any one semester is placed on the Dean's List for that semester. Grades of IN must be removed before eligibility is determined for that semester. Academic transcripts do not carry the Dean's List notation.

Class Rank

The University of Southern California does not calculate or support a class rank for its undergraduate students. While most graduate programs do not rank students, requests for graduate student class rankings should be directed to the dean of the particular school in which the graduate degree was earned.

Student Good Standing

Students are considered to be in good academic standing if they are eligible to register for classes. Disciplinary good standing is determined by the office of Student Judicial Affairs and Community Standards.

Probation and Disqualification of Undergraduate Students

An overall USC grade point average (GPA) of at least C (2.0) on course work taken at USC is required for completion of undergraduate degrees.

Academic Probation

A student whose overall USC GPA falls below 2.0 is placed on academic probation. Continued enrollment requires clearance from a counselor in the Office of Academic Review and Retention. Actions such as Corrections of Grades, Completion of Incompletes, Removal of Missing Grades and Exceptions Requests will not result in academic statuses being retroactively changed.

Mandatory Advisement

A student whose overall GPA falls below 2.0 is required to seek academic advisement prior to course selection each semester. Proof of advisement must be filed with the Office of Academic Review and Retention before any registration request will be processed. The Office of Academic Review and Retention will only accept an official Academic Review Advisement Record form with an authorized school signature as proof of advisement. This form may be obtained in Figueroa Building 107.

Advising

Students on academic probation must meet with a counselor in the Office of Academic Review and Retention at least three times during each semester. Students in the Success Support program must meet with an Academic Review Counselor at least once during each semester.

Academic Disqualification

Students on academic probation who do not raise their overall GPA to 2.0 after two semesters of enrollment, exempting summer enrollment, will be academically disqualified. However, if a student earns a minimum semester GPA of 2.3 in the second or any subsequent probation semester but has not yet reached the overall 2.0 GPA, the student will not be disqualified and will be allowed to enroll for an additional semester.

Readmission after Academic Disqualification

Petitions for readmission after academic disqualification are initiated by the student through the Office of Academic Review and Retention. Completion of approved course work from another institution is a requirement for petitioning for readmission. Disqualified students must meet with a counselor from the Office of Academic Review and Retention before enrolling in courses at another institution. The counselor will provide the Readmission Pre-Approval Form on which both the Office of Academic Review and Retention and the student's academic department must sign approval.

Before petitioning for readmission, a disqualified student must complete a minimum of 12 semester units of preapproved, transferable course work applicable to USC degree requirements with a minimum 3.0 GPA. As readmission to the university is never guaranteed, any indication of strong academic performance beyond the 12 units required would strengthen a readmission petition. All grade issues at USC (IN, MG, etc.) must be resolved prior to submission of a readmission petition.

Students must petition for readmission by September 30 for spring semester, and by January 31 for fall semester. Since a student's readmission petition must be reviewed and approved by the CAPP readmission petition panel before he or she can

register, under no circumstances will a petition be accepted after the deadline. A nonrefundable fee of $150 must accompany the readmission petition.

Academic Warning and Dismissal of Graduate Students

Faculty advisers and departments take factors other than satisfactory grades and adequate GPAs into consideration in determining a student's qualifications for an advanced degree. A student's overall academic performance, specific skills and aptitudes, and faculty evaluations will be considered in departmental decisions regarding a student's continuation in a master's or doctoral degree program.

Satisfactory progress toward an advanced degree as determined by the faculty is required at all times. Students who fail to make satisfactory progress will be informed by their department or committee chair or school dean. The faculty has the right to recommend at any time after written warning that a student be dismissed from a graduate program for academic reasons or that a student be denied readmission. Procedures on disputed academic evaluations are described in SCampus.

Ethics Guidelines for Graduate Study

As participants in an enterprise that depends on academic freedom and integrity, faculty members and graduate students have a special obligation to promote conditions that maintain free inquiry and the highest standards of integrity. USC faculty have developed guidelines to serve as a resource for students finding their way through the often complex academic relationships of a major research university. These guidelines for ethical faculty and graduate student relations are available from the Graduate School.

Research Involving Human Subjects

Graduate student researchers are required to obtain approval from the USC Institutional Review Boards whenever research, whether funded or unfunded, involving human subjects is proposed. The Institutional Review Boards (IRBs) are fully authorized to review all proposals and projects which involve the use of human subjects. "Human subject" means a living individual about whom an investigator conducting research obtains (a) data through intervention or interaction with the individual or (b) identifiable private information. The university IRBs have been established to meet federal regulations. The IRBs are required to assure that: (1) research methods are appropriate to the objectives of the research; (2) research methods are the safest, consistent with sound research design; (3) risks are justified in terms of related benefits to the subjects; (4) subjects' privacy is protected; (5) subjects participate willingly and knowingly to the extent possible; and (6) research projects are "monitored" by the IRBs.

Language of Instruction

English is the language of instruction at USC. All courses are taught in English with the exception of a few advanced language courses.

Exception Procedures

Exceptions to particular university regulations and degree requirements will be considered only if there is no prohibition stated in this catalogue. Where exceptions are specifically prohibited, none will be granted. A student who wants an individual exception must follow the procedure specified in this catalogue for the particular regulation or requirement. If no procedure is specified, it may still be possible to request an exception. Such exceptions, however, are rarely granted.

Requests for exception to established university academic regulations or procedures are generally heard by: (1) the Committee on Academic Policies and Procedures (CAPP); (2) the dean of the academic unit in which the student is seeking a degree; or (3) the dean or director of the office responsible for administering the policy. Requests for credit for courses taken out of sequence are heard by the dean of the academic unit offering the course that was taken out of sequence. Students who wish to request an exception should first consult an academic adviser about the appropriate process to follow.

While the university is sensitive to the educational advantages of a flexible curriculum, it is also conscious of a responsibility to ensure equity for all students. Permission to deviate from published regulations is neither automatic nor *pro forma*; each request is considered on its own merits and in light of the petitioner's complete academic record.

USC Committee on Academic Policies and Procedures

The Committee on Academic Policies and Procedures (CAPP), a representative group of faculty, students and administrators, reviews or delegates the review of most general petitions. CAPP studies the effects of university academic requirements, regulations and policies; recommends improved student academic policies and procedures; and regularizes policies and procedures so that the number of petitions can be reduced. As part of this charge, CAPP has specific responsibility for oversight and review of the University Policy on Accommodations for Students with Disabilities. CAPP also rules through Academic Petitions Committees on requests for exceptions to academic regulations and requirements published in the University Catalogue. In most instances, the Academic Petitions Committee acts as the body with original jurisdiction, but in some cases delegates authority for approvals to another.

The assumptions and procedures that guide Academic Petition Committee actions are the following:

- The student is responsible for complying with deadlines established in the academic calendar.
- All academic work should be accurately reflected in the student's record. The record is to be faithful to the actual experience. Cosmetic corrections or adjustments are not sanctioned.
- Care must be taken not to establish the petition process as an alternative to being held to the adopted academic requirements.
- Decisions should be focused on the academic basis for petition, rather than the consequences (real or imagined) that may face the student.

The Office of the Provost, Office of Academic Records and Registrar, and the Committee on Academic Policies and Procedures (CAPP) reserve the right to review, amend or revoke academic statuses and/or registration at any time.

Registration-related Exceptions

Requests for an exception to published registration procedures and enrollment deadlines are heard by the University Registrar. Detailed information is available at usc.edu/askusc by entering Registration Petition in the search box.

Any request to change the official registration for a semester retroactively must be submitted within 24 months of the end of the semester in question. The 24-month period starts with the last day of final examinations for the semester in question. If appropriate, the time limit can be waived by the dean of the academic unit in which the student is seeking a degree for a period not to exceed a total of five years, if adequate attendance and grading information is available and reasonable cause for the delay exists.

Degree Requirement-related Exceptions

Requests for exception to specific degree requirements are generated in the academic unit. Most requests will be forwarded by the adviser to CAPP for review. For a list of department-initiated petitions presented to CAPP for review see Petition Services. Some exceptions are made by the dean of the academic unit and

are recorded on the Student Academic Record System (STARS) report by the academic department, using the exception process.

The Graduate School

Requests for an exception to the policies and procedures governing Graduate School degree programs will be considered upon submission of a petition to the Graduate School stating the specific request, supported by adequate reasons and information. The signatures and recommendations of the faculty adviser or committee chair and department chair are required.

Graduate and Professional Programs

Requests for exception to the policies and procedures governing graduate degree programs that do not fall under the jurisdiction of the Graduate School should be directed to the dean of the degree-conferring unit.

Undergraduate Education

Financial Aid for Undergraduate Students

Students at USC benefit from federal, state and university need-based financial aid programs administered by the Financial Aid Office and from scholarships administered by the Office of Admission and various academic departments. USC also offers an interest-free monthly payment plan, a tuition pre-payment plan, and participates in long-term student and parent educational loan programs.

Although international students are not eligible for need-based financial aid, they may be eligible for scholarships offered by their schools or departments. International students should contact their departments directly for information about existing opportunities. International students may also be eligible for private educational loans.

The Financial Aid Office may change these policies at any time to ensure continued compliance with changes in federal and state regulations governing student financial aid. As a result, students must refer to the current catalogue regulations. Unlike degree requirements, changes in regulations, policies and procedures are immediate and supersede those in any prior catalogue.

Application Procedures and Eligibility Requirements for Financial Aid

Detailed information, application procedures and deadlines for financial aid are available online at financialaid.usc.edu. To be eligible for federal, state and university need-based financial aid programs, students must be U.S. citizens, permanent residents or other eligible non-citizens; have a valid Social Security number; meet Selective Service registration requirements; have a high school diploma, GED or equivalent; meet Satisfactory Academic Progress (SAP) requirements; and meet all other eligibility requirements. Students must also complete all application requirements by the relevant deadline(s). For most federal and state awards, a minimum of half-time enrollment is required. Full-time enrollment is required for most university awards. Enrollment status will be calculated based only on those courses that are required for, or that can be applied as an eligible elective credit toward, a student's degree or certificate program. Students awarded a California Dream Grant are considered for limited university financial aid.

Scholarships

Scholarships awarded on the basis of academic achievement, leadership, service and talent are available through the Office of Admission, most academic departments at USC, alumni groups, and outside agencies and foundations. Some of these awards require a separate application. In some cases, financial need is also considered. For more information, visit usc.edu/scholarships and usc.scholarshipuniverse.com.

Grants

The Financial Aid Office awards need-based University Grants to eligible students with demonstrated need who meet all financial aid application deadlines.

Federal Pell Grants and Federal Supplemental Educational Opportunity Grants (SEOG) are available for students with exceptional financial need. The SEOG is awarded only to eligible students who meet all application deadlines.

Cal Grants A and B are administered by the California Student Aid Commission. All undergraduate aid applicants who are residents of California are required to apply. Cal Grant A provides funds for partial tuition and fees. Cal Grant B recipients receive a subsistence award the first year and receive a subsistence award and tuition award in subsequent years.

Federal Work-Study

The Federal Work-Study program enables eligible students to earn funds through employment either on campus or with an approved off-campus employer. Only students who meet all application deadlines and federal eligibility requirements are considered for this program.

Federal Student and Parent Loans

Direct Subsidized and Unsubsidized Loans are also available to eligible students. Repayment begins six months after the borrower graduates, withdraws or ceases to be enrolled at least half time.*

Direct Parent PLUS Loans are available to parents of dependent** undergraduate students who meet the credit criteria established by the U.S. Department of Education. Payments may be deferred while the student is enrolled at least half time.*

**Enrollment status will be calculated based only on those courses that are required for, or that can be applied as an eligible elective credit toward, a student's degree or certificate program.*

***Undergraduate students considered dependent for the purpose of receiving federal financial aid*

Private Financing Programs

Private financing programs are available to help students and parents meet the costs of education by providing long-term financing options. Students should exhaust all federal Title IV assistance available, including Federal Pell Grants, the Direct Loan and the Direct Parent PLUS Loan, before considering a private student loan program. The repayment terms of federal programs may be more favorable than the terms of private loan programs. Unlike private loan programs, federal student loans are required by law to provide a range of flexible repayment options, including but not limited to, income-based repayment and income-contingent repayment plans, and loan forgiveness benefits. Direct Loans are available to students regardless of income.

For more information about student loan programs, visit financialaid.usc.edu/loans.

Financial Aid for Double Majors or Dual Degrees

Federal and state regulations governing the Federal Pell Grant, Federal SEOG Grants and the Cal Grant limit these awards to students who have not yet earned a baccalaureate or professional degree. Similarly, the university limits awards of the university need-based grant and Federal Work-Study to students who have not yet earned their first bachelor's degree.

Students who are planning to double major or pursue a dual degree should carefully plan their academic course work with their academic adviser to ensure that they remain eligible for federal, state and university financial aid. The best approach is to make sure you complete the requirements for both degrees or majors simultaneously in the same semester. Once the requirements for one major/degree have been satisfied, a student will only be eligible for limited financial aid (Federal Work-Study and Direct Loans) as a second bachelor's student.

Financial Aid for a Second Bachelor's Degree

Students who are pursuing their second bachelor's degree are eligible for a limited number of financial aid programs, specifically Direct Loans. Parents of dependent* students may also borrow Direct Parent PLUS Loans.

**Undergraduate students considered dependent for the purpose of receiving federal financial aid*

Financial Aid for Enrollment in a Progressive Degree Program

The Financial Aid Office determines aid eligibility based on a student's class level. For information on how specific types of aid may be affected by class level, refer to financialaid.usc.edu/general/special-programs/progressive-degrees.html.

Class Level Determination for Progressive Degree Programs

While classified as undergraduates, students are assessed the undergraduate tuition rate, and their enrollment status and financial aid eligibility are determined by undergraduate standards.

While classified as graduate students, students are assessed the graduate tuition rate, and their enrollment status and financial aid eligibility are determined by graduate standards.

A progressive degree student transitions from undergraduate to graduate class level as soon as any one of the following conditions is met:

1. the bachelor degree is conferred; or
2. the student is awarded a graduate research or teaching assistantship as contracted through the academic department and the Graduate School; or
3. the student earns a total of 144 units.

Bachelor Degree Conferred

The Office of Academic Records and Registrar determines when a student has completed his or her bachelor degree and manages the process of posting degrees to a student's record. Students wishing to change the degree date from that indicated on their STARS Report should request an updated degree term at the Registrar One Stop Center, John Hubbard Hall (JHH 114) or onestop@usc.edu. Students may also update their expected graduation date at my.usc.edu.

Graduate Research/Teaching Assistantship

Research and teaching assistantships are awards contracted through the student's academic department and the Graduate School and are exclusively available to graduate students. A progressive degree student who is awarded a research or teaching assistantship will be reclassified as graduate student beginning the semester the student first receives the award.

The 144-Unit Limit

Assuming one of the other two conditions have not already been met, a progressive degree student is classified as an undergraduate up to and including the semester the student earns a total of 144 units.

All units earned at USC, from both undergraduate- and graduate-level course work, will be counted toward the 144-unit limit. Any and all units earned during summer semesters will be counted, as well as units earned during semesters that were not funded with financial aid.

All transfer units, including units accepted from Advanced Placement and International Baccalaureate exams, will also be counted toward the 144-unit limit. Requirements that were met by transfer courses cannot be substituted by subsequently taken USC courses, and USC will not delete or discount accepted transfer course work from the transcript.

Transfer course work determined not to be applicable toward subject-specific requirements, e.g., General Education and major requirements, nor applicable as "free" electives toward the bachelor degree program's minimum unit requirement, may increase the unit limit above the standard 144. The applicability of transfer units is determined from objective transcript data and is therefore not open to appeal.

Class level is determined dynamically based on currently available data in the student transcript. Any changes, updates or corrections to a student's transcript that alter the total number of units earned will affect progress toward the unit limit and class level transition.

Financial Aid for Limited Status Enrollment

Students not admitted to a degree-seeking program who enroll as limited-status students are not eligible for most types of federal, state or university financial aid. Students who have completed their degree or certificate programs, but continue to enroll, will be considered limited-status students and are thereby ineligible for financial aid.

Financial Aid Consortium Agreements

Students admitted to a degree-seeking program at USC who enroll in course work at another eligible "host" institution, where the course work has been pre-approved as transferable for credit toward their USC degree, may have those courses considered in USC's determination of their eligibility for limited federal financial aid. The student's total USC and/or non-USC enrollment must be at least half-time (the equivalent of at least 6 USC units per semester) and a Financial Aid Consortium Agreement must be completed prior to the semester or semesters the student enrolls at the host institution. **Financial Aid Consortium Agreements are contingent upon the host school agreeing to participate.**

Financial Aid Consortium Agreements are not available for students participating in the Postbaccalaureate Premedical Program. For more information, visit financialaid.usc.edu/general/special-programs/consortium-agreements.html.

Financial Aid for Students Enrolled in Undergraduate Course Work for Admission to Graduate Degree

Students enrolled at least half-time in undergraduate courses required for admission to a graduate degree program may be eligible for limited Direct Loan program funds. At this time, the only such program that USC offers is the Postbaccalaureate Premedical Program. For more information, visit financialaid.usc.edu/general/special-programs/postbaccalaureate-premedical-program.html.

Satisfactory Academic Progress (SAP) Policy

Purpose

To be eligible for federal, state and university aid, students are required by the U.S. Department of Education (34 CFR 668.34) to maintain Satisfactory Academic Progress toward their degree objectives. USC has established this SAP policy to ensure student success and accountability and to promote timely advancement toward degree objectives.

The following guidelines provide academic progress criteria for all undergraduate students receiving financial aid at USC. The guidelines are based on reasonable expectations of academic progress toward a degree and should not be a hindrance to any student in good academic standing.

Table 1
Programs Subject to Financial Aid SAP Policy

Federal and State Programs	USC Programs
Federal Pell Grant	University Grant
Federal Work-Study	
Direct Loans	
Direct Parent PLUS Loans	
California State Cal Grant	

Table 2
Programs Not Subject to Financial Aid SAP Policy

USC and Outside Programs+	
USC Merit Scholarships	USC Alumni Scholarships
USC Topping Scholarships	USC Departmental Awards
USC Assistantships	USC Employee Tuition Assistance Benefits
Sponsored Agency Awards (Including Department of Defense and Veterans Awards)	Outside Agency Scholarships

+Recipients of these awards should contact the awarding agencies/departments for rules regarding award retention.

Definition of Undergraduate SAP

To be eligible for financial aid identified in Table 1, undergraduates must maintain SAP as defined by the following three criteria:

- Grade Point Average (GPA): You must meet a minimum cumulative GPA of 2.0 each enrolled semester.
- Pace of Progression: You must successfully complete a minimum of 67 percent of all cumulative attempted* units each enrolled semester. This Pace of Progression ensures completion of the degree within the Maximum Time-Frame.
- Maximum Time-Frame: You must complete your degree within a specified amount of time. The Maximum Time-Frame is based on the published length and unit requirements for your degree program(s). You will be eligible for the maximum attempted units or the maximum SAP semesters, whichever comes first.

If you do not meet the Pace of Progression or GPA requirements, you will be placed on a one-time, one-semester financial aid SAP Warning Period. If the minimum requirements are not met by the end of the Warning Period, you will no longer be considered to be making SAP and will become ineligible for financial aid without an approved, written SAP Appeal.

If you have reached the Maximum Time-Frame, you will be ineligible for further financial aid without an approved, written SAP Appeal. The Financial Aid Office will never increase the Maximum Time-Frame past 150 percent of the published degree requirements. As soon as a student is mathematically incapable of completing a degree program within 150 percent of the published requirements, the student will be ineligible for financial aid from that point forward.

Grade Point Average (GPA) Requirement

Undergraduate students must meet a minimum cumulative GPA of 2.0. Refer to Tables 3 and 4 below to understand how specific grades and course types affect students' cumulative grade point averages.

Table 3
Impact of Grades on Cumulative GPA Calculation

Grade Earned	Counted in Grade Point Average
A, B, C, D, F (+/-)	Yes
CR — Credit, P — Pass, IP — In Progress	No
NC — No Credit, NP — No Pass	No
IN — Incomplete	No
IX — Expired Incomplete	Yes
W — Withdrawal	No
UW — Unofficial Withdrawal	Yes
V — Audit	No
NS — Not Submitted	No
MG — Missing Grade	No

Table 4
Impact of Course Type on Cumulative GPA Calculation

Course Type	Counted in Grade Point Average
Preparatory course work (course numbers below 100)	No
Repeated course work (previous passing grade)	No
Repeated course work (previous failing grade)	Yes (both grades counted)
Transfer course work (pre- and post-matriculation)	No

Students enrolled in progressive degree programs who are currently classified as undergraduate students (see the Financial Aid for Enrollment in a Progressive Degree Program section above) must also maintain a minimum cumulative undergraduate GPA of 2.0.

For more information about grading policy, please visit the USC Department of Grades on the Registrar's website at usc.edu/grades.

Pace of Progression Requirement

Undergraduate students must successfully complete a minimum of 67 percent of all cumulative attempted units each enrolled semester. This Pace of Progression ensures completion of the degree within the Maximum Time-Frame.

Full-time undergraduate students are encouraged to attempt at least 16 units per semester to ensure that degree objectives can be reached within the Maximum Time-Frame. Students who attempt a lower number of units per semester should work closely with their academic adviser to ensure degree progress.

Pace of Progression is calculated by dividing the cumulative number of units the student has successfully completed by the cumulative number of units the student has attempted.

For purposes of Pace of Progression and Maximum Time-Frame, "attempted units" includes most types of course work in which you are enrolled past the course's deadline to drop and receive a tuition refund. After this deadline, "dropped" course work is considered withdrawn units attempted for the purposes of SAP, even if the withdrawal does not result in a "W" mark on your transcript. To verify your course session's deadline to drop for a tuition refund, please refer to the USC Schedule of Classes at classes.usc.edu.

Courses that are successfully petitioned for deletion through the Office of Academic Records and Registrar will be considered neither attempted nor completed for the purposes of Pace of Progression and Maximum Time-Frame.

Table 5
Impact of Grades on Pace of Progression and Maximum Time-Frame

Grade Earned	Pace of Progression		Counted Toward Maximum Time-Frame
	Units Completed	Units Attempted	
A, B, C, D (+/-)	Yes	Yes	Yes
CR, P	Yes	Yes	Yes
IN, IP, W, NS, MG	No	Yes	Yes
F, IX, NP, NC, UW	No	Yes	Yes
V	No	No	No

Table 6
Impact of Course Types on Pace of Progression and Maximum Time-Frame

Course Type	Pace of Progression		Counted Toward Maximum Time-Frame
	Units Completed	Units Attempted	
Undergraduate and graduate course work (course numbers 100 and above)	Yes	Yes	Yes
Preparatory course work (course numbers below 100)	No	No	No
Repeated course work (previous passing grade)	Yes	Yes	Yes
Repeated course work (previous failing grade)	Yes	Yes	Yes
Transfer course work (pre- and post-matriculation)	Yes	Yes	Yes
Course work dropped after Last Day to Drop and Receive a Refund, but before Last Day to Withdraw without a "W" on Transcript	No	Yes	Yes
Course work successfully petitioned for deletion from the transcript by the Registrar	No	No	No

Maximum Time-Frame Requirement

Students must complete their degree objective within a specified amount of time. The time-frame will depend on the student's enrollment status and educational objective. Students will be eligible for the maximum attempted units or the maximum SAP semesters, whichever comes first.

Maximum Units and Semesters

Undergraduate students in single-degree, four-year programs requiring 128 units are eligible for financial aid for a maximum of 144 total attempted units or a maximum of nine SAP semesters, whichever comes first. The time-frame will be increased as necessary for single-degree programs requiring more than 128 units. For example, students pursuing a five-year, single-degree program, such as the Bachelor of Architecture, will be eligible to receive financial aid for a maximum of 176 attempted units or 11 SAP semesters.

SAP Semesters

Each semester in which a student attempts 12 or more units is counted as a full (1.0) SAP semester. Each semester in which a student attempts 6 to 11 units is counted as a one-half (0.5) SAP semester. Semesters in which a student attempts fewer than 6 units are not counted as SAP semesters.

Additionally, both pre- and post-matriculation transfer units may be counted as SAP semesters. The total number of transfer units is divided by an average of 16 units per semester and rounded down to the nearest half-SAP semester.

Special Financial Aid Considerations for Students Completing Double Majors or Dual Degrees

Students pursuing a double major or dual degree programs are subject to the same Maximum Time-Frame Allowance requirements as students pursuing a single major or degree. Students may appeal for allowance past the Maximum Time-Frame, not to exceed 150 percent of the time-frame to complete one undergraduate degree.

How and When Satisfactory Academic Progress is Monitored

The Financial Aid Office evaluates the three SAP criteria for all undergraduate financial aid applicants at the end of each enrolled semester after grades have been made official by the Office of Academic Records and Registrar.

Potential Delay of Disbursements Due to Monitoring of Satisfactory Academic Progress

Financial aid may not be disbursed to a student's account until SAP has been evaluated. The Financial Aid Office cannot complete the SAP evaluation until prior semester grades have been officially posted by the Office of Academic Records and Registrar. An otherwise eligible student who is in a one-semester SAP Warning Period or on an SAP Contract may experience a delayed financial aid disbursement if grades are not made official before the beginning of the subsequent semester. No exceptions can be made to this process.

Notification of Satisfactory Academic Progress Status

Students who have successfully met SAP requirements will not receive an SAP notification. The Financial Aid Office will notify any student who does not meet SAP requirements via the student's USC email address. Students who are notified that they do not meet the SAP requirements for financial aid should consult their academic advisers.

Failure to Maintain Satisfactory Academic Progress

Exceeding the Maximum Time-Frame

Students who have reached the Maximum Time-Frame are ineligible for further financial aid without an approved, written SAP Appeal. The Financial Aid Office will never increase the Maximum Time-Frame past 150 percent of the published requirements for one undergraduate degree program. As soon as a student is mathematically incapable of completing a degree program within 150 percent of the published requirements, the student will be ineligible for financial aid from that point forward.

Failing GPA and Pace of Progression Requirements

Students who do not meet the Pace of Progression or GPA requirements are placed on a one-time, one-semester financial aid SAP Warning Period.

Financial Aid SAP Warning Period

Students who do not meet the Pace of Progression requirement will be placed on a one-time, one-semester financial aid SAP Warning Period. Students may continue to receive financial aid while in this one-semester Warning Period without a written appeal. Students who are in an SAP Warning Period are encouraged to seek both academic and financial aid advisement. If the minimum requirements are not met by the end of the Warning Period, the student will no longer be considered to be making SAP and will become ineligible for financial aid without an approved, written SAP Appeal.

Failure to Maintain Satisfactory Academic Progress

As stated above, students who have exceeded the Maximum Time-Frame are ineligible to receive financial aid.

Students who do not meet the minimum requirements by the end of the one-semester Warning Period for GPA and Pace of Progression violations will no longer be considered to be making Satisfactory Academic Progress and will become ineligible for financial aid without an approved, written SAP Appeal.

Students in their one-semester SAP Warning Period who receive grades of D, W, UW, IN, F, IX, MG, NC, NP or NS will no longer be considered to be making SAP and will become ineligible for financial aid without an approved, written SAP Appeal.

The one-semester financial aid SAP Warning is only available to students one time throughout their degree program. Students who regain eligibility by meeting SAP standards at the end of the Warning Period, but subsequently fall below the standards again, will be considered ineligible for financial aid without an approved, written SAP Appeal.

Regaining Financial Aid Eligibility

Regaining Financial Aid Eligibility with a Grade Change or Academic Improvement

Students who have been placed on a one-semester Warning Period due to insufficient GPA or Pace of Progression can be reinstated by a grade change or by successfully completing sufficient units or bringing up their GPA to meet the accepted standards by the end of their warning period. The student must notify the Financial Aid Office in writing once the requirements have been met.

Regaining Financial Aid Eligibility with an SAP Appeal for Maximum Time-Frame

Students who need additional time to complete their degrees must meet with their academic adviser to complete a SAP Appeal Form. Students must also update their expected graduation date with the Degree Progress Office. The Financial Aid Office may increase the maximum time-frame for students who have changed majors, are adding a major, or have experienced a one-time extenuating circumstance such as illness or injury that has since been resolved. However, the Financial Aid Office will not approve any appeal when the additional time required for completing the degree objective(s) extends beyond 150 percent of one undergraduate degree.

Regaining Financial Aid Eligibility with an SAP Appeal for GPA and/or Pace of Progression

Students who are not meeting Satisfactory Academic Progress GPA and/or Pace of Progression requirements may appeal to have their financial aid eligibility reinstated on a semester-by-semester basis. Students must meet with their academic adviser to complete an SAP Appeal Form. The following can be considered: extended illness; one-time extenuating circumstances that have since been resolved; and enrollment limitations due to academic advisement.

SAP Appeal Form and Letter

The student and the academic adviser must submit a Satisfactory Academic Progress Appeal form with complete supporting documentation to the Financial Aid Office. The SAP Appeal Form must contain the specific academic plan for the student that the adviser has approved. For the appeal to be approved, the academic plan must lead to graduation within 150 percent of the published time-frame and unit requirements to complete one undergraduate degree program.

The student must also provide a written letter that addresses the reasons for the appeal.

Students requesting an extension past the Maximum Time-Frame should address the following points in their letters of appeal:

(1) What prevented the student from completing his or her degree program(s) within the Maximum Time-Frame?

(2) How does the student intend to ensure completion of the degree program(s) within no more than 150 percent of the published time-frame to complete one undergraduate degree program?

Students appealing due to unsatisfactory GPA and/or Pace of Progress, or failing to meet the terms of an existing SAP contract, should address the following points in their letters of appeal:

(1) What caused the work at USC to fall below acceptable standards? Students should think carefully and provide a specific explanation.

(2) How have those conflicts been resolved?

(3) How will the student maintain good academic standards and progress toward the degree if the appeal is granted?

Limitations on Approvals for SAP Appeals

The Financial Aid Office will never increase the Maximum Time-Frame past 150 percent of the published degree requirements for one undergraduate degree. As soon as a student is mathematically incapable of completing his or her degree objective(s) within 150 percent of the published requirements for one undergraduate degree, the student will be ineligible for financial aid from that point forward.

Notification of SAP Appeal Decisions

SAP Appeals will be evaluated and the Financial Aid Office will notify the student of the decision via email at the student's USC email address.

The Financial Aid SAP Contract

Appeals for insufficient Pace of Progression and/or GPA are approved through the use of a semester-by-semester SAP Contract. Appeals for extensions to the Maximum Time-Frame may also result in an SAP Contract to ensure completion within 150 percent of the time-frame to complete one undergraduate degree. Students must adhere to the academic plan and terms and conditions of the SAP Contract to maintain future financial aid eligibility. The Financial Aid Office will review a student's academic progress each semester to ensure the student has met the specific terms of the student's contract.

The SAP Contract is a written agreement between the student, the academic adviser and the Financial Aid Office in which the student commits to following a specific academic plan that leads to graduation. Reinstated eligibility through a contract may alter the type and amount of financial aid for which a student is eligible. Terms of the SAP Contract may be stricter than the standard SAP regulations cited in this section. Acceptance of the approved SAP Contract supersedes all other SAP regulations. Any deviation by the student from the terms of the contract results in the forfeiture of future financial aid eligibility.

Submitting SAP Appeals after Failing SAP Contract

Students on SAP Contracts as a result of an approved appeal who fail to meet the terms of their accepted SAP Contracts are ineligible for future financial aid but may submit a subsequent SAP Appeal. However, these appeals are granted on an exception basis. Students will be required to document specifically the exceptional circumstances that caused them to fail their SAP Contract and how those problems have been resolved.

Financial Aid Application and SAP Appeal Deadlines

A student appealing his or her Satisfactory Academic Progress status must meet all financial aid application deadlines and other eligibility requirements.

Students should not submit SAP Appeals for GPA or Pace of Progression deficiencies when they are in a Financial Aid SAP Warning period. These preemptive appeals are unnecessary and will be withdrawn. Rather, students should wait until they have been notified by the Financial Aid Office that they are ineligible for financial aid due to an SAP deficiency. SAP Appeals for Maximum Time-Frame Allowance may be submitted at any time, but students should first ensure that the Degree Progress Office has updated their expected graduation term.

An SAP Appeal must be submitted before the end of the semester for which the aid is sought. **Financial aid cannot be reinstated retroactively for a past semester.**

Withdrawal Implications for Recipients of Financial Aid

During the Drop/Add Period

During the university's published drop/add period, students who drop or reduce their enrollment may be eligible for a 100 percent refund of tuition for classes dropped.

Financial aid recipients must immediately notify the Financial Aid Office in writing when a drop from one or more classes during the drop/add period results in an enrollment status different from the enrollment status on which their current financial aid eligibility was based. The same applies if one or more classes are cancelled.

The Financial Aid Office will review the student's new enrollment and, if appropriate, revise the student's eligibility based on the new enrollment status.

If a financial aid recipient drops from *all* classes or drops to less than half-time status during the drop/add period, *all* financial aid awards must be returned to their respective programs. Students who drop from all classes or drop to less than half-time status during the drop/add period are considered never to have established eligibility for financial aid. If the student was given financial aid funds for other expenses, he or she will be expected to return those funds to the university.

After the Drop/Add Period

Students who are recipients of Title IV federal student aid are also covered by federal Return of Title IV Funds (R2T4) regulations. Title IV federal student aid is awarded to a student under the assumption that the student will attend for the entire period for which the assistance is provided and thereby "earn" the award. When a student ceases academic attendance prior to the end of that period, the student may no longer be eligible for the full amount of federal funds that the student was originally scheduled to receive.

If a Title IV recipient withdraws from all classes on or before the session is 60 percent complete, based on their last date of attendance, federal policy requires that any "unearned" Title IV federal student aid be returned to the U.S. Treasury, even if the student is not entitled to a refund of tuition.

A student is required to immediately notify the Registrar when he or she stops attending classes. If the student fails to notify the Registrar's Office, it is possible that the 50 percent point in the term will be used to determine the student's last date of attendance, in accordance with federal regulations. If a student withdraws from all classes*, the Financial Aid Office will determine if that student's period of attendance resulted in the earning of all federal student aid awarded for that term. If it is determined that not all the scheduled federal aid has in fact been earned, then the Financial Aid Office will calculate the amount to be returned to the federal student aid programs. The Financial Aid Office will bill the student via his or her university account for the amount to be returned. It is the student's responsibility to contact the Cashier's Office to settle the bill.

**Note to students in modular programs: In a modular program, one or more of the student's enrolled courses do not span the length of the entire semester. Students in modular courses who withdraw from one or more courses but are still registered for future courses within the term will be required to confirm their future enrollment plans. For students who fail to confirm or fail to re-enroll, the Financial Aid Office will determine whether you have completed module(s) that contain 49 percent or more of the number of days in the payment period. If you have completed 49 percent or more, you are not considered to have withdrawn for R2T4 purposes. If you have completed less than 49 percent, the Financial Aid Office will calculate the portion of your financial aid that has been earned based on your latest date of attendance. Refunds to the U.S. Treasury may be required.*

Additional Responsibilities of Students Who Withdraw

Any time a student withdraws from one or more courses, the student should consider the potential effect on his or her Satisfactory Academic Progress (SAP) status.

Whenever a student's enrollment drops to less than half time or the student withdraws completely, or if a student takes a leave of absence, he or she must notify the lender, holder or servicer of any loans. Student borrowers of federal or university loans must also satisfy exit loan counseling requirements at iGrad.

It is also the student's responsibility upon withdrawal from all classes to notify the Student Financial Services Office, the Housing Services Office, the Transportation Services Office and/or the USCard Office, if the student has charges from these offices on his or her student account. Students who have withdrawn from studies may be entitled to a prorated cancellation of charges from these offices.

Leave of Absence

Financial aid recipients considering a leave of absence should be aware of the financial aid implications. Although obtaining an approved leave of absence from their programs does allow students to re-enroll in the university without formal re-admission, it does not allow them to avoid Return to Title IV calculations or defer their loan repayment. The university reports student enrollment to the National Student Clearinghouse throughout the academic year. Lenders and federal loan service agencies subsequently query this database to determine if a student has maintained continuous half-time or greater enrollment.

Student Loan Repayment

If students are on a leave of absence from the university, their lender or federal loan service agency will move their loan from an "in-school" status to a grace or repayment status as required. While on a leave of absence, students may be able to postpone repayment by obtaining a deferment or forbearance from their loan servicer(s) as a result of unemployment or economic hardship. Students should contact their loan servicer(s) for more information about loan repayment. Students may review their federal loan history and determine their loan service agencies by visiting the Federal Student Aid website at studentaid.gov. Once they re-enroll on a half-time or greater basis, they may be able to request deferment for "in-school" status.

Tuition Refund Insurance Plan

To complement its own refund policy, the university makes available to students Tuition Refund Insurance, an insurance policy designed to protect the investment students and their families make in education. The Financial Aid Office strongly encourages all financial aid recipients to take advantage of this plan. If a student formally withdraws from all classes after the end of the drop/add period and he or she is covered by Tuition Refund Insurance, the student may receive:

- A credit to his or her student account equal to 100 percent of charges for tuition and mandatory fees, if the withdrawal is the result of documented personal illness or accident; or
- A credit to his or her student account equal to 80 percent of the charges for tuition and mandatory fees, if the withdrawal is the result of a documented mental/nervous disorder.

The Tuition Refund Insurance credit will be applied first to any outstanding charges on the student's university account, including any charges resulting from the return of Title IV federal student aid. Recipients of university and/or federal financial aid will then receive a cash refund equal to the amount of cash payments made to the account plus any loan payments still on the account (after all returns of Title IV aid have been made in accordance with federal policies, if applicable). The remainder of the insurance credit will be used to repay university financial aid grant or scholarship programs.

Brochures about Tuition Refund Insurance requirements and claim forms are available in the Cashier's Office and the Registrar's Office. All questions about the insurance plan should be directed to these offices.

Notes on Federal Policy

Title IV Federal Student Aid

Students are considered recipients of Title IV federal student aid if they have received funds from one or more of the following programs to meet educational expenses for the semester in question: Federal Pell Grants, Federal Supplemental Educational Opportunity Grants (SEOG), Direct Loans (Subsidized or Unsubsidized), or Direct Graduate or Parent PLUS Loans.

FAFSA and Verification

The deadline for receipt of a 2021-22 FAFSA by the Department of Education is June 30, 2022. To receive financial aid funds, a complete, valid FAFSA must be received at USC by the last day of the student's 2021-22 enrollment.

Financial aid applicants selected for verification are required to submit documentation before any financial aid funds will be awarded or disbursed. The deadline to submit verification documentation is 120 days after the student's last date of enrollment for 2021-22, or September 17, 2022, whichever is earlier. USC will continue to accept verification documentation until this date.

Applicants are notified of any changes to their financial aid eligibility on their Financial Aid Summary and Tasks (FAST) page. The FAST page also indicates any outstanding documentation or tasks that need to be completed for aid to be processed or disbursed.

Period of Enrollment

At USC, the periods of enrollment are generally measured using the session(s) in which the student enrolled on a semester basis, starting on the first day of classes and ending on the final day of examinations for a given term. For purposes of Title IV federal student aid, any scheduled break of five or more days will not be included in the measurement of the enrollment period. For programs offered in modules (sessions that do not span the entire length of the semester), breaks of more than five days between modules will not be included in the measurement of the enrollment period.

Measurement of Earned Title IV Federal Student Aid

When a student withdraws from all classes or withdraws from one or more classes while attending a modular program, the Financial Aid Office will calculate the percentage of earned Title IV federal student aid using the date of withdrawal. The earnings calculation is based on the number of days of enrollment, up to and including the day of withdrawal, divided by the total number of days in the enrollment period. In most cases, when a total withdrawal is determined to occur on or before the 60 percent point in a semester, some federal aid will need to be returned.

Return of Title IV Federal Student Aid

To satisfy federal regulation, returns to Title IV financial aid programs must be made in the following order:

- Direct Unsubsidized Loans
- Direct Subsidized Loans
- Direct PLUS Loans
- Federal Pell Grants
- Federal Supplemental Educational Opportunity Grants (SEOG)
- Other Title IV federal programs

Financial Aid Policy Regarding Falsification of Financial Aid Information

The types of information covered by this policy include all documents and information submitted to apply for and/or receive need-based financial aid, scholarships and private financing funds. These documents and information include, but are not limited to, the following:

- Free Application for Federal Student Aid (FAFSA)
- Student Aid Report (SAR)
- CSS Financial Aid/Profile Application and CSS Noncustodial Parent Profile Application
- Financial Aid Supplement
- Student and parent federal income tax forms and other income documentation
- Documentation of U.S. citizenship or eligible non-citizen status
- Documentation of housing/living arrangements
- Academic documents relating to high school diploma or college course work
- Loan applications, promissory notes and related documentation
- Specific program applications
- Federal Work-Study time sheets
- Any university financial aid forms and related documentation
- Any written, electronic or verbal statements sent to or made to a university employee regarding the student's financial aid application or other financially related documents

The integrity of the documents and the honesty of the information presented through them are critical to the financial aid process. Students should be aware that they will be held responsible for the integrity of any financial aid information submitted either by them or on their behalf.

If the university determines that a student or parent has provided falsified information, or has submitted forged documents or signatures, the following steps may be taken without prior notification to the student or parent:

1. An incident report will be filed with USC's Office of Student Judicial Affairs and Community Standards, following procedures outlined in the University Student Conduct Code. Pending resolution of the complaint, the Financial Aid Office may restrict the distribution of any further aid to the accused student.
2. If the Financial Aid Office or the student conduct review process finds that a violation has occurred, the consequences may include, but are not limited to, the following:
   - The student will be required to make full restitution of any and all federal, state, private and/or university scholarship, grant, loan or work funds to which he or she was not entitled.
   - Until full restitution is made, all federal, state and university funds will be withheld from the student, including all funds disbursed in past or in current terms.
   - No arrangements will be made with the Cashier's Office or Collections Office on the student's behalf to settle their account. The student will be responsible for all charges incurred on the student's account because of the loss of federal, state or institutional financial aid funds.
   - If the student is determined to be ineligible for financial aid because of a basic eligibility criterion, no further federal, state or university funds will be provided to the student in any future terms of enrollment at the university.
   - The student may be ineligible for future participation in some or all financial aid programs for a minimum of one year or longer. In some cases, the student will not be eligible to receive funds from that program in any future terms of enrollment at the university.
   - The student will not receive funds to replace those lost because he or she is considered ineligible due to dishonesty.
3. In addition to any consequences directly related to the student's financial aid, the student may be assigned disciplinary sanctions as described in the Student Conduct Code (11.80).
4. As required by federal and state law, the USC Financial Aid Office will report any infraction to the appropriate office or agency. These include, but are not limited to, the U.S. Department of Education Office of the Inspector General, state agencies or other entities that may take whatever action is required by federal and state law. In this report, the Financial Aid Office will describe in detail the incident, the response from the Financial Aid Office and any additional actions taken by or pending with the university.

Course Work Taken Elsewhere

Admitted students receive a transfer credit report prepared by Transfer Credit Services showing unit and subject credit granted for college courses and relevant exams, such as AP, IB and A-levels.

Students are required to submit complete, official transcripts of all course work attempted at any postsecondary institution as soon as final grades are posted. All post-secondary transcripts must be submitted regardless of the type of course(s) or the quality of the work. A student's failure to provide transcripts for all course work attempted prior to enrollment at USC or while away from USC may result in denial of transferred course work and a charge of a violation of the university's academic integrity policies.

Accreditation

The University of Southern California affirms the practice of accreditation of American post-secondary academic institutions by the six regional accreditation agencies: the Middle States Association of Colleges and Schools, the Higher Learning Commission, the New England Association of Schools and Colleges, the Northwest Commission on Colleges and Universities, the Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges. Acceptance of course work and/or degrees completed by undergraduate and graduate students applying to the University of Southern California will be based on accreditation by these six agencies. Certain graduate schools, seminaries, conservatories and professional institutions of national renown that are not accredited by a regional

agency may be considered for graduate transfer work by Transfer Credit Services in consultation with the USC department or professional school to which the student is applying.

Acceptance of course work and/or degrees from post-secondary institutions overseas will be based on the recognition and approval of the college or university as a degree-granting institution by the ministry of education within the respective country.

Non-transferable Course Work

USC's transfer policies have been established to enable students to achieve an undergraduate degree that will reflect traditional academic study and research. For that reason, the following types of nontraditional course work will not transfer to USC for undergraduate credit:

- Life experience; portfolio work; continuing education; work experience; formally structured courses offered by civilian non-collegiate sponsors such as businesses, corporations, government agencies and labor unions, even if evaluated by the American Council on Education (ACE).
- Extension courses not accepted toward a degree by the offering institution.
- Equivalency examinations.
- Remedial (e.g., mathematics below college algebra), college preparatory and personal development/life skills courses.
- Independent study, directed study, internships and correspondence courses from two-year schools.
- Areas of study offered by other accredited institutions toward the baccalaureate but not offered by USC, such as agriculture, business office procedures, hotel management, interior design, food services, industrial mechanics, fire science, police academy and similar technical or professional programs.
- Undergraduates will not receive credit for graduate-level transfer courses.

In addition, no more than 4 units of English as a Second Language (toward the maximum of 12 ESL/ALI units that may apply to a degree) will transfer. Also, a maximum of 4 units of physical education activity courses and music ensemble will transfer. A maximum of 8 units of dance, 12 units of physical education theory courses and 16 units of individual instruction in music will transfer.

Course Work Requiring Review

USC will determine on a case-by-case basis whether to grant credit for certain types of courses taken at accredited institutions. Courses that require review by Transfer Credit Services include:

- Independent study, directed study and internships taken at four-year schools.
- Courses in which the traditionally expected number of contact hours may not have occurred, including distance learning, televised, online or correspondence courses, and courses taught in non-traditional time modes such as concentrated "intensive" sessions or special weekend modules.
- Transfer credit from studio courses in fine arts, music and theatre is limited. See articulation agreements or usc.edu/transfercredit.

Articulation Agreements

Articulation agreements with select California community colleges are issued by Transfer Credit Services and indicate courses available for transfer to USC. These agreements can be found at usc.edu/transfercredit. These agreements are revised periodically and are subject to change, depending on course content, availability and changes in USC's academic policies. Articulation agreements are not issued for four-year colleges and universities.

Credit for Military Education

Academic credit will be awarded for course work taken at one of the regionally accredited U.S. military academies upon receipt of official transcripts.

The university will also evaluate course work/experience completed through the armed services and may award credit for such courses if they meet the following criteria:

- Students must provide official Joint Services (JST) or Coast Guard Institute (CGI) transcripts.
- Course work must be evaluated by ACE as upper-division credit.

USC will not grant credit for the following:

- DD-214 or DD-295.
- Course work not offered in an area of study taught at USC.
- Course work/experience not evaluated by ACE.
- Course work from the Community College of the Air Force.
- DSST, CLEP and DLPT exam scores.
- Other Learning Experiences (OLEs).

College Courses Taken During High School Enrollment

All undergraduate students entering USC may receive a combined maximum of 32 elective units for college courses taken before high school graduation and/or examinations (e.g., AP or IB) taken before matriculation at a two-year or four-year college. A maximum of 16 of these 32 units will be allowed for college courses taken before high school graduation. These courses must appear on the college transcript and be part of the regular college curriculum. These courses must also be taught by college faculty in a format open to regularly enrolled postsecondary students at that college. These courses will not receive course equivalence or credit toward writing or foreign language requirements, although they may fulfill general education categories where appropriate. However, departments may use them as a basis to waive prerequisites or specific course requirements on a case-by-case basis. Students who completed more than 16 units of college courses in lieu of examinations may submit an articulation petition to receive up to a maximum of 32 units for these classes.

Students may not receive credit for both an AP exam (or IB or other international exam) and a college course taken before high school graduation covering the same subject matter, nor for an AP and IB exam covering the same subject matter.

Besides earning elective units, some AP tests and international exams fulfill general education requirements. Finally, scores of 4 or 5 on AP tests in modern languages if taken in spring 2007 or later will satisfy the third semester foreign language requirement. Details will be reported on the student's transfer credit report. A list of exams that will satisfy general education requirements is available online at arr.usc.edu/transfercredit under the Exam Credit link.

Students who began full-time college study at four-year institutions before completing their high school diplomas can submit transcripts for special evaluation. These programs, which typically are conducted on a college campus and are taught by regular faculty, will be evaluated on an individual basis. More than 16 units may be granted. Students entering full-time college programs at two-year colleges before graduating from high school are subject to the 16-unit maximum stated above.

Transfer Credit

Transfer Credit Report

A transfer credit report (TCR) is prepared prior to enrollment for every new undergraduate transfer student admitted to regular standing. To ensure complete evaluation of transfer courses, it is the student's responsibility to submit complete, official transcripts from all post-secondary schools in which course work was completed as soon as final grades are posted. All post-secondary transcripts must be submitted regardless of the type of course(s) or the quality of the work. The purpose of the transfer credit report is to acknowledge officially all work transferable toward the USC degree sought by the student. The university expects undergraduate transfer students to assist in completing a final review of all transfer courses by the end of their first semester of study.

Students should review their transfer credit reports for accuracy and report any missing courses or incorrect information to Undergraduate Transfer Credit. To request a change in the way a transfer course has been evaluated, students may initiate an articulation petition at usc.edu/OASIS. All articulation petitions regarding courses taken before entering USC should be initiated as soon as possible after matriculation, and no later than the end of the first semester of study.

Total transferable units attempted and total transferable units applied toward the degree are posted on the transfer credit report. For the purposes of making an admissions decision, all grades (including grades of D and below) are calculated into the grade point average and are used in calculating a total grade point average for graduation. Neither subject nor unit credit will be granted for courses that have been graded with less than a C- (1.7). USC does not honor other colleges' "academic renewal" or "academic forgiveness" programs that permit students to improve a substandard grade. If you repeat a transferable course for which you earned a grade of D+ or lower, both grades will be included in your transfer GPA. If the grade on the first course was a C- or higher, only the first grade is included. Your transfer GPA is different from the GPA earned in courses you take at USC. The transfer GPA and your USC GPA are kept separate until it is time to determine if you are eligible to graduate and earn graduation honors. See the Graduation with University Honors section of this catalogue.

For limitations on use of transfer courses to fulfill general education and writing requirements see the General Education program.

Subject Credit and Degree Credit

Subject credit does not carry unit value toward units required for a degree but may fulfill a required or elective subject area. Degree credit is defined as units that may be applied toward the units required for a USC degree.

Transfer Unit Limitations

A student may earn a maximum of 64 units of credit toward a bachelor's degree from other accredited institutions. The BArch degree and the Engineering "3-2" Program allow a maximum of 80 units of transfer credit, of which no more than 70 units may be from two-year colleges. Students will receive only subject credit for work completed in excess of the unit limitations.

Once a student has attained junior-level standing by completing 64 units applicable to the undergraduate degree (with USC course work alone or in combination with transfer units), transfer credit will be further limited to no more than 8 additional units. In the case of the BArch degree, no more than 8 additional units may be allowed for transfer credit after completion of 84 college-level units.

Transfer Credit for Repeated Course Work

Degree credit will *not* be given for a transferred undergraduate course that a student has previously completed with earned credit at USC.

Subject credit only will be given for a transferred undergraduate course previously taken at USC, under the following conditions: (1) When the student took the course at USC, he or she received a passing grade or mark that failed to meet departmental or university requirements, and (2) the student obtained prior approval from the department offering the USC course on the USC transfer course work pre-approval form at usc.edu/transfercredit.

Subject and unit credit will be given for a transferred undergraduate course previously taken at USC, under the following conditions: (1) When the student took the course at USC, he or she received a failing grade or mark, and (2) the student obtained prior approval from the department offering the USC course on the USC transfer course pre-approval form at usc.edu/transfercredit.

Permission to Register at Another Institution

Undergraduate Transfer Credit Limitations

As defined in the Residence Requirement, once students enroll at USC, only courses taken during a summer semester will be considered for transfer credit. No transfer work may be used to satisfy any Core Literacy requirements or the writing requirement if those courses are taken after a student has enrolled at USC, but transfer work may be used to satisfy Global Perspectives requirements. In addition, transfer courses taken after enrollment at USC cannot be used to fulfill upper-division requirements in the major without prior approval, using the request for exception to residence form available from the student's major adviser or, for undecided and undeclared students, from Academic Counseling Services in the office of the vice provost for undergraduate education. Transfer courses may not fulfill upper-division requirements in the minor under any circumstances.

Students are advised to consult their major department or Academic Exploration Advising (AEA) before taking college course work at another institution. Students should also consult Transfer Credit Services to ensure that the work will transfer.

Procedure

If students wish to take summer course work elsewhere after admission to USC, they must first obtain appropriate pre-approval. Even if there is an articulation agreement, pre-approval is necessary to assure the student's eligibility. Most students can use the online pre-approval process available on OASIS. In some cases, the paper pre-approval form must be used. It is available at usc.edu/transfercredit.

Once the course work has been completed elsewhere, students must request the other institution to send an official transcript to USC so that the course work can be evaluated and transferred.

Students are required to provide transcripts of all course work attempted at any post-secondary institution, regardless of the type of course(s) or the quality of the work. A student's failure to provide transcripts for all course work attempted while away from USC may result in denial of transferred course work and a charge of a violation of the university's academic integrity policies.

Students should request an electronic transcript or a secure PDF transcript be sent to etrans@usc.edu. Confidential paper transcripts can be sent to the USC Registrar One Stop Center, 700 Childs Way, JHH 106, Los Angeles, CA 90089-0912. Paper transcripts must arrive in a sealed envelope directly from the issuing institution.

To avoid a possible delay in graduation, official transcripts from post-secondary institutions should be submitted as soon as the course work is completed and graded by the transfer institution. It is advisable to complete all transfer work prior to the final semester of enrollment at USC. If transcripts for transfer course work are not available during the final USC semester, it will likely delay degree posting and result in a later degree date.

Students who have questions concerning the transfer credit shown on the transfer credit report should inquire at the Registrar One Stop Center in the JHH lobby, or by email at transfercredit@usc.edu. Any questions regarding the applicability of previous course work toward major requirements should be referred to the student's academic adviser.

Leave of Absence

Students may encounter professional, medical, legal, educational or personal reasons that compel them to interrupt their academic program. An undergraduate student in these situations should declare a leave of absence using the resources at loa.usc.edu. If, as a result of the leave, the student exceeds the time limits for completion of degree or general education requirements, the student may not be allowed automatically to continue to follow the original catalogue of enrollment. Students who fail to declare a leave of absence may encounter difficulties with residence requirements and financial aid when returning to USC.

Financial aid recipients considering a leave of absence should be aware of the financial aid implications. For more information, refer to Withdrawal Implications for Recipients of Financial Aid in the Financial Aid for Undergraduate Students section.

A leave of absence does not exempt students from the residence requirement, nor does it automatically grant permission to transfer work from another college or university to USC. Students are discouraged from planning to study at all while on a leave of absence, but if college study is necessary, the student should apply for a Request for Exception to Residence (described under Residence Requirement below).

Consequences for a leave of absence are different for graduate students than for undergraduate students. Consult loa.usc.edu carefully. International students must follow specific steps when taking a leave of absence from the university. Contact the Office of International Services as soon as a leave becomes necessary.

Program Reactivation

Students who have failed to attempt course work for at least one semester within an academic year without filing a Leave of Absence form will have their POST (Program of Study) expired. Returning undergraduates will be required to meet with their department adviser and complete and sign a POST Reactivation form before registration will be permitted. Graduate students who wish to return will be governed by applicable university policies, including the continuous enrollment requirement.

Residence Requirement

A minimum of 64 units toward the bachelor's degree must be earned in residence at USC, with the following exceptions: students earning a bachelor's degree in architecture must earn 80 units in residence; students in engineering's "3-2" program must earn at least 48 units in residence.

Once a student matriculates at USC, all courses taken for subject or unit credit in the fall and spring semesters must be taken in residence. Only transfer work that appears on the transfer institution's transcript for a summer term will be accepted. In addition, all upper-division units required for the major and minor must be earned in residence. However, a student's department may apply upper-division courses taken elsewhere prior to matriculation to major requirements on a case-by-case basis.

In rare circumstances, permission may be granted in advance to take a course out of residence. This permission is documented on the Request for Exception to Residence form. The form, which is available from the student's major adviser, is used to record major department approval to use the course toward the major. Questions about the residence requirement may be addressed to Undergraduate Transfer Credit Services, (213) 740-4628 or transfercredit@usc.edu.

Academically disqualified students must meet with a counselor from the Office of Academic Review and Retention for advisement and forms for departmental preapproval rather than using the Request for Exception to Residence form.

After completion of 64 college-level units applicable to the undergraduate degree, no more than eight additional units may be allowed for transfer credit. In the case of the BArch degree, no more than 8 additional units may be allowed for transfer credit after completion of 84 college-level units.

Units earned in overseas studies programs approved by USC's University Committee on Curriculum and in courses approved by consortial or other institutional agreements are considered to be taken in residence.

Residence Requirement for a Second Bachelor's Degree

For students with their first bachelor's degree from USC, 32 units applicable to the degree beyond the number of units required for the first USC bachelor's degree must be completed in residence. Students who have not exceeded the transfer unit residence restriction for the first USC bachelor's degree may apply the remaining number of units available for transfer to this 32-unit residence requirement.

For students with their first bachelor's degree from another institution, the second bachelor's degree requires 64 units applicable to the degree completed in residence, except for the BArch degree, which when earned concurrently with the MArch degree requires 32 units applicable to the degree completed in residence.

Requirements for Graduation

Catalogue Regulations, Policies and Procedures

In addition to degree requirements outlined below, undergraduate and graduate students are also subject to current catalogue regulations, policies and procedures. Examples include, but are not limited to, the policy on the grade of incomplete and graduation with honors. Unlike degree requirements, changes in regulations, policies and procedures are immediate and supersede those in any prior catalogue.

Graduation Date

A student will be awarded the graduation date for the term in which degree requirements, including submission of supporting documents, have been met. Although course work may have been completed in a prior term, the degree will be awarded only for the term for which all academic and administrative requirements have been fulfilled. Students wishing to change the degree date from that indicated on the STARS Report may do so under Other Services in usc.edu/OASIS. You may only set a term three semesters in advance. If your expected graduation date is more than three semesters away, please email Degree Progress.

Discontinued Degree Programs

Students pursuing major or minor programs that the university discontinues will be allowed to complete them within a specified time limit. The time limit will be specified at the point of discontinuance of a major or minor program and begins at that point. It is determined according to the student's progress toward degree completion and will not exceed five years for any student.

Closed Record

The academic record of a student who has completed the program of study or ceased attendance is considered closed. Once a student's record is closed, no further additions or changes may be made. This includes, but is not limited to, such things as registering in additional course work, resolution of marks of incomplete (IN) and missing grade (MG), declaration of minors, etc.

Degree Requirements

Undergraduate degree requirements consist of grade point averages, residence requirements, general education requirements, the writing requirement, the diversity requirement, pre-major and major requirements, and minor requirements. Undergraduate students may elect to follow (a) the degree requirements in the catalogue current in their first term of enrollment after admission or readmission at USC or (b) degree requirements in a subsequent catalogue as long as they were enrolled in a term in which it was in effect. However, students may not mix catalogues. An exception is that students may follow the requirements for a minor from a different catalogue year than the major; and students pursuing two majors may follow major requirements from different catalogue years.

While there are no specific time limits for completing the bachelor's degree, over the years many departments change their

major requirements in accordance with developments in the field and department. Occasionally, general education requirements are changed or a degree program is discontinued.

Therefore, undergraduate students who do not complete their degrees within six consecutive years from the beginning of the semester of their first completed USC course work will not be allowed automatically to continue following their pre-major, major and minor requirements as specified above. (This time limit includes semesters during which students are not enrolled.) The pertinent department chair will decide what pre-major, major and minor requirements each student must follow and communicate the decision to the student in writing.

Students who do not complete their degrees within 10 consecutive years from the beginning of the semester of their first completed USC course work will not be allowed automatically to continue their general education requirements. (This time limit includes semesters during which students are not enrolled.) The General Education Office will decide what general education requirements each student must follow and communicate the decision to the student in writing.

An appeal of a department's decision may be made to the dean of the appropriate academic unit or the Provost's Office for academic units without departments. An appeal of a general education decision may be made to the Committee on Academic Policies and Procedures (CAPP).

Grade Point Average Requirement

A grade point average of at least C (2.0) on all baccalaureate units attempted at USC, as well as on the combined USC-transfer GPA, is required for undergraduate degrees. A minimum cumulative grade point average of 2.0 in all upper division courses applied toward the major is also required, regardless of the department in which the courses are taken. The university will not deviate from policies governing the calculation of the grade point average through inclusion or exclusion of course work.

Unit Requirement

Students are required to take a minimum of 128 baccalaureate units at the undergraduate level (of which not more than 4 units may be physical education units). A student may earn a maximum of 16 units for individual instruction in music at the 101/201/301 levels and comparable transfer courses. Of the 128 unit minimum at least 32 units must be upper-division course work. Students must also complete all upper-division course work in the major at USC. The university will not deviate from the minimum unit requirements stated above or the additional unit-specific requirements. Some disciplines require more than the minimum requirements. Check individual department listings for specific requirements.

Unit credit indicates the number of semester units earned in the course; these units may or may not be applicable to the degree. Degree credit indicates the units are applicable to the degree.

Pass/No Pass Graded Work

A maximum of 24 units of undergraduate course work taken on a pass/no pass basis may be used toward an undergraduate degree and a maximum of 4 of these 24 units may be applied to the general education requirements. WRIT 130, WRIT 150 and WRIT 340 will not fulfill undergraduate writing requirements if taken on a Pass/No Pass (P/NP) basis.

Use of Pass/No Pass course work to fulfill major requirements must be approved in writing by the academic department. Course work required for a minor may not be taken on a P/NP basis. Individual academic departments may have placed further restrictions on whether a course taken on a Pass/No Pass basis can be used to fulfill specific requirements.

In cases where a student has registered for a course on Pass/No Pass (P/NP) basis, and the student is subsequently found to have committed an academic integrity violation in the course, the instructor may elect to assign a penalty letter grade, rather than assign a mark of Pass or No Pass.

General Education Requirements

General education and writing requirements for all students are provided on the General Education Program page. Additional specific information is included with the information on individual majors.

Gateway Course

A gateway course is a lower division 3–4 unit course that introduces and showcases the minor or major curricula of an academic field of study. It is intended to be a student's first exposure to a field of study.

Upper-division Major Course Work

The university requires that all undergraduate students successfully complete at USC all the upper-division courses that are applied to their major. Substitution of a comparable upper-division course for a required one may be entered in the STARS exception process by the departmental adviser with the support of the department. Substitutions and waivers of USC or transfer courses for upper-division requirements for majors are to be limited to a combination of 25 percent. Substitution of courses with the same departmental prefix are exempted from this limit. Lower-division courses cannot be substituted for upper-division course requirements.

Minor Programs

Application for a minor must be made to the department or professional school and an appropriate endorsement must appear on a change/addition of major or minor degree objectives form. Students who decide not to complete a declared minor must formally drop the minor program. Failure to drop a declared minor may delay the awarding of the student's degree.

The following guidelines apply to minor programs:

1. Minor programs are available to students matriculated in an undergraduate degree program and must be completed simultaneously with the major degree program.
2. Minors constituted of course work from a single department may not be earned by students majoring in that department.
3. Students may take an interdepartmental minor in which their major unit participates as long as at least 16 units required for the minor are not courses offered by the major department.
4. Students must take at least 16 units, which are unique to the minor (i.e., not required to fulfill the student's major or another minor).
5. All upper-division course work required for the minor must be taken at USC.
6. Departments at their discretion may substitute no more than 25 percent of the required units defined in the catalogue for a given minor program. Substitution of courses with the same departmental prefix are exempted from this limit. Lower-division courses cannot be substituted for upper-division course requirements.
7. Departments at their discretion may waive no more than 4 units for minor programs with 17 to 20 units or no more than 8 units for minor programs with more than 20 units for each student. The number of units unique to the minor after any departmental waivers or substitutions must total at least 16 units.
8. No course work required for the minor may be taken on a Pass/No Pass basis.
9. A minimum cumulative 2.0 GPA must be achieved in all courses applied toward the minor. A higher minimum may be required by the sponsoring department or unit.
10. Students whose major degree programs do not include a language requirement need not satisfy that requirement to earn a minor from the USC Dornsife College of Letters, Arts and Sciences or a professional school that has a language requirement unless the minor specifically requires the language.

11. Completion of the minor program will be recorded on the transcript. The student receives a separate minor certificate for each minor program completed.
12. Undergraduate students may elect to follow the minor requirements in (a) the catalogue current in their first term of enrollment after admission or readmission to USC, or (b) a subsequent catalogue year if the minor was newly introduced or revised after their term of admission or readmission. This does not affect the catalogue year they follow for their major.

Honors Programs

Departmental Honors

The following departments have received approval from the university Undergraduate Curriculum Committee for their majors to graduate with departmental honors:

Accounting (BS); American Studies and Ethnicity; Anthropology; Art History; Biochemistry; Biological Sciences (BA and BS); Business (BS); Chemistry (BA and BS); Cinematic Arts (Critical Studies); Classics; Communication; Comparative Literature; Earth Sciences; East Asian Languages and Cultures; Economics; English; French; Gender and Sexuality Studies; Geodesign; Geological Sciences; History; Human Development and Aging (BS); International Relations; Linguistics; Linguistics/Philosophy; Linguistics/Psychology; Mathematics (BA and BS); Media Arts and Practice (Digital Studies minor); Neuroscience; Philosophy; Policy, Planning, and Development; Political Science; Psychology; Public Relations; Religion; Sociology; Spanish; and Spatial Sciences.

The minimal requirements for receiving departmental honors are that the student: (1) satisfactorily completes course work for an honors project and (2) achieves no less than a 3.5 GPA (A = 4.0) in the major at the time of graduation. Each program, department or school will designate what it considers the appropriate course work and honors project.

Departmental honors are noted on academic transcripts but not on the diploma.

Renaissance Scholar Honors

The Steven and Kathryn Sample Renaissance Scholars program recognizes select undergraduate students who have excelled in their studies while completing a major and a minor (or two majors) in widely separated fields of study. In order to be designated a USC Renaissance Scholar candidate, a student must be currently enrolled in an undergraduate degree program and must have his or her fields of study certified to meet the breadth with depth requirement.

To be designated a Renaissance Scholar upon graduation, a student must graduate within five years of matriculation at USC, with a minimum 3.5 overall grade point average, a minimum 3.5 grade point average in each of the major(s) and/or minor(s) course requirements and with university honors. A student with multiple certified program combinations (three or more academic programs) may fulfill the 3.5 major and/or minor grade point average requirement with a minimum of two programs from one of his or her certified pairings of academic programs.

Renaissance Scholar honors are noted on academic transcripts but not on the diploma.

Discovery Scholar Honors

The Discovery Scholars program recognizes undergraduate students who have excelled in their studies while demonstrating the ability to create exceptional new scholarship or artistic works. In order to be designated a USC Discovery Scholar candidate, a student must be currently enrolled in an undergraduate degree program and must meet the criteria established by his or her school for outstanding original research or creative work. The criteria may include submission of a research thesis, an artistic portfolio or some other evidence of original contributions to the discipline. Faculty letters of recommendation may also be required.

To be designated a Discovery Scholar upon graduation, a student must graduate within five years of matriculation at USC with a minimum 3.5 overall grade point average and with university honors.

Discovery Scholar honors are noted on academic transcripts but not on the diploma.

Global Scholar Honors

The Global Scholars program recognizes undergraduate students who have excelled in their studies both at home and abroad. Applicants must have participated in one or more international programs administered by USC or an outside institution for a minimum of 10 weeks. In order to be designated a USC Global Scholar candidate, a student must be currently enrolled in an undergraduate degree program and must submit a capstone paper, project or research paper based on criteria established by his or her school, as well as a reflective essay. Faculty letters of recommendation may also be required.

To be designated a Global Scholar upon graduation, a student must graduate within five years of matriculation at USC with a minimum 3.5 overall grade point average and with university honors.

Global Scholar honors are noted on academic transcripts but not on the diploma.

Distinction in Liberal Arts Honors

See Thematic Option for a full description of this honors program.

Graduation with University Honors

To be eligible for undergraduate honors at graduation, a minimum overall grade point average of 3.5 for *cum laude*, 3.7 for *magna cum laude* and 3.9 for *summa cum laude* is required. Students must meet these averages, both on residence work attempted and on combined transferred and residence work attempted. The honors award is then determined by either the GPA for the residence work or the GPA for the combined transferred and residence work, whichever is lower. USC does not honor other colleges' academic "renewal" or "forgiveness" programs that permit students to improve a substandard grade. If you repeat a transferable course for which you earned a grade of D+ or lower, both grades will be included in your transfer GPA. If the grade on the first course was a C- or higher, only the first grade is included.

The university will not deviate from policies governing the calculation of the grade point averages required for graduation with honors through inclusion or exclusion of course work. University honors are noted on academic transcripts and the diploma.

Graduate Credit for 400- and 500-Level Work Taken as an Undergraduate

An undergraduate student who is within 12 semester units of the bachelor's degree and has a cumulative grade point average of at least 3.0 may request to enroll in and reserve for graduate credit a limited amount of work at the 400 and 500 levels during the last semester as a senior, provided that the semester program does not exceed 16 semester units. A written request should be submitted to the Registrar One Stop Center and should bear the endorsements of the chair of the student's major department and of the department in which the reserved work is to be taken. One Stop staff verify that the units being reserved are not needed to fulfill requirements for the bachelor's degree.

General Education

All students who began college in fall 2015 or later at USC (or who began elsewhere in fall 2015 and then transfer to USC) must satisfy the General Education Program that began in fall 2015, which includes six Core Literacy and two Global Perspectives requirements. Together these provide training in the liberal arts — the critical skills necessary for a free person to function effectively, thoughtfully and productively in a complex world. This General Education program has been designed to nurture habits of thought essential for professional success and personal development, and to establish a background for lifelong learning.

No transfer work may be used to satisfy any Core Literacy requirements if those courses are taken after a student has enrolled at USC, but transfer work may be used to satisfy Global Perspectives requirements. Transfer students and students who begin at USC in spring must complete at least two Core Literacy requirements in Dornsife College on the USC campus. For additional information about General Education policies visit dornsife.usc.edu/2015ge.

General Education Course Requirements

The General Education Program includes two kinds of course requirements — Core Literacies and Global Perspectives. Students can satisfy one Core Literacy with an appropriate General Education Seminar.

Core Literacies

There are six categories of Core Literacies, in which eight courses are required. All students must complete one course in each of the Arts, Life Sciences, Physical Sciences, and Quantitative Reasoning, and two courses in each of Humanistic Inquiry and Social Analysis.

GE-A. The Arts

The goal of general education classes in the Arts is to help students understand the rich history of the creative arts and to enable students to situate themselves within its traditions. Courses in the Arts category raise important questions about creative activity in the visual arts, literature, music, film, theatre or dance. Each course addresses at least four of the five learning objectives for this category, teaching students to engage with, to analyze, and to make creative work; to connect works of art to concurrent political, religious and social conditions; and to appreciate the theoretical and aesthetic contexts in which works of art are created. Courses may be taught from a disciplinary perspective but must be addressed to a non-specialist audience. Course materials and expectations do not presuppose familiarity with the discipline through which the course is offered.

GE-B. Humanistic Inquiry

Courses in humanistic inquiry encourage close engagement with works of the imagination—in words, sights and sounds—understanding what it might mean to live another life. In these courses students explore language as a medium of artistic expression and communication, studying systems of language and thought to understand different cultures (their concepts, values and histories) in relation to one another. Courses in the Humanistic Inquiry category study forms of representation and methods of interpretation, learning broad perspectives that are chronological, disciplinary, and cross-disciplinary. Students immerse themselves in arts and letters to think about their own place in history and contemporary society and to inquire into our shared future. Students learn to read and interpret analytically, to think critically and creatively, and to write and speak persuasively, developing habits of mind that enable them to evaluate ideas from multiple perspectives and to articulate informed opinions on issues of importance in today's complex world.

GE-C. Social Analysis

The social sciences seek to explain the causes and consequences of a range of complex phenomena, including how human action shapes and is shaped by economic organizations, political institutions, and social and cultural settings. These phenomena include the role of gender, sexuality, race, class and other aspects of identity across time in the United States and around the world. Courses in this area introduce students to the methods and analytical approaches of the social sciences and demonstrate how these tools help us understand our world. In the Social Analysis category students learn to apply the methods of at least one social science discipline to the study of human behavior in economic, political, cultural and/or social settings; to understand the nature of empirical evidence and assess the usefulness of qualitative and quantitative evidence in explaining specific social phenomena; and to demonstrate an understanding of the interplay between individual and collective human action, organizations, and institutions in social and cultural settings.

GE-D. Life Sciences

Courses in the Life Sciences explore aspects of biological, evolutionary and/or environmental science with both descriptive and quantitative elements, placed in the context of research and specifically the contributions of USC scientists to our understanding of living systems. These courses train students to understand the basic concepts and theories of science and the scientific method, with a major emphasis on the impact science has on society and the environment. Students learn about the process and methods underlying scientific inquiry and how to obtain accurate experimental results; they are trained in the formulation of empirically testable hypotheses and develop an understanding of the distinction between unsupported assertions and conclusions based on sound scientific reasoning. Students acquire substantive knowledge in science and technology; they understand the processes by which scientists investigate and answer scientific questions and can articulate the basic principles used to explain natural phenomena.

GE-E. Physical Sciences

The physical sciences deal with analysis of natural phenomena through quantitative description and synthesis. Students learn to solve scientific problems and to understand the processes by which scientific knowledge is obtained, evaluated and placed in the context of societal relevance. In the Physical Sciences category students learn to appreciate the difference between scientific laws, theories, hypotheses and speculation; to think critically about historical and contemporary issues in science and technology; to draw conclusions from empirical scientific data and to communicate experimental results and observations to others. All courses in the Physical Sciences require a section of laboratory or field experience in which students collect, analyze and present their data. Students acquire substantive knowledge in science and technology; they understand the processes by which scientists investigate and answer scientific questions and can articulate the basic principles used to explain natural phenomena.

GE-F. Quantitative Reasoning

The Quantitative Reasoning category engages students in the analysis and manipulation of data and information related to quantifiable objects, symbolic elements, or logic in order to help them navigate the complexity and sophistication of the modern world. All Quantitative Reasoning courses, be they formal, abstract or empirical, are designed to increase the capacity of students to evaluate chains of formal reasoning and to assess the validity of mathematical, logical or statistical inferences. Each course in this category aims to develop one or more of three sets of skills: formal reasoning (the use of formal logic or mathematics), abstract representation (the use or construction of symbolic or diagrammatic representations), and empirical analysis (the use of statistical inference).

Global Perspectives

The requirements in Global Perspectives prepare students to act as socially responsible members of the global community, respectful of the values and traditions of diverse cultures, aware

of the structures of power that affect people differently by race, class, gender and other socially constructed categories, sensitive to the interplay between worldwide problems and specific, local challenges. The Global Perspectives requirement includes two courses, one in each area. The first examines the contemporary situation (GE-G), while the second explores some dimensions of the historical context that has given rise to the current global scene (GE-H). While no course can meet all of these objectives, these requirements help students appreciate the dynamics at work in complex global issues and their varying local forms.

Students can count each Global Perspectives course to meet a Core Literacy requirement as well, if the course has been approved to meet both requirements. No other courses can be double-counted to satisfy more than one General Education requirement.

GE-G. Citizenship in a Diverse World

Courses in this category enhance understanding of citizenship and moral agency within the context of today's increasingly global society, exploring differences and similarities across diverse communities and cultures. Courses can cover a diverse range of issues, such as political, legal, ethical or cultural aspects of U.S. society in a global context, or the ways in which other societies and cultures construct what it means to be a citizen and a moral agent. Courses in this category can draw upon various disciplinary perspectives or methods, such as political, social or economic analyses, moral philosophy and social justice, cultural studies, and critical theory. However, all courses must confront questions of social responsibility and citizenship in the context of differing political, social, legal or economic institutions during the present global era.

GE-H. Traditions and Historical Foundations

Courses in this area examine the historical and cultural foundations of contemporary and past societies by studying enduring literary, political, economic, philosophical, legal, ethical or religious traditions. Courses can examine multiple aspects of a single culture (for example, the literary and philosophical heritage of classical Greece or imperial China) or can trace the development of a fundamental idea or tradition across multiple cultures (for example, the attitude toward the natural world or the definition of a warrior). Upon the completion of their Traditions and Historical Foundations course, students should be familiar with the history of a significant tradition, practice, institution or idea; understand the historical transmission of such practices and ideas within a significant cultural tradition; be familiar with writers, artists, practitioners, thinkers, groups, and/or leaders and be able to analyze the significant texts that are part of such a history; and understand the continuity between the past examples of a tradition and their later manifestations.

In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Writing Requirement

In their writing classes, students learn to think critically, to build sound arguments and to express their ideas with clarity. The writing requirement comprises two courses; most students meet this requirement with:

Lower-division requirement:

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

Upper-division requirement:

- WRIT 340 Advanced Writing Units: 3, 4

Note:

Certain groups of students may meet this requirement with other course work. For more information on the writing requirement, see here.

General Education Course Lists

Core Literacies

GE-A: The Arts

- ACAD 309g Dreams & Madness: The Art of Japan's Golden Age of Animation Units: 4
- ACAD 324g The Practice of Design: Ideation to Innovation Units: 4
- AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance Units: 4
- AHIS 121gp Foundations of Western Art: Renaissance to Contemporary Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 128gp Arts of Latin America Units: 4
- AHIS 215g Studies in Architecture and Urbanism Units: 4
- AHIS 220g Medieval Visual Culture Units: 4
- AHIS 240g Introduction to American Art Units: 4
- AHIS 250gm Art, Modernity and Difference Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- AHIS 304gm Art, Power and Identity in Renaissance Italy Units: 4
- AHIS 366g Picturing Democracy: American Art and Visual Culture, 1750-1900 Units: 4
- AHIS 367g Early American Modernism: American Art and Visual Culture, 1876-1939 Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AHIS 373g History and Theory of Photography Units: 4
- ART 141xg Creating and Understanding Visuals Units: 4
- CLAS 170gp Classics of Music and Literature: from Ancient Greece Through Contemporary LA Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- COMM 396g Fashion, Media and Culture Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CTAN 200g The Rise of Digital Hollywood Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTWR 211g The Television Writer: An Agent of Change Units: 4
- DANC 212g Dance in Popular Culture Units: 4
- DANC 280g Introduction to Dance as an Art Form Units: 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 352g Dancing with Words Units: 4
- DANC 363g Dancing on the Screen Units: 4
- DES 123xg The Design Challenge: Exploring the Design Process Units: 4
- DES 323g Design Theory Units: 4
- EALC 360g Performing Japan: Bodies, Media, and Textuality Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- GESM 110g Seminar in the Arts Units: 4
- GESM 111g Seminar in the Arts Units: 4
- HIST 260g Dramatizations of Korean History Units: 4
- ITAL 340g Italian and French Cinema and Society Units: 4
- ITAL 360g Italian Cinema Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4

- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- PHYS 111gx Representations of Physics and Astronomy in the Arts Units: 4
- THTR 195g Theatre on Film Units: 4
- THTR 196g Shakespeare on Film Units: 4
- THTR 197g Comedy and Performance Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

Courses for Specific Students

The following courses are approved to meet this requirement for a specific group of students:

- ARCH 214ag World History of Architecture Units: 3 and
- ARCH 214bg World History of Architecture Units: 3
- MPPM 350g A History of Popular Music Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUJZ 350g A History of Jazz Music Units: 4

GE-B: Humanistic Inquiry

- AHIS 100g Introduction to Visual Culture Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 201g Digging into the Past Units: 4
- AHIS 381g Visual Cultures of Asia Units: 4
- AMST 150gw The American War in Viet Nam Units: 4
- AMST 201g LGBTQ America Units: 4
- AMST 205g Introduction to American Popular Culture Units: 4
- AMST 206gm The Politics and Culture of the 1960s Units: 4
- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 331gw The Black Atlantic: Narratives of Migration and Travel Units: 4
- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 160gp Ancient Lives Units: 4
- CLAS 180g Classic Mythology and the Mythic Imagination Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 337gp Ancient Drama Units: 4
- CLAS 348g Athens in the Age of Democracy and Empire Units: 4
- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- COLT 102g On Location: The Place of Literature in Global Cultures Units: 4
- COLT 250g Cultures of Latin America Units: 4
- COLT 251g Modern Literature and Thought of the West Since 1800 Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- COLT 360gp Fictions of Africa Units: 4
- COLT 374gm Women Writers in Europe and America Units: 4
- COLT 382gw Zen and Daoism in Asian Literature Units: 4
- EALC 110gp East Asian Humanities: The Great Tradition Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- EALC 130gp Introduction to East Asian Ethical Thought Units: 4
- EALC 145g Introduction to Chinese Culture, Art and Literature Units: 4
- EALC 150gw Global Chinese Cinema and Cultural Studies Units: 4
- EALC 255gw Southeast Asian Literature and Film Units: 4
- EALC 333g Introduction to Korean Film Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 346g Hallyu, the Korean Wave Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 352g Chinese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- EALC 358g Transnational Chinese Literature and Culture Units: 4
- ENGL 170g The Monster and the Detective Units: 4
- ENGL 172g The Art of Poetry Units: 4
- ENGL 174g Reading the Heart: Emotional Intelligence and the Humanities Units: 4
- ENGL 176g Los Angeles: the City, the Novel, the Movie Units: 4
- ENGL 230g Shakespeare and His Times Units: 4
- ENGL 261g English Literature to 1800 Units: 4
- ENGL 262g English Literature since 1800 Units: 4
- ENGL 263g American Literature Units: 4
- ENGL 270g Studying Narrative Units: 4
- ENGL 280g Introduction to Narrative Medicine Units: 4
- ENGL 297g Introduction to the Genre of Nonfiction Units: 4
- ENGL 298g Introduction to the Genre of Fiction Units: 4
- ENGL 299g Introduction to the Genre of Poetry Units: 4
- ENGL 342g Women in English and American Literature after 1800 Units: 4
- ENGL 344gm Sexual/Textual Diversity Units: 4
- ENGL 350g Literature of California Units: 4
- ENGL 352g Bookpacking Units: 4
- ENGL 355g Anglo-American Law and Literature Units: 4
- ENGL 361g Contemporary Prose Units: 4
- ENGL 363g Contemporary Drama Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- ENGL 373g Literature and Society Units: 4
- ENGL 376g Comics and Graphic Novels Units: 4
- FREN 270gw Black Europe Units: 4
- FREN 307g Public Memory and the Ghosts of History Units: 4
- FREN 347g Race, Gender and Power in Francophone Literature Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- FREN 373g Remembering Loss, Writing Memory Units: 4
- FREN 375gmw Global Narratives of Illness and Disability Units: 4
- GERM 360g 20th Century German Prose: Texts and Films Units: 4
- GERM 372g Literature and Culture in Berlin in the 1920s Units: 4
- GERM 375g The German Exile Experience Units: 4
- GESM 120g Seminar in Humanistic Inquiry Units: 4
- GESM 121g Seminar in Humanistic Inquiry Units: 4
- HIST 100gm The American Experience Units: 4
- HIST 102gm The Worlds of Medieval Europe Units: 4
- HIST 103g The Emergence of Modern Europe Units: 4
- HIST 104gp Modern Europe Units: 4
- HIST 105g The Korean Past Units: 4
- HIST 106g Chinese Lives: An Introduction to Chinese History Units: 4
- HIST 107gp Introduction to the History of Japan Units: 4
- HIST 108g Histories of South Asia Units: 4
- HIST 109g The Latin American Experience Units: 4
- HIST 180gw The Middle East Units: 4
- HIST 185g A Survey of Armenian History Units: 4
- HIST 210gw How to Be An American: Global Histories of U.S. Citizenship Units: 4
- HIST 220gp Murder on Trial in America Units: 4
- HIST 235g War and the American Experience Units: 4
- HIST 240gp The History of California Units: 4
- HIST 245mgp How Sex Changed: US History, 1870-the Present Units: 4
- HIST 271g Telling Native American Stories Units: 4
- HIST 272g Women and Gender in the Ancient and Spanish Americas Units: 4
- HIST 275g The Worlds of the Silk Road Units: 4
- HIST 278gp Ottomans and Empire: Anatolia, the Middle East, and the Mediterranean World Units: 4

- ITAL 350g Gender and Sexuality in Renaissance Italy Units: 4
- ITAL 382g Dante Units: 4
- JS 100gp Jewish History Units: 4
- JS 258gp Food, Faith and Conflict Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 315g Anti-Semitism, Racism and Other Hatreds Units: 4
- JS 370gp Digs and Dispute: Religion and Archaeology in Israel Units: 4
- LING 322g Language Contact and Language Acquisition Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 343g Modern Arab Culture and Literature Units: 4
- PHIL 100g Central Problems of Philosophy Units: 4
- PHIL 102gp Historical Introduction to Philosophy Units: 4
- PHIL 103g Philosophy, Politics and Economics in Europe, from Renaissance to Enlightenment Units: 4
- PHIL 104g Ancient Foundations of Western Thought Units: 4
- PHIL 110g Modern Foundations of Western Thought Units: 4
- PHIL 130g The Physical World and Our Place In It Units: 4
- PHIL 138g Introduction to the Philosophy of Religion Units: 4
- PHIL 141gp The Professions and the Public Interest in American Life Units: 4
- PHIL 166gw Current Moral and Social Issues Units: 4
- PHIL 168g The Meaning of Life Units: 4
- PHIL 172gmw Social Ethics for Earthlings and Others Units: 4
- PHIL 174gw Freedom, Equality, and Social Justice Units: 4
- PHIL 178gw Moral Dilemmas in the Legal Domain Units: 4
- PHIL 236g Issues in Space and Time Units: 4
- PHIL 240g Mind, Self, and Consciousness Units: 4
- PHIL 254gp Science, Knowledge and Objectivity Units: 4
- PHIL 255gp Existentialism in Philosophy, Literature and Film Units: 4
- PHIL 256g Science, Religion, and the Making of the Modern Mind Units: 4
- PHIL 260gw Ethical Theory and Practice Units: 4
- PHIL 265g Ethics, Technology and Value Units: 4
- PHIL 284gp Ideas on Trial Units: 4
- PHIL 288gp Love and its Representation in Western Literature, Film, and Philosophy Units: 4
- PORT 250g Visions of Brazil Units: 4
- REL 111g The World of the Hebrew Bible Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 115g Jerusalem, City of Three Faiths Units: 4
- REL 121g The World of the New Testament Units: 4
- REL 125gp Introduction to Christianity: Antiquity to 1500 Units: 4
- REL 132g Origins of Western Religions Units: 4
- REL 134g Introduction to Buddhism Units: 4
- REL 135g Chinese Religions and Culture Units: 4
- REL 136g Sense and Sensuality in Indian Religions and Culture Units: 4
- REL 137g Introduction to Islam Units: 4
- REL 138g Japanese Religions and Culture Units: 4
- REL 141g Global Religions in Los Angeles Units: 4
- REL 147g Religion, Media and Popular Culture Units: 4
- REL 311g The Bible in Western Literature Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4
- REL 324g Sex and the Bible: Gender, Sexuality, and Scripture Units: 4
- REL 325g Religious Experience in the Greco-Roman World Units: 4
- REL 326gp Historical Jesus Units: 4
- REL 327g Heretics, Martyrs, and Miracles Units: 4
- REL 334g Religion and Colonial Encounter Units: 4
- REL 342g Buddhist Modernism Units: 4
- REL 359g Culture in Diaspora: The Jews of Spain Units: 4
- SLL 110g Russia in the Modern Era Units: 4
- SLL 302g Modern Russian Literature Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4
- SLL 344g Tolstoy: Writer and Moralist Units: 4
- SLL 345g Literature and Philosophy: Dostoevsky Units: 4
- SLL 348g The Novels of Vladimir Nabokov Units: 4
- SPAN 290gp Introduction to Latin American and Iberian Studies Units: 4
- SWMS 212gp Introduction to Gender and Sexuality: American Perspectives Units: 4
- SWMS 215gw Introduction to Gender and Sexuality: International Perspectives Units: 4
- SWMS 219gp Introduction to Feminist Theory Units: 4
- SWMS 221g Introduction to Queer Theory Units: 4
- SWMS 227gp Death and Gender in Urban Contexts Units: 4

Courses for Specific Students

The following courses are approved to meet this requirement for a specific group of students:

- CORE 101g Symbols and Conceptual Systems: Thematic Option Honors Program Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- CRIT 160g Critical Theory in Art, Design and Visual Culture Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
- CTCS 150gw Visions of Diversity in the Cinematic Arts Units: 4
- CTWR 100g Story: Character, Conflict, and Catharsis Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4
- MUHL 250g Music and Ideas Units: 4
- SPAN 380g Literature of Mexico Units: 4

GE-C: Social Analysis

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 135gmw Peoples and Cultures of the Americas Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 204g Introduction to Native Studies Units: 4
- AMST 211g Sex in America Units: 4
- AMST 215gw Race and Mixed Race Units: 4
- AMST 220gmw The Making of Asian America Units: 4
- AMST 230g Introduction to African American Studies Units: 4
- AMST 250gmw The African Diaspora Units: 4
- AMST 252gmw Black Social Movements in the U.S. Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 285gm African American Popular Culture Units: 4
- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- ANTH 201g Introduction to Sociocultural Anthropology Units: 4
- ANTH 202g Archaeology: Our Human Past Units: 4
- ANTH 205g Introduction to Global Studies and Cross-cultural Research Units: 4
- ANTH 235g The Changing Pacific: History, Culture, Politics Units: 4
- ANTH 250g Race and Sexual Politics in Southeast Asia Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- ANTH 301g The Global Performance of Healing Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 315gw Native North Americans Units: 4
- ANTH 316gmp Native Americans in American Public Life Units: 4

- ANTH 324gw Contemporary China: Cultural Politics and Social Realities Units: 4
- ANTH 332g Anthropology and Narrative Medicine Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 338g Food in Culture and Society Units: 4
- ANTH 344g Living with the Past: Encountering History through Ritual, Experience and Practice Units: 4
- ANTH 357g Cultures of Genocide, Cultures of Care Units: 4
- ANTH 371gm Cross-Cultural Research on Urban Gangs Units: 4
- ANTH 377g Archaeological Interpretation of Complex Societies Units: 4
- CLAS 190g History of Science: Antiquity to the Scientific Revolution Units: 4
- CLAS 349gp Ancient Empires Units: 4
- EASC 150gp East Asian Societies Units: 4
- EASC 160gmp China and the World Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 150gx Environmental Issues in Society Units: 4
- GESM 130g Seminar in Social Analysis Units: 4
- GESM 131g Seminar in Social Analysis Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- HIST 211gp Race in America Units: 4
- HIST 225g Film, Power, and American History Units: 4
- HIST 237gp Fascism Units: 4
- HIST 250g Climate Change: Science, History and Solutions Units: 4
- HIST 251gp History of Science, Technology and Medicine Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4
- HIST 266gp Business and East Asian Culture, 1800-Present Units: 4
- HIST 268g Kings, Courts, and Clerics: Foundations of East Asian Political Culture Units: 4
- HIST 352gp The American Civil War Units: 4
- IR 101gxw International Relations Units: 4
- JS 180gp Judaism Units: 4
- JS 211gw The Holocaust Units: 4
- JS 328gw Blacks and Jews: Conflicts and Alliances Units: 4
- JS 379gm Mixing and Matching: Intermarriage in the 21st Century Units: 4
- LING 115gw Language and Society Units: 4
- MDES 301g The Global Middle East Units: 4
- MDES 342g Arab Intellectuals in Question Units: 4
- POSC 100g Theory and Practice of American Democracy Units: 4
- POSC 110g Ideology and Political Conflict Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- POSC 220g Critical Issues in American Politics: Presidential Election in Real Time Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 265gw Environmental Challenges Units: 4
- PSYC 353g Close Relationships Units: 4
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4
- REL 303g Exploring Ancient Ways of Living: Experimental Archaeology Units: 4
- REL 376g Religion and Human Rights Units: 4
- SOCI 142gm Diversity and Racial Conflict Units: 4
- SOCI 150gm Social Problems Units: 4
- SOCI 155gm Immigrant America Units: 4
- SOCI 169gm Changing Family Forms Units: 4
- SOCI 200gm Introduction to Sociology Units: 4
- SOCI 210g Science, Technology, and Social Conflict Units: 4
- SOCI 215g Sociology of Wall Street Units: 4
- SOCI 220gm Questions of Intimacy Units: 4
- SOCI 225gw Sociology of Health and the Body Units: 4
- SOCI 242g Sociology, Demography and Health Units: 4
- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4
- SOCI 255g Sociology of Globalization Units: 4
- SOCI 270g Sociological Theory Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 214g Human Populations and Natural Hazards Units: 4
- SWMS 105g Identity Development of the Contemporary Female Units: 4
- SWMS 106g Identity Development of the Contemporary Male Units: 4
- SWMS 210gmw Social Analysis of Gender Units: 4

Courses for Specific Students

The following courses are approved to meet this requirement for a specific group of students:

- ACAD 181g Disruptive Innovation Units: 4
- CORE 104gw Change and the Future: Thematic Option Honors Program Units: 4
- GERO 320g Psychology of Adult Development Units: 4
- GERO 353g Social and Behavioral Foundations of Health and Aging Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- MOR 385gm Business, Government and Society Units: 4
- PPD 240g Citizenship and Public Ethics Units: 4
- PPD 245g The Urban Context Units: 4

GE-D: Life Sciences

- BISC 101Lgx Cellular and Molecular Biology Units: 4
- BISC 102Lgx Humans and Their Environment Units: 4
- BISC 103Lgx General Biology for the Environment and Life Units: 4
- BISC 104Lgx How the Body Works Units: 4
- BISC 110g Good Genes, Bad Genes Units: 4
- BISC 112Lxg Data, Denial or Doom?: Talking about Climate Change Units: 4
- BISC 115Lxg The Biology of Food Units: 4
- BISC 140g Our Blue Planet in a Changing Climate Units: 4
- BISC 150Lgx The Nature of Human Health and Disease Units: 4
- BISC 180Lgx Evolution Units: 4
- BISC 230Lgx The Biology of the Brain Units: 4
- CHEM 203Lgx AIDS Drug Discovery and Development Units: 4
- GEOL 126Lg The History of Life on Earth: A View from the Museum Units: 4
- GEOL 165g Metals and Life on Earth Units: 4
- GERO 315g A Journey into the Mind Units: 4
- GESM 140g Seminar in the Life Sciences Units: 4
- GESM 141g Seminar in the Life Sciences Units: 4
- HBIO 200Lg The Human Animal Units: 4
- HBIO 202Lg Nutrition for Life Units: 4
- HBIO 205Lgx The Science of Sport Units: 4
- HBIO 250g The Pharmacology of Performance Enhancing Drugs Units: 4
- LING 110Lg In a Word Units: 4
- LING 275Lg Language and Mind Units: 4
- PHIL 246Lg Foundations of Cognitive Science Units: 4
- PSYC 165Lg Drugs, Behavior and Society Units: 4
- PSYC 215Lg Music, Mind and the Brain Units: 4
- PSYC 339Lg Origins of the Mind Units: 4

Courses for Specific Students

The following courses are approved to meet this requirement for a specific group of students:

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4
- CHE 301g Introduction to Engineering Biology Units: 4

- CORE 103g The Process of Change in Science: Thematic Option Honors Program Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4

GE-E: Physical Sciences

- ASTR 100Lgx The Universe Units: 4
- ASTR 200Lg Life in the Universe Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- CHEM 205Lgx Chemical Forensics: The Science, and Its Impact Units: 4
- GEOL 105Lg Planet Earth Units: 4
- GEOL 107Lg Oceanography Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 125Lg Earth History: A Planet and Its Evolution Units: 4
- GEOL 130Lg The Nature of Scientific Inquiry Units: 4
- GEOL 150Lg Climate Change Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- GEOL 240Lg Earthquakes Units: 4
- GEOL 241Lg Energy Systems Units: 4
- GESM 150Lg Seminar in the Physical Sciences Units: 4
- GESM 151Lg Seminar in the Physical Sciences Units: 4
- LING 285Lg Human Language and Technology Units: 4
- PHYS 100Lgx The Physical World Units: 4
- PHYS 110Lgx The Physical World and the Universe Units: 4
- PHYS 171Lg Applied Physics I: Mechanics Units: 4
- PHYS 200Lgx The Physics and Technology of Energy Units: 4
- SSCI 265Lg The Water Planet Units: 4

Courses for Specific Students

The following courses are approved to meet this requirement for a specific group of students:

- CHEM 105aLg General Chemistry Units: 4
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 115aLg Advanced General Chemistry Units: 4
- PHYS 125Lg Physics for Architects Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4

GE-F: Quantitative Reasoning

- BISC 305g Statistics for Biological Sciences Units: 4
- BUAD 310g Applied Business Statistics Units: 4
- BUAD 312g Statistics and Data Science for Business Units: 4
- COMM 301Lg Empirical Research in Communication Units: 4
- CSCI 100xg Explorations in Computing Units: 4
- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- GEOL 145g Lies, Damn Lies and Statistics Units: 4
- GEOL 157Lg The Logic of Climate Change: From Data to Deeds Units: 4
- GESM 160g Seminar in Quantitative Reasoning Units: 4
- GESM 161g Seminar in Quantitative Reasoning Units: 4
- HIST 393g Quantitative Historical Analysis Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- IR 211g International Relations: Approaches to Research Units: 4
- LING 210g Introduction to Linguistics Units: 4
- LING 325g Language and Number Units: 4
- LING 385Lg Human Language as Computation Units: 4
- MATH 108g Contemporary Precalculus Units: 4
- MATH 114gx Foundations of Statistics Units: 4
- MATH 117g Introduction to Mathematics for Business and Economics Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4
- MEDS 300g Statistical Methods for Biomedical Research Units: 4
- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 222g Logic and Language Units: 4
- PHIL 258g Probability and Rational Choice Units: 4
- PSYC 240gx Scientific Inquiry and Reasoning in Health Care Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SSCI 135g Maps in the Digital World Units: 4

Courses for Specific Students

The following courses are approved to meet this requirement for a specific group of students:

- ARCH 213a Building Structures and Seismic Design Units: 3
- ARCH 213b Building Structures and Seismic Design Units: 3
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- PSYC 274Lg Statistics Units: 4

Global Perspectives

GE-G: Citizenship in a Diverse World

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 135gmw Peoples and Cultures of the Americas Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 150gw The American War in Viet Nam Units: 4
- AMST 215gw Race and Mixed Race Units: 4
- AMST 220gmw The Making of Asian America Units: 4
- AMST 250gmw The African Diaspora Units: 4
- AMST 252gmw Black Social Movements in the U.S. Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 331gw The Black Atlantic: Narratives of Migration and Travel Units: 4
- ANTH 315gw Native North Americans Units: 4
- ANTH 324gw Contemporary China: Cultural Politics and Social Realities Units: 4
- BUCO 333mw Communication in the Working World - Managing Diversity Units: 4
- COLT 382gw Zen and Daoism in Asian Literature Units: 4
- COMM 324mw Intercultural Communication Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 333gw Origins of Jazz Dance Units: 4
- EALC 150gw Global Chinese Cinema and Cultural Studies Units: 4
- EALC 255gw Southeast Asian Literature and Film Units: 4
- FREN 270gw Black Europe Units: 4
- FREN 375gmw Global Narratives of Illness and Disability Units: 4
- HIST 180gw The Middle East Units: 4
- HIST 210gw How to Be An American: Global Histories of U.S. Citizenship Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4
- IR 101gxw International Relations Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- JOUR 200w The Power and Responsibility of the Press Units: 4
- JS 211gw The Holocaust Units: 4
- JS 328gw Blacks and Jews: Conflicts and Alliances Units: 4
- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- LAW 200w Law and Society Units: 4
- LAW 250w Children and the Law Units: 4
- LAW 310w Global Justice for Mass Atrocities and Genocide Units: 4
- LING 115gw Language and Society Units: 4
- MDES 201w The Middle East: Global and Environmental Perspectives Units: 4
- MDES 441w Cities of the Middle East Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4

- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- PHIL 166gw Current Moral and Social Issues Units: 4
- PHIL 172gmw Social Ethics for Earthlings and Others Units: 4
- PHIL 174gw Freedom, Equality, and Social Justice Units: 4
- PHIL 178gw Moral Dilemmas in the Legal Domain Units: 4
- PHIL 260gw Ethical Theory and Practice Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 265gw Environmental Challenges Units: 4
- PUBD 369w Public Diplomacy and Global Citizenship Units: 4
- REL 336w Re-Viewing Religion in Asian America Units: 4
- RXRS 413w Globalization of the Biomedical Industry Units: 4
- SOCI 225gw Sociology of Health and the Body Units: 4
- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SWMS 210gmw Social Analysis of Gender Units: 4
- SWMS 215gw Introduction to Gender and Sexuality: International Perspectives Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4
- THTR 488mw Theatre in the Community Units: 4

Courses for Specific Students

The following courses are approved to meet this requirement for a specific group of students:

- CORE 104gw Change and the Future: Thematic Option Honors Program Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- IR 308w Economic Globalization Units: 4
- IR 424w Citizenship and Migration in International Politics Units: 4
- IR 444w Theories of Global Society Units: 4

GE-H: Traditions and Historical Foundations

- AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance Units: 4
- AHIS 121gp Foundations of Western Art: Renaissance to Contemporary Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 128gp Arts of Latin America Units: 4
- AMST 301gp America, the Frontier, and the New West Units: 4
- ANTH 316gmp Native Americans in American Public Life Units: 4
- ARCG 323p Roman Archaeology: History, Methods and Field Work Units: 4
- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 160gp Ancient Lives Units: 4
- CLAS 170gp Classics of Music and Literature: from Ancient Greece Through Contemporary LA Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 337gp Ancient Drama Units: 4
- CLAS 349gp Ancient Empires Units: 4
- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- COLT 360gp Fictions of Africa Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- EALC 110gp East Asian Humanities: The Great Tradition Units: 4
- EALC 130gp Introduction to East Asian Ethical Thought Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EASC 150gp East Asian Societies Units: 4
- EASC 160gmp China and the World Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- HIST 104gp Modern Europe Units: 4
- HIST 107gp Introduction to the History of Japan Units: 4
- HIST 211gp Race in America Units: 4
- HIST 220gp Murder on Trial in America Units: 4
- HIST 237gp Fascism Units: 4
- HIST 240gp The History of California Units: 4
- HIST 245mgp How Sex Changed: US History, 1870-the Present Units: 4
- HIST 251gp History of Science, Technology and Medicine Units: 4
- HIST 266gp Business and East Asian Culture, 1800-Present Units: 4
- HIST 278gp Ottomans and Empire: Anatolia, the Middle East, and the Mediterranean World Units: 4
- HIST 352gp The American Civil War Units: 4
- JS 100gp Jewish History Units: 4
- JS 180gp Judaism Units: 4
- JS 258gp Food, Faith and Conflict Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 370gp Digs and Dispute: Religion and Archaeology in Israel Units: 4
- LAW 210p Fundamentals of the U.S. Legal System Units: 4
- LAW 275p The Origin and Evolution of American Civil Rights Law Units: 4
- LAW 320p Law, Slavery, and Race Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 345p Power and Authority in the Middle East Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- PHIL 102gp Historical Introduction to Philosophy Units: 4
- PHIL 141gp The Professions and the Public Interest in American Life Units: 4
- PHIL 254gp Science, Knowledge and Objectivity Units: 4
- PHIL 255gp Existentialism in Philosophy, Literature and Film Units: 4
- PHIL 284gp Ideas on Trial Units: 4
- PHIL 288gp Love and its Representation in Western Literature, Film, and Philosophy Units: 4
- REL 125gp Introduction to Christianity: Antiquity to 1500 Units: 4
- REL 146gp Spirituality in America Units: 4
- REL 326gp Historical Jesus Units: 4
- REL 345p Islamic Mysticism: Sufism Units: 4
- RXRS 201p The History and Geography of Drugs Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4
- SPAN 290gp Introduction to Latin American and Iberian Studies Units: 4
- SWMS 212gp Introduction to Gender and Sexuality: American Perspectives Units: 4
- SWMS 219gp Introduction to Feminist Theory Units: 4
- SWMS 227gp Death and Gender in Urban Contexts Units: 4

Courses for Specific Students

The following courses are approved to meet this requirement for a specific group of students:

- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4

General Education Requirements for Students Who Began College Before Fall 2015

For more information about the general education requirements that apply to students who began college prior to fall 2015, see the USC Core/General Education section in the 2014-2015 Catalogue.

Undergraduate Degree Programs

USC is a major university providing diverse academic programs. As such it has evolved into a complex organization. The basic underlying principle in its organization is simple: groups of faculty with similar areas of knowledge and interest are grouped together to form departments or schools. These units work together in determining the courses to be offered, requirements for degrees, and the content and rationale underlying their curricula.

In practice, the organization becomes more complex. Certain areas of study are based on broad areas of knowledge, which need to draw faculty from several departments.

The basic undergraduate degrees are the Bachelor of Arts and the Bachelor of Science. Students may obtain these degrees in a variety of majors that have been formally approved. More specialized degrees, such as a Bachelor of Music, require more undergraduate study devoted to professional training.

Area of Emphasis

An Area of Emphasis is a specific focus within a major. Areas of Emphasis are listed within parentheses following the appropriate majors and do not appear on diplomas but are indicated on transcripts.

Combined Program

A combined program is an organized set of requirements from two academic units in a single undergraduate degree program that combines two majors. Examples are: Linguistics/Philosophy and Physics/Computer Science.

Double Major Within the Dornsife College of Letters, Arts and Sciences

A double major consists of two majors, which allow the student to earn the same degree, either a BA or BS degree, conferred by the Dornsife College of Letters, Arts and Sciences. The Dornsife College of Letters, Arts and Sciences offers two kinds of majors, "departmental" and "interdepartmental" (see USC Dornsife College of Letters, Arts and Sciences). A double major may consist of two departmental majors, two interdepartmental majors, or one departmental and one interdepartmental major. All double majors require a minimum of 12 upper-division courses. Some upper-division courses may count for both majors. For double departmental majors two upper-division courses may count toward both majors. For departmental and interdepartmental majors, three upper-division courses may count toward both majors. The student receives a single diploma.

Other Double Majors

Double majors may be offered in other schools. The two majors must be offered by different departments but lead to the same degree, such as a Bachelor of Science or Bachelor of Music. Double majors consisting of two majors in the same department are not permitted. The student receives a single diploma.

Progressive Degree Programs

The progressive degree plan enables an undergraduate student to begin an integrated program of study joining bachelor's degree and master's degree programs in the same or different departments. This option is available to outstanding USC undergraduates who have completed 64 units of course work at USC, and often results in a more expeditious completion of the master's degree than otherwise would be possible.

Students are admitted to the master's degree at the completion of the sixth semester. Progressive degree students must fulfill all requirements for both the bachelor's degree and the master's degree except for the combined total number of units for the degrees. The bachelor's degree can be awarded first. Further details about progressive degrees can be found in the Requirements for Graduation section.

Second Bachelor's Degree

A second bachelor's degree requires a minimum of 32 units beyond the number required for the first. If the first bachelor's degree was earned at USC, a minimum of 32 units for the second must be completed at USC. If the first bachelor's degree was earned at another institution, a minimum of 64 units toward the second must be completed at USC. (See the policy on residence requirements for a second bachelor's degree, under Course Work Taken Elsewhere.)

For some degrees, more than the 32 units beyond the first bachelor's degree will be required because all requirements for both degrees must be met. The student receives a separate diploma for each degree upon completion.

The first and second bachelor's degrees may be completed at the same time but there is no requirement that they be.

Minor Programs

In addition to the degree programs listed throughout the Catalogue, many academic units offer minor programs. A list of minors appears after the list of undergraduate degrees. The requirements for each minor are listed in the appropriate school section. A separate minor certificate is issued for each minor a student completes. Minors are also recorded on the student's transcript.

International Study Options

International Study Programs

USC's undergraduate international study programs, many of which are administered by the Office of Overseas Studies in USC Dornsife, enable students to learn in a different educational and cultural context for a semester or academic year. Some of the programs require a background in the language of the host country; others are conducted entirely in English. Units earned are considered USC units and affect residency in the same manner. However, overseas semester courses are not offered for general education credit. Students receive regular USC credit and may apply financial aid and scholarships to the semester and year programs described here. The semester and year programs detailed below are offered through the Dornsife Office of Overseas Studies or Annenberg International Programs, unless otherwise indicated. Please visit the Dornsife Office of Overseas Studies located in Taper Hall (THH), Room 341, call (213) 740-3636, email overseas@dornsife.usc.edu or visit dornsife.usc.edu/overseas-studies for more information, or contact the Annenberg School for Communication and Journalism, ASC 140, call (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international. USC Dornsife also offers short-term, faculty-led programs outside

the United States. For more information, please visit dornsife.usc.edu/faculty-led-programs. For information on undergraduate international study programs offered by undergraduate schools other than USC Dornsife, please refer to those schools' sections in this catalogue as well as their websites.

Argentina

Semester or Year in Buenos Aires

Students are directly enrolled at the Universidad de San Andrés. The host university's Program in Latin American Studies (PLAS) provides students with the opportunity to take courses with local students in subject areas such as economics, history, international relations, literature and political science specifically related to Latin America. All courses are taught in Spanish. Study abroad students are required to take a Spanish language course in addition to their courses in Latin American studies. Students live in homestays arranged by the program or in self-arranged apartments. A minimum of six semesters of college-level Spanish with a B average or better is required to be eligible for this program.

Australia

Semester or Year in Brisbane

The University of Queensland (UQ) is one of Australia's premier higher education institutions. Brisbane, with more than one million residents, is Australia's third-largest and fastest-growing city. USC undergraduates enroll in regular university courses in a wide variety of subjects. Courses are available in the humanities, social sciences, science and engineering. Students may choose to live on or off campus.

Semester or Year in Canberra

Located in the capital city of Canberra, the Australian National University (ANU) offers USC undergraduates the opportunity to study alongside Australian students for a semester or year. Courses are available in the schools of arts and social sciences, Asian studies, economics and commerce, engineering and computer science, law and science. Fine arts and design majors may pursue studio arts and design courses at the ANU School of Art. The Australian National Internship Program offers a 4-credit internship in Australian Parliament, the Australian Public Service or a nongovernmental organization. Interns attend academic seminars and complete a research project in addition to the intern duties they perform. Students live in university-affiliated residence halls.

Semester or Year in Melbourne

The University of Melbourne is Australia's oldest university and is consistently ranked within the top 30 universities in the world. USC students enroll in regular university courses and study alongside local students in an array of academic disciplines. Courses are available in the humanities, sciences, social sciences, film, engineering and urban planning. Students live in residential colleges or apartments surrounding the main campus.

Semester at the University of New South Wales, Sydney

This spring semester program offers students the chance to live and study in Australia's most exciting city. Students choose from a wide variety of courses offered at the University of New South Wales (UNSW), one of Australia's "Group of Eight" premier universities. UNSW is located near the hub of Sydney's central business district. The program will give students the chance to explore mass media and communication in a challenging environment with a distinct world view, very different from that of the United States. The program is open to all majors, with priority given to communication, journalism and public relations majors. A minimum USC cumulative GPA of 3.0 is required for this program. For further information, contact the Annenberg School for Communication and Journalism, ASC 140, call (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

Semester in Yungaburra

Through the School for Field Studies, students spend a semester at a field station in a rain forest in far northern Queensland, home to an amazing variety of exotic birds, plants and wildlife. Students enroll in four courses: Rainforest Ecology, Principles of Forest Management, Economic Policy and Socioeconomic Values, and Directed Research. The courses involve a great deal of hands-on fieldwork, and the directed research projects provide invaluable experience for students interested in graduate studies or in work dealing with the environment. Students share four- to eight-person cabins.

Botswana

Semester or Year in Gaborone

USC students may enroll in the Arts and Sciences or Community Public Health tracks offered at the University of Botswana (UB) through the Council on International Educational Exchange (CIEE). Arts and Sciences students directly enroll in UB courses, choosing from a wide array of courses within the faculties of engineering and technology, humanities, natural sciences and social sciences. Students in the Community Public Health track take a combination of specialized CIEE public health courses, a field practicum and direct enrollment courses at UB. All students are required to take Setswana Language and Culture Practicum. As Gaborone is a hub for international development agencies and local NGOs, students are encouraged to commit to regular volunteering assignments, where they engage with the community and gain a greater understanding of contemporary Botswana culture and its role in Southern Africa. Students live in UB residence halls or with a host family in Gaborone.

Brazil

Semester in São Paulo

The CET Brazil program in São Paulo has a special focus on social justice and inequality. In addition to a core course on social movements within Brazil, students take a Portuguese language class and thematic English-taught electives in the social sciences. Students with a higher level of Portuguese can take a CET elective in Portuguese or directly enroll in one or two classes at the Universidade Pontificia de São Paulo. To better engage with the community, students live in apartments with Brazilian roommates who provide an access point into local life, and even travel to Salvador da Bahia to take on learning by experiencing. Students must have completed two semesters of college-level Portuguese, or the equivalent, to be eligible for this program.

Chile

Semester or Year in Santiago

In conjunction with the Council on International Educational Exchange (CIEE), USC provides the opportunity for study at the Universidad de Chile, the Pontificia Universidad Católica de Chile, and/or the Universidad Diego Portales, all located in Santiago, the capital of Chile. All courses are taught in Spanish. Courses are available in such disciplines as art, anthropology, economics, geography, history, international relations, literature, philosophy, political science, psychology, sociology, Spanish and theology. Students live with Chilean host families. Students who have completed six semesters of Spanish, or the equivalent, are eligible to apply.

China

Semester or Year in Beijing

The program at Peking University in Beijing, offered through CIEE, provides students with the opportunity to study at China's most prestigious liberal arts institution and to improve their Mandarin Chinese in a city where the standard dialect is used. The focus of the program is intensive language learning, with

instruction available at many levels of ability. Students may take one English-taught area studies course. Students who have a very advanced level of Chinese and attend the program in the spring semester may take regular Peking University courses alongside Chinese students. Students live in an off-campus international student dorm or in a homestay with a Chinese family. Students must have completed three semesters of Mandarin or the equivalent to be eligible for the program.

Fall or Spring Semester in Hong Kong

The semester program offers students the opportunity to learn about Chinese culture at the Chinese University in Hong Kong, a bilingual institution. The program also gives students the experience of living in Hong Kong, where they can witness the "one country, two systems" experiment. Courses in English are offered in fine arts, literature, history, Japanese studies, intercultural studies, music, philosophy, computer science, anthropology, economics, international relations, as well as journalism and communication. For students interested in Chinese language, courses are offered in Putonghua (Mandarin) or Cantonese. (Please note that these language courses will not count toward the EALC major/minor.) Students take five classes worth 3 units each, for a maximum of 15 USC units. This program allows communication majors to earn up to 12 upper-division units of major credit and journalism and public relations majors to earn up to 9 upper-division units of major credit. Students reside in dormitories with Chinese or international roommates. A minimum USC cumulative GPA of 3.0 is required for this program. The program is open to all majors, with priority given to communication, journalism and public relations majors. For further information, contact the Annenberg School for Communication and Journalism, ASC 140, call (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

Semester or Year in Hong Kong (Dornsife Majors Only)

Dornsife majors may spend a semester at the Chinese University of Hong Kong (CUHK) taking courses in the faculties of arts, sciences or social sciences. The language of instruction for most CUHK courses is English. Students are encouraged to also take Cantonese, Mandarin or a course directly related to Hong Kong. Students live on campus in student dorms.

Semester or Year in Shanghai

Students may spend a semester or year in Shanghai participating in the CIEE-run China in a Global Context program or Accelerated Chinese Language program. The CIEE Shanghai Study Center is located on the campus of East China Normal University. Students in a Global Context program take 6 units of Mandarin and three 3-unit Chinese studies courses taught in English. The courses offered are in fields such as international relations, political science, political economy, economics, gender studies, global studies, history, cinema and sociology. Students interested in a more intensive language program may join the Accelerated Chinese Language program, in which they take 12 units of Chinese and a 3-unit elective. Students live either with a Chinese host family within easy walking distance of the university or in an on-campus international student residence hall with a Chinese roommate. To be eligible for this program, students must have completed at least two semesters of college-level Mandarin.

England

Semester or Year at the University of Sussex in Brighton

USC students are directly enrolled in University of Sussex courses with British students. Situated near the seaside resort town of Brighton, the university is only an hour by train from London and just a half-hour from Gatwick Airport. Brighton has a very active arts scene and a lively nightlife, and 10 percent of the residents are university students. The University of Sussex is especially strong in American studies, cognitive science, computer science, English, international development studies, international relations, neuroscience, biological sciences, psychology and sociology. Students live in university housing either on or off campus.

Semester or Year at the University of Bristol

The University of Bristol offers a wide range of academically rigorous direct enrollment courses, in which study-abroad students study alongside full-time Bristol students. Bristol is routinely ranked within the top 10 universities in the United Kingdom. In undergraduate studies, the university is particularly strong in health sciences, biological sciences, engineering, sociology, politics and international relations, geography, English, history, film, theater and social policy. Bristol is unique in that it allows study-abroad students to create their own program of study, and select courses from any of the available departments, even if they are not majors in those fields. In southwest England, Bristol is just 90 minutes from London and is a thriving urban center with an active arts scene and its own international airport. Students live in university housing either on or off campus.

Semester or Year at Queen Mary University of London (Cinematic Arts; Engineering; Comparative Literature; English/Creative Writing/Narrative Studies; Gender Studies; History/Law, History and Culture; International Relations/IRGB/IRGE; Political Science and Theatre Majors Only)

Students in the majors listed above directly enroll at Queen Mary in four courses, at least two of which must be for major credit. They may take the remainder of their courses in any department except law and medicine. Students live in on-campus housing at Queen Mary, located in the East End of London.

Year at the London School of Economics and Political Science (LSE)

Juniors and seniors can spend a year at LSE, which has an outstanding international reputation in all of the social sciences, including anthropology, economics, international history, international relations, philosophy, political science and sociology. LSE also offers mathematics. Students spend an academic year at LSE on the general course, where they take four year-long courses alongside British and other international students. More than half of the 6,000 full-time students come from outside the United Kingdom, lending to a very international atmosphere. University housing is located throughout central London. Students must have at least junior standing and a cumulative GPA of 3.3 or higher to be eligible for this program; students in quantitative majors such as economics and mathematics need a 3.5 GPA in major courses.

Semester or Year at King's College, London (Biological Sciences, English, Human Biology, International Relations and Neuroscience Majors Only)

Juniors and seniors in the majors listed above can directly enroll at King's College, one of the top universities in the United Kingdom. King's is strong in biological sciences and offers a special class for pre-med students, which combines classroom study with clinical attachments focusing on different aspects of medical practice. Students interested in security or peace and conflict studies can enroll in the War Studies Department, one of the few university departments in the world devoted to the study of war as a phenomenon. USC students must plan to take at least two courses for major credit to be eligible for this program. University housing is located throughout central London, and students can expect to commute to campus. Students must have a cumulative GPA of 3.3 or higher to be eligible for this program.

Fall or Spring Semester in London (Annenberg Majors Only)

Undergraduate communication, journalism and public relations students may spend a fall or spring semester at a dedicated study center, where they enroll in 12-16 units of upper-division Annenberg major course work. In addition to their studies, students tour publishing and broadcasting companies, meet communication executives and government policy-makers and gain exposure to British media, culture and civilization. A minimum USC cumulative GPA of 3.0 is required for this program. For further information and program requirements (which vary by Annenberg major), contact the Annenberg School for Communication and Journalism, ASC 140, (213) 821-1276, email ascintl@usc.edu, or visit annenberg.usc.edu/international.

Semester at University College London (UCL) (Art History, Earth Sciences, Geology, Neuroscience and Psychology Majors Only)

Juniors and seniors in the majors listed above may spend a semester at UCL, one of the top universities in the United Kingdom. Students will have a home department at UCL and must take two of their four courses in their home department. Remaining courses can be taken in any department except English (unless one is also an English major) and fine arts. USC students are directly enrolled in courses with British students. University housing is located throughout central London, and students can expect to commute to campus. A GPA of 3.3 or higher is required to be eligible for this program.

Semester at the British American Drama Academy (Theatre/Acting)

In conjunction with Sarah Lawrence College and the British American Drama Academy (BADA), USC theatre acting majors and minors spend a semester in London. The London Theatre program is designed to expose American undergraduates to the rigor of professional British training in acting by helping them improve their ability to perform plays from the classical repertoire and develop techniques and approaches to acting that will stand them in good stead in any role. The program is taught by a faculty that includes some of Britain's most distinguished actors and directors. Students will take courses that include scene study workshops in Shakespeare, high comedy, modern drama, acting in performance, voice, movement, stage fighting, theatre history and dramatic criticism. Students attending a one-year program will add classical acting for stage and screen to their academic program for the second semester. Students live in flats with other program participants. Students must audition for the program, and admission is competitive.

Semester at Sotheby's Institute of Art, London

This intensive semester program is designed for those who are interested both in art history and the business practices of the art world. Through lectures, seminars and visits to specialist museums and collections, and many key commercial galleries, students are introduced to the history of art and design and the ways in which art has been made, sold and collected. In the fall semester students focus on modern and contemporary art and in the spring semester students can choose between modern and contemporary art or art from 1600 to 1900. In the business component of the program, students examine established art markets in the developed world and emerging art markets in the developing world, together with legal and management issues related to global art business practice, with a particular emphasis on the international auction house system. Students arrange their own housing.

France

Semester or Year in Paris

USC students can study for a semester or year on the USC Paris program. In addition to French language courses at the Sorbonne, the program offers USC upper-division French courses and English-taught USC courses in art history, economics and international relations. Students at an advanced level of French may take one or two courses alongside French university students at the Institut Catholique, where courses are available in the following areas: art history, economics, history, international relations and sociology. In the fall semester students with a high level of French may participate in an internship. The program also offers weekend trips to regions such as Normandy and Provence, and day trips to sites of cultural importance near Paris. Students live with French host families. Students must have completed at least two semesters of college-level French.

Spring Semester or Year in Paris (Economics, International Relations/IRGB/IRGE and Political Science Majors Only)

Juniors and seniors in the majors listed above may spend the spring semester or academic year studying at the Institut d'Etudes Politiques de Paris (Sciences Po), one of the top-ranked universities in France. Students choose the English track, English/French track or French track for their courses in international relations, political science and economics. All students take a French language course or elective course taught in French each semester regardless of which track they are in. Students live in private accommodation throughout Paris. To be eligible for this program, students need a 3.3 USC GPA, junior standing, and three to five semesters of French (depending on the track selected). Students must make their own housing arrangements.

Germany

Semester or Year in Berlin

In conjunction with the Institute for the International Education of Students (IES), USC offers a program of study at the IES Center and Humboldt University, perfectly situated for exploring the city. Students receive intensive German language instruction during the first three weeks of the program, then enroll for the remainder of the semester at Humboldt University (in the spring semester only) and/or courses offered at the IES Center (in the fall or spring semester). All courses are taught in German and are available in such disciplines as economics, history, politics, art history, business, classics, international relations, political science, psychology, religion and sociology. Students are housed in private German homes and apartments. Students must have completed four semesters of college-level German to be eligible for this program.

Greece

Semester or Year in Athens

Students may spend a semester or year in Athens, Greece, where the ancient world comes alive. A vibrant capital city, Athens is a center of international business and the hub of an efficient and extensive transportation system that makes the beauty of Greece readily accessible. This program is administered by College Year in Athens, and students take courses with other American students. All students are required to enroll in Modern Greek as one of their five courses. The areas of study are art and archaeology, environmental studies, ethnography, history, languages (ancient Greek, Latin and modern Greek), literature, philosophy, political science and international relations, religion, and urban planning and sustainability. Students live in simply furnished apartments with other American students or in homestays with a Greek family.

India

Fall Semester in Bodh Gaya

In the Buddhist Studies in Bodh Gaya program offered by Carleton College, students explore Buddhism in India through interdisciplinary courses and Buddhist meditation traditions and have a unique opportunity to conduct rigorous independent research in the field. Through comparative study, the program examines each of the three major Buddhist traditions and their historical development: Therevada, Mahayana and Vajrayana. The program is based at the Burmese Vihar, or monastery, where students live and learn. For two-and-a-half millennia, Bodh Gaya has been a magnet for pilgrims from all Buddhist cultures who come to venerate this sacred site, each in a fashion unique to his or her own tradition. There is no language requirement, and students may choose to take either Hindi or Tibetan language as an elective. All majors are welcome.

Ireland

Semester or Year in Dublin

USC Dornsife majors may spend the semester or academic year studying at Trinity College Dublin, one of the top-ranked universities in Europe and the premier research university in Ireland. A wide range of courses is offered in the major fields, and students may take a complementary elective course. USC students will live with and study alongside Irish students. To be eligible for this program, students need a 3.3 USC GPA, junior standing, and a minimum of three major courses completed at the time of application.

Spring Semester in Dublin

USC undergraduates may spend a spring semester studying conflict and reconciliation at Trinity College Dublin's Irish School of Ecumenics (ISE) in central Dublin. Students take three courses — Engaging Religious Fundamentalism; Gender, War and Peace; and Religion and International Relations — for a total of 15 USC units. The program includes several field trips and conflict resolution workshops in Ireland and Northern Ireland, as well as a trip to the United Nations in Geneva, Switzerland. This program is well-suited for students interested in negotiation and mediation, and students with majors or minors in political science, international relations, sociology, history, religion and gender studies, as well as students with an interest in Ireland. Students live in apartments with Irish and American flatmates, and are encouraged to join in campus clubs and societies. The program requires a 3.3 GPA and junior standing.

Semester or Year in Galway

Students may spend a semester or year studying at the National University of Ireland, Galway. Located in western Ireland, Galway is the third largest city in the Republic of Ireland and plays a dynamic and pioneering role in theatre, arts and culture. Students may take courses in a wide variety of fields including arts and letters, sciences and engineering. Students are directly enrolled in the university and take courses alongside Irish students. The program requires a 3.0 GPA and junior standing.

Israel

Semester or Year in Jerusalem

USC undergraduates may spend a semester or year at Hebrew University of Jerusalem (HUJ). The program begins with a three-week pre-semester period of intensive Hebrew language study. Study-abroad students are based at HUJ's Rothberg International School (RIS), where the medium of instruction is English. USC students take courses at RIS in fields such as archaeology, art history, environmental studies, history, international relations, Jewish and religious studies, Middle East and Islamic studies, literature, political science, neuroscience and psychology. Students may also take Arabic. Although most regular HUJ courses are taught in Hebrew, there are well over a dozen regular HUJ courses offered in English. All USC students are encouraged to take at least one regular HUJ course taught in English. Students live in campus dormitories. Students must have completed one semester of college-level Hebrew or the equivalent to participate in this program.

Italy

Semester or Year in Florence

USC undergraduates have the opportunity to spend a semester or year in Florence studying Italian language and literature, art history, economics, gender studies, history, international relations, political science and studio arts. Classes are taught mostly in English at Syracuse University's study center in Florence. Students with advanced proficiency in Italian may take courses at the University of Florence. Courses are complemented by field trips to cities such as Assisi, Rome and Venice. Students live in homestays with Italian hosts. Studio arts students may also choose to stay in an apartment with other program students. Students must have completed at least two semesters of college-level Italian to be eligible for this program.

Spring Semester in Rome (Annenberg Majors Only)

Undergraduate communication, journalism and public relations majors may study in Rome for a semester at a dedicated study center where they will enroll in 16 units of ASCJ credit. Students study Italian media, communication style and basic Italian language. In addition to their studies, students tour publishing and broadcasting companies, meet communication executives and government policy-makers and gain exposure to Italian media, culture and civilization. A minimum USC cumulative GPA of 3.0 is required for this program. For further information and program requirements, contact the Annenberg School for Communication and Journalism, ASC 140, (213) 821-1276, email ascintl@usc.edu, or visit annenberg.usc.edu/international.

Semester in Florence at SACI (Animation and Digital Arts; Media Arts and Practice; and Roski School of Art and Design Majors Only)

Undergraduate majors in Animation and Digital Arts, Media Arts and Practice, and the Roski School of Art and Design may spend a semester abroad at Studio Arts Centers International (SACI) in Florence, Italy. Students must have completed a minimum of one semester of college-level Italian (two semesters strongly recommended) as well as the required preparatory foundation classes before attending this program. SACI houses students in apartments near the school in the historic center of Florence. While in Florence students participate in weekly open drawing sessions and field trips to sites throughout Italy, including day trips to Pisa, Siena and Lucca, and weekend trips to Rome, Venice and Naples.

Semester or Year in Milan

Through the Institute for the International Education of Students (IES), undergraduates have the opportunity to spend a semester or year studying in Milan, the commercial and financial center of contemporary Italy. The IES Milan Center is located near the Università Cattolica, IES' main partner institution in Milan. USC students may participate in the Italy Today track. Beginning/intermediate students of Italian enroll in IES area studies taught in English in addition to Italian language courses. IES area studies courses are available in such disciplines as art history, cinema, environmental studies, theatre, history, literature, music, psychology, political science and sociology. Students with advanced Italian select from IES area studies courses taught in Italian and are encouraged to choose one or two courses from among a wide variety of offerings at several universities in Milan. Students are housed in apartments with American and Italian roommates, homestays, or at an international honors dorm.

Students must have completed two semesters of college-level Italian to be eligible for this program.

Semester in Rome (Classics, Archaeology, Art History and History Majors Only)

USC students may study in Rome for a semester at the Intercollegiate Center for Classical Studies (ICCS), a program administered by Duke University. Students study ancient history and archaeology, intermediate and advanced Greek and Latin, basic Italian language, and Renaissance and Baroque art history. Field trips and extended study tours are essential components of the program. Students live and study at the ICCS Center, a three-story building located a few minutes by bus from the center of Rome. Two semesters of Latin, ancient Greek or Italian are prerequisites for this program.

Japan

Semester or Year in Nagoya

A program of study is available at the Center for Japanese Studies at Nanzan University in Nagoya. The program for international students is well known for its strength in Japanese language training. Nagoya is two hours from Tokyo by bullet train and one hour from the ancient capital city of Kyoto. Courses are available in such disciplines as Japanese arts, business, culture, economics, history, international relations, linguistics, literature, religion and political science. Intensive language training is offered at all levels of proficiency. Students live in Japanese homes or dormitories.

Year at Waseda University in Tokyo

Students may study for an academic year at Waseda University, one of Japan's foremost private institutions of higher learning. The university is located in the Shinjuku area of Tokyo. The academic program at Waseda's School of International Liberal Studies combines Japanese language courses and English-taught lecture courses on the history, culture, literature, arts, politics and economics of Japan and East Asia. The intensive Japanese language courses, offered at eight levels of proficiency, assist students in the development of listening, speaking, reading and writing skills. Students live with Japanese families or in the university's international dormitory.

Spring or Year at Sophia University in Tokyo

Students may spend the spring semester or full year at Sophia University in Tokyo through the Council on International Educational Exchange. Students can experience life in Tokyo and take courses alongside Japanese students and other international students. Sophia University is a top-ranked Japanese university and is conveniently located in west-central Tokyo. Students are enrolled in Sophia's Faculty of Liberal Arts, where they take Japanese language courses as well as English-taught courses in Asian Studies (anthropology, art history, comparative literature, economics, history, international relations, linguistics, literature, religion, philosophy, political science and sociology). Students highly proficient in Japanese can take courses in Japanese linguistics. Students live in Japanese homes or privately owned dormitories throughout the Tokyo area.

Semester or Year at Tokyo International University near Tokyo

Founded in 1965, Tokyo International University is located in the city of Kawagoe, about 25 miles from central Tokyo. The university offers a program for international students through the Japanese Studies Program in the International Center. Students enroll in an 8-unit Japanese language course and select the remainder of their courses, taught in English, from anthropology, cinema, culture, economics, history, literature, philosophy and political science. In the spring semester, students with a very advanced level of Japanese may take some courses in Japanese alongside Japanese students. Students live in Japanese homes.

Jordan

Semester or Year in Amman (Arabic and Area Studies Program)

Students may study for a semester or year at the AMIDEAST Study Center in Amman. As Jordan is deeply enmeshed in the international relations of the region, students may find no better place to study pressing Middle Eastern issues and Levantine Arabic. This program provides undergraduates with the opportunity to study Arabic semi-intensively and take courses on the Middle East in a variety of academic disciplines such as anthropology, art history, gender studies, history, international relations, political science and religion, all while immersed in Jordanian culture. Students take Blended Modern Standard Arabic & Colloquial Jordanian Arabic (8 units) and area studies courses taught in English. Students choose to live with a Jordanian host family or in an apartment with other students. Two semesters of college-level Arabic or the equivalent are required to participate in this program.

Semester or Year in Amman (Advanced Arabic Language Program)

This is an intensive Arabic program offered by CIEE in Amman. Students must have completed at least five semesters of Arabic with a 3.3 GPA or better to be eligible for this program. Students take 6 units of advanced Modern Standard Arabic and a 4-unit course called Advanced Topics in Arabic Conversation, which involves the use of colloquial Jordanian Arabic. Students also take Arabic Writing and Research for 3 units and one 3-unit elective taught entirely in Arabic. Electives include business communication, contemporary Arab media, readings in Arabic literature, Arabic poetry and introduction to Islam. Students participate in a mid-semester Arabic-language rural retreat. Students live with a Jordanian host family.

Mexico

Semester in Oaxaca

USC students may participate in the Migration, Borders, and Transnational Communities program run by the School for International Training. The aim of the program is to discover the contemporary realities of international undocumented migration and border enforcement and their immense human impact and political and social tension in the context of Mexico, Central America and the United States. Students will study the effects of large-scale migration on communities and get an understanding of the factors that contribute to undocumented migration. During the seven weeks of the program when students are based in the city of Oaxaca, students live with a host family. Students will also live with host families during extended excursions into rural communities. Students also visit border communities on the U.S. side of the northern border and on the Mexican side of the southern border with Guatemala. Students are introduced to field study methods and spend the last several weeks of the semester completing an independent study project. Four semesters of college-level Spanish, or the equivalent, are required to participate in this program.

Morocco

Semester or Year in Rabat

Students may spend a semester or year with the AMIDEAST Area & Arabic Language Studies program. Students' unique access to Moroccan culture provides them with insights into the country's varied and complex approach to the pressing social, religious and cultural issues of the Middle East and North Africa. In addition to studying both Modern Standard Arabic (MSA) and colloquial Moroccan Arabic, students take two or three area studies courses taught in English from a variety of disciplines including Middle East and North Africa studies, political science, religion, sociology, gender studies and history. Classes are conducted at the AMIDEAST Center in the Agdal district of Rabat

and instruct students from U.S. universities. Students live with a Moroccan host family. A minimum of two semesters of college-level Arabic is required to be eligible for this program.

The Netherlands

Semester or Year in Maastricht

USC Dornsife majors may spend the semester or academic year studying at Maastricht University, the most international and fully bilingual (Dutch and English) university in the Netherlands. Students directly enroll in courses with local and international students and have access to hundreds of courses taught in English. Students will be enrolled in one of five academic clusters focused on Europe: Economics in Europe; European Politics, Law and International Relations; Public Health and Medicine in Europe; Psychology and Neuroscience in Europe; and European History, Culture and Arts. All students take a course in basic Dutch. This program is restricted to Dornsife majors, Price students majoring in Public Policy or Urban Studies, Keck undergraduates majoring in Global Health, and Gerontology majors.

New Zealand

Semester or Year in Auckland

Undergraduates have the opportunity to study for a semester or year at the University of Auckland. Auckland is a modern cosmopolitan city with a population of 1.5 million people, roughly one-third of New Zealand's entire population. The University of Auckland is highly ranked in the Asia-Pacific region. USC students enroll in regular university courses at the city center campus and study alongside local students in a wide variety of subjects. Courses are available in the humanities, social sciences, science, engineering and cinematic arts. Students live in university residence halls.

Spring Semester in Auckland

This spring semester program offers students the opportunity to travel to New Zealand and experience its liveliest city as well as its natural wonders. Students will study at Auckland University of Technology (AUT), located centrally in Auckland, the largest and most cosmopolitan city in New Zealand. Students take a variety of courses while taking in the sights and sounds of indigenous Maori culture and modern New Zealand. This program is open to all majors, with priority given to communication, journalism and public relations majors. A minimum USC cumulative GPA of 3.0 is required for this program. For further information, contact the Annenberg School for Communication and Journalism, ASC 140, (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

Semester or Year in Dunedin

Founded in 1869, the University of Otago is the oldest established university in New Zealand. It has an international reputation for the quality of its teaching and research. Study-abroad students are able to take a broad range of subjects across the university's four academic divisions: commerce, health sciences, humanities and sciences. Students majoring in anthropology, English, theatre, cognitive science, psychology, and natural and environmental sciences will find strong programs offering a wide variety of courses. The university offers a true campus lifestyle and the city of Dunedin, in which the university is located, offers a rich cultural life as well as proximity to outdoor activities. Students live in university-affiliated apartments.

Poland

Semester in Krakow

Undergraduates may spend a semester or year at the Center for European Studies at Jagiellonian University in Krakow. The program is open to Dornsife majors who take at least one course for major credit. The program is designed to provide Central and Eastern European perspectives on the contemporary as well as historical events and transformations occurring in Europe through in-depth study of European political, economic and social realities. Students take four European Studies courses taught in English and a Polish language course. Students live in university dormitories with Polish and international students.

Russia

Semester or Year in St. Petersburg

USC offers undergraduates a semester or year-long opportunity to study in St. Petersburg through CIEE. Students with two or more semesters of Russian can participate in the Russian Area Studies Program, which is ideal for students of history, international relations and political science. The Russian Language Program is for students with four or more semesters of Russian and focuses on language, literature and Russian culture. Students have their own room with a Russian family in a private apartment. The program includes many day trips to important sites and overnight excursions to locations such as Moscow, Novgorod, the Pskov region and Tallinn (Estonia).

Scotland

Semester or Year in Edinburgh

The University of Edinburgh was founded in 1583 and offers excellence in teaching and research over a wide range of disciplines. USC students are directly enrolled in courses with British students. Courses are available in more than 50 disciplines including archaeology, architecture, biological sciences, classics, computer science, ecology, economics, engineering, international relations, linguistics, mathematics, physics, psychology and religious studies. USC students live in university residence halls, student houses or university flats.

South Africa

Semester or Year in Cape Town

Students may spend a semester or year studying at the University of Cape Town (UCT) through the Council on International Educational Exchange (CIEE). All program participants are required to take at least one course with specific African content. Courses may be taken in all UCT faculties except health sciences and law. Students live with South African or other international students in residence halls, with other American students in apartments close to campus, or with a South African host family. Students must have at least junior standing at the start of the program.

Semester in Durban

USC students may participate in the Community Health and Social Policy program run by the School for International Training (SIT). Durban, in KwaZulu-Natal province, is a hub for health teaching, research and practice in both Western and traditional healing systems. Through extensive field visits, lectures and an independent research project, students examine the historical, political, economic, cultural and geographic forces that shape the history of public health interventions in South Africa. Students are introduced to field study methods and spend the last several weeks of the semester completing an independent study project. Students also enroll in intensive Zulu language study.

South Korea

Semester or Year in Seoul

Students who have completed two semesters of college-level Korean have the opportunity to spend a semester or year at Yonsei University in Seoul. Students enroll in a Korean language course and two or three English-taught Asian studies courses available from the following areas: anthropology, art history, business, economics, history, international relations, literature, philosophy, politics, religion and sociology. Students live in the international student dormitory on campus.

Spain

Semester or Year in Bilbao

USC offers undergraduates the opportunity to study for either a semester or year at the University of Deusto, which was founded by Jesuits in 1886 and is among Spain's top universities. Bilbao is considered the financial and cultural center of the Basque country in northern Spain. Students focus on intensive language study and take additional course work in Spanish, Basque and European studies. Students may choose to live in dormitories or homestays.

Fall Semester in Madrid

USC students who have completed at least SPAN 260 or SPAN 261 may spend the fall semester in the Boston University in Madrid's Spanish & European Studies Program. In this program, located at the International Institute in central Madrid, students take four upper-division courses, all of which are taught in Spanish. The program offers courses in Spanish language and literature, anthropology, art history, cinema, gender studies and politics. Students with a very high level of Spanish may participate in an internship. Students live in a homestay with Spanish hosts.

Spring Semester in Madrid

USC students can spend the spring semester in the USC Madrid program. The program offers SPAN 260, SPAN 261, USC upper-division Spanish courses, and an English-taught art history course at the program base, the International Institute, in central Madrid. Students taking SPAN 260 and SPAN 261 in Madrid take one or more English-taught courses alongside Spanish university students at the Universidad Carlos III de Madrid located in the suburb of Getafe. The program offers several excursions to different regions of Spain and day trips to sites near Madrid in addition to outings to cultural events in Madrid. Students live in a homestay with Spanish hosts.

Tanzania

Semester in Rhotia

Through the School for Field Studies, USC offers undergraduates the opportunity to study for a semester in Tanzania. Students live in close proximity to wildlife and local communities on the African savanna. Through conducting research and fieldwork and attending lectures, students explore human-wildlife conflicts from the perspective of local ranchers, communities and park managers. The field station where students are based is near Lake Manyara National Park.

Non-USC Programs

Students who wish to participate in a non-USC approved semester or year overseas study program and receive credit transferable to USC must initiate a Request for Exception to Residence in their academic department or school.

Graduate and Professional Education

Financial Aid for Graduate Students

Graduate students at USC benefit from federal financial aid programs administered by the Financial Aid Office and from scholarships, fellowships and assistantships administered by the Graduate School, the Office of the Provost, and various academic departments. Several federal agencies and private foundations offer support for students engaged in research in specific fields of study. In addition, many corporations provide fellowships or tuition reimbursements for their employees. USC also offers an interest-free monthly payment plan and participates in long-term loan programs. Students may apply for one or more kinds of aid, depending on eligibility.

Although international students are not eligible for federal financial aid, they may be eligible for scholarships, fellowships and graduate assistantships offered by their schools or departments. International students should contact their departments directly for information about existing opportunities. International students may also be eligible for private educational loans.

The Financial Aid Office may change these policies at any time to ensure continued compliance with changes in federal and state regulations governing student financial aid. As a result, students must refer to the current catalogue regulations. Unlike degree requirements, changes in regulations, policies and procedures are immediate and supersede those in any prior catalogue.

Financial Support Through Graduate Fellowships and Assistantships

Prospective and continuing students seeking financial support will find opportunities to fund their graduate study through individual schools and departments and through the Graduate School. In general, graduate fellowships and assistantships are offered only to students pursuing the PhD degree.

Acceptance of Offers of Financial Assistance

USC subscribes to the following resolution of the Council of Graduate Schools in the United States regarding deadlines and acceptance of offers for graduate scholars, fellows, trainees and assistants:

Acceptance of an offer of financial assistance (such as graduate scholarship, fellowship, traineeship or assistantship) for the next academic year by an actual or prospective graduate student completes an agreement that both the student and the university are expected to honor. In those instances in which the student accepts the offer before April 15, and subsequently desires to withdraw, the student may submit in writing a resignation of the appointment at any time through April 15. An acceptance given or left in force after April 15, however, commits the student to not accept another offer without first obtaining written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer.

Teaching and Research Assistantships, and Graduate Assistant Lectureships

Teaching and research assistantships and graduate assistant lectureships are awarded each year by departments and programs of the university to PhD students on the basis of scholastic accomplishment, academic promise and competence. They fall under the jurisdiction of the Graduate School. Procedures and practices can be found in *The Handbook for Teaching Assistants, Research Assistants, and Graduate Assistant Lecturers* on the Graduate School Website. Only students making good progress to the degree with an overall GPA of at least 3.0 on all units attempted at USC, acceptable TOEFL or IELTS scores, and who are regularly enrolled in USC graduate degree programs are eligible for appointment as teaching and research assistants and graduate assistant lecturers and may be offered a semester-by-semester appointment up to a maximum of one year at a time. All teaching and research assistants and graduate assistant lecturers are under direct and assigned supervision of regular faculty members and report regularly on the conduct and performance of their responsibilities to the supervising faculty. Assistant lecturers may be appointed only with the approval of the dean of the school in which the student is earning the degree. *The Handbook for Teaching Assistants, Research Assistants, and Graduate Assistant Lecturers* can be found at graduateschool.usc.edu/current-students/guidelines-forms-requests/#ga-handbook.

Application Procedures and Eligibility Requirements for Federal Financial Aid

Detailed information, application procedures and deadlines for federal financial aid are available online at financialaid.usc.edu. To be eligible for federal financial aid programs, students must be U.S. citizens, permanent residents or other eligible non-citizens; have a valid Social Security number; meet Selective Service registration requirements; enroll at least half-time; meet Satisfactory Academic Progress requirements; and meet all other eligibility requirements. Enrollment status will be calculated based only on those courses that are required for, or that can be applied as an eligible elective credit toward, a student's degree or certificate program. Students must also complete all application requirements by the relevant deadline(s). With certain exceptions, as noted below, students must be enrolled in a degree-seeking program or eligible certificate program at USC to be eligible for federal financial aid.

Federal Work-Study

The Federal Work-Study program enables eligible students to earn funds through employment either on campus or with an approved off-campus employer. Only full-time (enrolled in 8 or more units), on-campus students with high financial need who meet all application deadlines are considered for this program.

Federal Loans

Direct Unsubsidized Loans are available to eligible students. Interest accrues from the date of disbursement. Repayment begins six months after students graduate, withdraw or drop below half-time status.

Direct Graduate PLUS Loans are available to students who meet the credit criteria established by the U.S. Department of Education. Students who do not meet the credit criteria may apply with an endorser (co-borrower) who does. There is no grace period on the Direct Graduate PLUS Loan. Repayment begins the day after the loan is fully disbursed; however, students can defer repayment while enrolled in school at least half time, and for an additional six months after they graduate or drop below half-time status.*

The Health Professions Student Loan program provides funds to students in pharmacy and dentistry. The federal government pays the interest while students are in school. Repayment begins 12 months after they graduate or drop below half-time status.*

For details about federal loan programs and application requirements, visit financialaid.usc.edu/loans.

**Enrollment status will be calculated based only on those courses that are required for, or that can be applied as an eligible elective credit toward, a student's degree or certificate program.*

Private Financing Programs

Private financing programs are available to help students meet the costs of education by providing long-term financing options. Students should exhaust all federal Title IV assistance available, including the Direct Unsubsidized Loan and the Direct Graduate PLUS Loan, before considering a private student loan program. The repayment terms of federal programs may be more favorable than the terms of private loan programs. Federal student loans are required by law to provide a range of flexible repayment options, including but not limited to, income-based repayment and income-contingent repayment plans, and loan forgiveness benefits, which other student loans are not required to provide. Direct Loans are available to students regardless of income.

Teacher Education Assistance for College and Higher Education (TEACH) Grant

USC does not participate in the TEACH program.

Financial Aid for Enrollment in a Progressive Degree Program

The Financial Aid Office determines aid eligibility based on a student's class level. For information on how specific types of aid may be affected by class level refer to financialaid.usc.edu/general/special-programs/progressive-degrees.html.

Class Level Determination for Progressive Degree Programs

While classified as undergraduates, students are assessed the undergraduate tuition rate, and their enrollment status and financial aid eligibility are determined by undergraduate standards.

While classified as graduate students, students are assessed the graduate tuition rate, and their enrollment status and financial aid eligibility are determined by graduate standards.

A progressive degree student transitions from undergraduate to graduate class level as soon as any one of the following conditions is met:

1. the bachelor is degree conferred; or
2. the student is awarded a graduate research or teaching assistantship as contracted through the academic department and the Graduate School; or
3. the student earns a total of 144 units.

Bachelor Degree Conferred

The Office of Academic Records and Registrar determines when a student has completed their bachelor degree and manages the process of posting degrees to a student's record. Students wishing to change the degree date from that indicated on their STARS Report should request an updated degree term at the Registrar One Stop Center, John Hubbard Hall (JHH 114) or onestop@usc.edu. Students may also update their expected graduation date at my.usc.edu.

Graduate Research/Teaching Assistantship

Research and teaching assistantships are awards contracted through the student's academic department and the Graduate School and are exclusively available to graduate students. A progressive degree student who is awarded a research or teaching assistantship will be reclassified as graduate student beginning the semester they first receive the award.

The 144-Unit Limit

Assuming one of the other two conditions have not already been met, a progressive degree student is classified as an undergraduate up to and including the semester they earn a total of 144 units.

All units earned at USC, from both undergraduate- and graduate-level course work, will be counted toward the 144-unit limit. Any and all units earned during summer semesters will be counted, as well as units earned during semesters that were not funded with financial aid.

All transfer units, including units accepted from Advanced Placement and International Baccalaureate exams, will also be counted toward the 144-unit limit. Requirements that were met by transfer courses cannot be substituted by subsequently taken USC courses, and USC will not delete or discount accepted transfer course work from the transcript.

Transfer course work determined not to be applicable toward subject-specific requirements, e.g., General Education and major requirements, nor applicable as "free" electives toward the bachelor degree program's minimum unit requirement, may increase the unit limit above the standard 144. The applicability of transfer units is determined from objective transcript data and is therefore not open to appeal.

Class level is determined dynamically based on currently available data in the student transcript. Any changes, updates or corrections to a student's transcript that alter the total number of units earned will affect progress toward the unit limit and class level transition.

Financial Aid for Enrollment in a Certificate Program

Students enrolled at least half time in a graduate certificate program may be eligible for the Direct Unsubsidized Loan and Direct Graduate PLUS Loan if the program has been determined to be eligible for federal financial aid. Contact your academic

department or program or the Financial Aid Office for information about whether your program qualifies for financial aid.

Financial Aid for Limited Status Enrollment

Students not admitted to a degree-seeking program or eligible certificate program at USC but enroll as limited-status students are not eligible for federal financial aid, unless they meet the exception noted in the Preparatory Course Work section. Students who have completed their degree or certificate programs, but continue to enroll, will be considered limited-status students and are thereby ineligible for financial aid.

Financial Aid Consortium Agreements

Students admitted to degree-seeking or eligible certificate programs at USC who enroll in course work at another eligible "host" institution, where the course work has been pre-approved as transferable for credit toward their USC degrees or certificates, may have those courses considered in USC's determination of their eligibility for limited federal financial aid. The student's total USC and/or non-USC enrollment must be at least half-time and a Financial Aid Consortium Agreement must be completed prior to the semester or semesters the student enrolls at the host institution. **Financial Aid Consortium Agreements are contingent upon the host school agreeing to participate.**

Financial Aid Consortium Agreements are not available for students participating in the Postbaccalaureate Premedical Program.

For more information, visit financialaid.usc.edu/general/special-programs/consortium-agreements.html.

Financial Aid for Students Enrolled in Undergraduate Course Work for Admission to Graduate Degree

Students enrolled at least half-time in undergraduate courses required for admission to a graduate degree program may be eligible for limited Direct Loan funds. At this time, the only such program that USC offers is the Postbaccalaureate Premedical Program. For more information, visit financialaid.usc.edu/general/special-programs/postbaccalaureate-premedical-program.html.

Withdrawal Implications for Recipients of Financial Aid

During the Drop/Add Period

During the university's published drop/add period, students who drop or reduce their enrollment may be eligible for a 100 percent refund of tuition for classes dropped.

Financial aid recipients must immediately notify the Financial Aid Office in writing when a drop from one or more classes during the drop/add period results in an enrollment status different from the enrollment status on which their current financial aid eligibility was based. The same applies if one or more classes are canceled.

The Financial Aid Office will review the student's new enrollment and, if appropriate, revise the student's eligibility based on the new enrollment status.

If a financial aid recipient drops from all classes or drops to less than half-time status during the drop/add period, all financial aid awards must be returned to their respective programs. Students who drop from all classes or drop to less than half-time status during the drop/add period are considered never to have established eligibility for financial aid. If the student was given financial aid funds for other expenses, he or she will be expected to return those funds to the university.

After the Drop/Add Period

Students who are recipients of Title IV federal student aid are also covered by federal Return of Title IV Funds (R2T4) regulations. Title IV federal student aid is awarded to a student under the assumption that the student will attend for the entire period for which the assistance is provided and thereby "earn" the award. When a student ceases academic attendance prior to the end of that period, the student may no longer be eligible for the full amount of federal funds that the student was originally scheduled to receive.

If a Title IV aid recipient withdraws from all classes on or before the session is 60 percent complete, based on their last date of attendance, federal policy requires that any "unearned" Title IV federal financial aid be returned to the U.S. Treasury, even if the student is not entitled to a refund of tuition.

A student is required to immediately notify the Registrar when he or she stops attending classes. If the student fails to notify the Registrar's Office, it is possible that the 50 percent point in the term will be used to determine the student's last date of attendance, in accordance with federal regulations. If a student withdraws from all classes*, the Financial Aid Office will determine if that student's period of attendance resulted in the earning of all federal financial aid awarded for that term. If it is determined that not all the scheduled federal aid has in fact been earned, then the Financial Aid Office will calculate the amount to be returned to the federal financial aid programs. The Financial Aid Office will bill the student via his or her university account for the amount to be returned. It is the student's responsibility to contact the Cashier's Office to settle the bill.

**Note to students in modular programs: In a modular program, one or more of the student's enrolled courses do not span the length of the entire semester. Students in modular courses who withdraw from one or more courses, but are still registered for future courses within the term, will be required to confirm their future enrollment plans. For students who fail to confirm or fail to re-enroll, the Financial Aid Office will determine whether you have completed module(s) that contain 49 percent or more of the number of days in the payment period. If you have completed 49 percent or more, you are not considered to have withdrawn for R2T4 purposes. If you have completed less than 49 percent, the Financial Aid Office will calculate the portion of your financial aid that has been earned based on your latest date of attendance. Refunds to the U.S. Treasury may be required.*

Additional Responsibilities of Students Who Withdraw

Any time a student withdraws from one or more courses, the student should consider the potential effect on his or her Satisfactory Academic Progress (SAP) status. Please review the SAP section for more information about SAP requirements.

Whenever a student's enrollment drops to less than half time or the student withdraws completely, or if a student takes a leave of absence, he or she must notify the lender, holder or servicer of any loans. Student borrowers of federal or university loans must also satisfy exit loan counseling requirements at studentloans.gov.

It is also the student's responsibility upon withdrawal from all classes to notify the Student Financial Services Office, the Housing Services Office, the Transportation Services Office and/or the USCard Office, if the student has charges from these offices on his or her student account. Students who have withdrawn from studies may be entitled to a prorated cancellation of charges from these offices.

Leave of Absence

Financial aid recipients considering a leave of absence should be aware of the financial aid implications. Although obtaining an approved leave of absence from their programs does allow students to re-enroll in the university without formal re-admission, it does not allow them to avoid Return to Title IV calculations or defer their loan repayment. The university reports student enrollment to the National Student Clearinghouse throughout the academic year. Lenders and federal loan service agencies subsequently query this database to determine if a student has maintained continuous half-time or greater enrollment.

Student Loan Repayment

If students are on a leave of absence from the university, their lender or federal loan service agency will move their loan from an "in-school" status to a grace or repayment status as required. While on a leave of absence, students may be able to postpone

repayment by obtaining a deferment or forbearance from their loan servicer(s) as a result of unemployment or economic hardship. Students should contact their loan servicer(s) for more information about loan repayment. Students may review their federal loan history and determine their loan service agencies by visiting the Federal Student Aid website at studentaid.gov. Once they re-enroll at a half-time or greater basis, they may be able to request deferment for "in-school" status.

Tuition Refund Insurance Plan

To complement its own refund policy, the university makes available to students Tuition Refund Insurance, an insurance policy designed to protect the investment students and their families make in education. The Financial Aid Office strongly encourages all financial aid recipients to take advantage of this plan. If a student formally withdraws from all classes after the end of the drop/add period and he or she is covered by Tuition Refund Insurance, the student may receive:

- A credit to his or her student account equal to 100 percent of charges for tuition and mandatory fees for the term, if the withdrawal is the result of documented personal illness or accident; or
- A credit to his or her student account equal to 80 percent of the charges for tuition and mandatory fees for the term, if the withdrawal is the result of a documented mental/nervous disorder.

The Tuition Refund Insurance credit will be applied first to any outstanding charges on the student's university account, including any charges resulting from the required Return of Title IV Funds (R2T4) to the federal student aid programs for the term. Recipients of university and/or federal financial aid will then receive a cash refund equal to the amount of cash payments made to the account for the term, plus any loan disbursements for the term still on the account (after all returns of Title IV aid have been made in accordance with federal policies, if applicable). The remainder of the insurance credit will be used to repay university financial aid grant or scholarship programs.

Brochures about Tuition Refund Insurance requirements and claim forms are available in the Cashier's Office and the Registrar's Office. All questions about the insurance plan should be directed to these offices.

Notes on Federal Policy

Title IV Federal Student Aid

Students are considered recipients of Title IV federal student aid if they have received funds from one or more of the following programs to meet educational expenses for the semester in question: Federal Pell Grants, Federal Supplemental Educational Opportunity Grants (SEOG), Direct Loans (Subsidized or Unsubsidized), or Direct Graduate or Parent PLUS Loans.

FAFSA and Verification

The deadline for receipt of a 2021-22 FAFSA by the Department of Education is June 30, 2022. To receive financial aid funds a complete valid FAFSA must be received at USC by the last day of the student's 2021-22 enrollment.

Financial aid applicants selected for verification are required to submit documentation before any financial aid funds will be awarded or disbursed. The deadline to submit verification documentation is 20 days after the student's last date of enrollment for 2021-22, or September 17, 2022, whichever is earlier. USC will continue to accept verification documentation until this date.

Applicants are notified of any changes to their financial aid eligibility on their Financial Aid Summary and Tasks (FAST) page. The FAST page also indicates any outstanding documentation or tasks that need to be completed for aid to be processed or disbursed.

Period of Enrollment

At USC, the periods of enrollment are generally measured using the session(s) in which the student enrolled on a semester basis, starting on the first day of classes and ending on the final day of examinations for a given term. For purposes of Title IV federal student aid, any scheduled break of five or more days will not be included in the measurement of the enrollment period. For programs offered in modules (sessions that do not span the entire length of the semester), breaks of more than five days between modules will not be included in the measurement of the enrollment period.

Measurement of Earned Title IV Federal Student Aid

When a student withdraws from all classes, or withdraws from one or more classes while attending a modular program, the Financial Aid Office will calculate the percentage of earned Title IV federal student aid using the date of withdrawal. The earnings calculation is based on the number of days of enrollment, up to and including the day of withdrawal, divided by the total number of days in the enrollment period. In most cases, when a total withdrawal is determined to occur on or before the 60 percent point in a semester, some federal aid will need to be returned.

Return of Title IV Federal Student Aid

To satisfy federal regulation, returns to Title IV financial aid programs must be made in the following order:

- Direct Unsubsidized Loans
- Direct Graduate PLUS Loans
- Other Title IV Federal Programs

Financial Aid Policy Regarding Falsification of Financial Aid Information

The types of information covered by this policy include all documents and information submitted to apply for and/or receive need-based financial aid, scholarships, federal student and parent loans, and private financing funds. These documents and information include, but are not limited to, the following:

- Free Application for Federal Student Aid (FAFSA)
- Student Aid Report (SAR)
- Financial Aid Supplement
- Federal income tax forms and other income documentation
- Documentation of U.S. citizenship or eligible non-citizen status
- Documentation of housing/living arrangements
- Academic documents relating to high school diploma or college course work
- Loan applications, promissory notes and related documentation
- Specific program applications
- Federal Work-Study time sheets
- Any university financial aid forms and related documentation
- Any written, electronic or verbal statements sent to or made to a university employee regarding the student's financial aid application or other financially related documents

The integrity of the documents and the honesty of the information presented through them are critical to the financial aid process. Students should be aware that they will be held responsible for the integrity of any financial aid information submitted either by them or on their behalf.

If the university determines that a student or parent has provided falsified information, or has submitted forged documents or signatures, the following steps may be taken without prior notification to the student or parent:

1. An incident report will be filed with USC's Office of Student Judicial Affairs and Community Standards following procedures outlined in the University Student Conduct Code. Pending resolution of the complaint, the Financial Aid Office may restrict the distribution of any further aid to the accused student.
2. If the Financial Aid Office or the student conduct review process finds that a violation has occurred, the

consequences may include, but are not limited to, the following:

- The student will be required to make full restitution of any and all federal, state, private and/or university scholarship, grant, loan or work funds to which he or she was not entitled.
- Until full restitution is made, all federal, state and university funds will be withheld from the student, including all funds disbursed in past or in current terms.
- No arrangements will be made with the Cashier's Office or Collections Office on the student's behalf to settle their account. The student will be responsible for all charges incurred on the student's account because of the loss of federal, state or institutional financial aid funds.
- If the student is determined to be ineligible for financial aid because of a basic eligibility criterion, no further federal, state or university funds will be provided to the student in any future terms of enrollment at the university.
- The student may be ineligible for future participation in some or all financial aid programs for a minimum of one year or longer. In some cases, the student will not be eligible to receive funds from that program in any future terms of enrollment at the university.
- The student will not receive funds to replace those lost because he or she is considered ineligible due to dishonesty.

3. In addition to any consequences directly related to the student's financial aid, the student may be assigned disciplinary sanctions as described in the Student Conduct Code (11.80).
4. As required by federal and state law, the USC Financial Aid Office will report any infraction to the appropriate office or agency. These include, but are not limited to, the U.S. Department of Education Office of the Inspector General, state agencies or other entities that may take whatever action is required by federal and state law. In this report, the Financial Aid Office will describe in detail the incident, the response from the Financial Aid Office and any additional actions taken by or pending with the university.

Satisfactory Academic Progress (SAP) Policy

Purpose of SAP Regulations

To be eligible for federal financial aid, graduate and professional students are required by the U.S. Department of Education (34 CFR 668.34) to maintain Satisfactory Academic Progress toward their program objectives. USC has established this SAP policy to ensure student success and accountability and to promote timely advancement toward program objectives.

The following guidelines provide academic progress criteria for all graduate and professional students receiving financial aid at USC. These guidelines are based on reasonable expectations of academic progress toward a program objective and should not be a hindrance to any student in good academic standing.

Table 1
Programs Subject to Financial Aid SAP Policy

Federal Programs	
Federal Work-Study	Loans for Disadvantaged Students
Direct Unsubsidized Loans Direct Graduate PLUS Loans	Health Professions Student Loans
Scholarships for Disadvantaged Students	Primary Care Loans

Table 2
Programs Not Subject to Financial Aid SAP Policy

USC and Outside Programs*	
USC Merit Scholarships	USC Alumni Scholarships
USC Topping Scholarships	USC Departmental Awards
USC Assistantships	USC Employee Tuition Assistance Benefits
Sponsored Agency Awards (Including Department of Defense and Veterans Awards)	Outside Agency Scholarships

**Recipients of these awards should contact the awarding agencies/departments for rules governing award retention.*

Definition of Graduate SAP

To be eligible for financial aid as identified above, a graduate student must maintain SAP as defined by all of the following three criteria:

- Grade Point Average (GPA): You must meet a minimum cumulative GPA each enrolled semester
- Pace of Progression: You must successfully complete a minimum of 67 percent of all cumulative attempted* units each enrolled semester. This Pace of Progression ensures completion of the degree within the Maximum Time-Frame.
- Maximum Time-Frame: You must complete your degree within a specified amount of time. The Maximum Time-Frame is based on the published length and unit requirements for your degree program(s). You will be eligible for the maximum attempted units or the maximum SAP semesters, whichever comes first.

If you do not meet the Pace of Progression or GPA requirements, or if you have reached the Maximum Time-Frame, you will be ineligible for further financial aid without an approved, written SAP Appeal.

The Financial Aid Office will never increase the Maximum Time-Frame past 150 percent of the published degree requirements. As soon as a student is mathematically incapable of completing a degree program within 150 percent of the published requirements, the student will be ineligible for financial aid from that point forward.

Grade Point Average (GPA) Requirement

Graduate and professional students must maintain a minimum cumulative GPA of 3.0. In some cases, the University Committee on Curriculum has approved different GPA requirements for professional schools including but not limited to the programs in the following table. To confirm your own program's specific GPA requirements, please inquire with your academic department.

Table 3
Exceptional Grade Point Average Requirements for Graduate/Professional Programs

Program of Study	Program of Study Code	GPA Requirement
Alternative Dispute Resolution (GCRT)	1564	2.6
Alternative Dispute Resolution (LLM)	1636	2.6
Business Administration/Pharmacy (MBAD)	799	2.5
Business Law (On Line) (GCRT)	1573	2.6
Clinical and Experimental Therapeutics (PHD)	1376	2.5
Compliance (On Line) (GCRT)	1670	2.6
Dentistry (DDS)	414	2.0
Dentistry (Dentistry-International) (DDS)	428	2.0
Dispute Resolution (MDR)	1658	2.6
Entertainment Law and Industry (GCRT)	1672	2.6
Financial Analysis and Valuation (GCRT)	1340	3.6
Financial Compliance (GCRT)	1729	2.6
Gerontology (GCRT)	633	2.5
Gerontology/Juris Doctor (MS/JD)	1012	2.9
Human Resources Law and Compliance (GCRT)	1727	2.6
International Business and Economic Law (LLM)	1741	2.6
Juris Doctor/Business Administration (JDMBA)	715	2.9
Juris Doctor/Communication Management (JDCMG)	1326	2.9
Juris Doctor/Communications Management (JDMA)	785	2.9
Juris Doctor/Pharmacy (JDDP)	1154	2.9
Juris Doctor/Public Administration (JDMPA)	1131	2.9
Juris Doctor/Public Policy (JDMPP)	1119	2.9
Law (JD)	379	2.9
Law (LLM)	394	2.6
Law (MCL)	1270	2.6
Law (On Line) (LLM)	1528	2.6
Law/Business Taxation (JDMBT)	723	2.9
Law/Economics (JDMA)	724	2.9
Law/International Relations (JDMA)	783	2.9
Law/Philosophy (JDMA)	952	2.9
Law/Real Estate Development (JDRE)	1140	2.9
Law/Religion (JDMA)	784	2.9
Law/Social Work (JDMSW)	778	2.9
Pharmacy (PHARD)	1312	2.5
Pharmacy and Global Medicine (PDMS)	1479	2.5
Pharmacy/Gerontology (PHRMS)	1220	2.5
Pharmacy/Healthcare Decision Analysis (PHMS)	1548	2.5
Pharmacy/Pharmaceutical Sciences (PHPD)	902	2.5
Pharmacy/Public Health (PHMPH)	1185	2.5
Pharmacy/Regulatory Science (PHMS)	1328	2.5
Physical Therapy (DPT)	979	2.75
Physical Therapy (On Line) (DPT)	1704	2.75
Studies in Law (On Line) (MSLW)	1633	2.6
Studies in Law (On-Campus/Residential) (MSLW)	1722	2.6
Summer Master of Laws (LLM)	1639	2.6
Taxation (LLM)	1379	2.6
Transnational Law and Business (GCRT)	1699	2.6

Students with No Graduate GPA

Students enrolled in progressive degree programs who are currently classified as undergraduate students (see the Financial Aid for Enrollment in a Progressive Degree Program section above) must maintain a minimum cumulative undergraduate GPA of 2.0. Progressive Degree students who are currently classified as graduate students must maintain a minimum cumulative graduate GPA of 3.0, or the exceptional minimum cumulative GPA respective to their graduate program as listed above.

Students who have no GPA because all their course work has been taken as Credit (C)/No Credit (NC) or Pass (P)/No Pass (NP) are considered to have a sufficient GPA as long as they have no grades of NC or NP. A grade of In Progress (IP) is also considered a passing grade.

Refer to Tables 4 and 5 to understand how specific grades and course types affect students' cumulative grade point averages:

Table 4
Impact of Grades on Graduate Cumulative SAP GPA

Grade Earned	Counted in Grade Point Average
A, B, C, D, F (+/-)	Yes
CR — Credit, P — Pass, IP — In Progress	No
NC — No Credit, NP — No Pass	No
IN — Incomplete	No
IX — Expired Incomplete	Yes
W — Withdrawal	No
UW — Unofficial Withdrawal	Yes
V — Audit	No
NS — Not Submitted	No
MG — Missing Grade	No

Table 5
Impact of Course Type on Graduate Cumulative GPA

Course Type	Counted in Grade Point Average
Preparatory course work (including all undergraduate course work regardless of course level)	No
Repeated course work (previous passing grade)	No
Repeated course work (previous failing grade)	Yes (both grades counted)
Transfer course work (pre- and post-matriculation)	No

For more information about grading policy, visit the USC Department of Grades on the Registrar's website at usc.edu/grades.

Pace of Progression Requirement

Graduate and professional students must successfully complete a minimum of 67 percent of all cumulative attempted units each enrolled semester. This Pace of Progression ensures completion of the degree within the Maximum Time-Frame.

Pace of Progression is calculated by dividing the cumulative number of units the student has successfully completed by the cumulative number of units the student has attempted.

For the purposes of Pace of Progression and Maximum Time-Frame, "attempted units" includes most types of course work in which you are enrolled past the course's deadline to drop and receive a tuition refund. After this deadline, "dropped" course work is considered withdrawn units attempted for the purposes of SAP, even if the withdrawal does not result in a "W" mark on your transcript. To verify your course session's deadline to drop for a tuition refund, please refer to the USC Schedule of Classes at classes.usc.edu.

Courses that are successfully petitioned for deletion through the Office of Academic Records and Registrar will be considered neither attempted nor completed for the purposes of Pace of Progression and Maximum Time-Frame.

Review Tables 6 and 7 to understand how grades and course types will affect the Pace of Progression calculation:

Table 6
Impact of Grades on Pace of Progression and Maximum Time-Frame

	Pace of Progression		Counted Toward
Grade Earned	Units Completed	Units Attempted	Maximum Time-Frame
A, B, C, D (+/-)	Yes	Yes	Yes
CR, P	Yes	Yes	Yes
IN, IP, W, NS, MG	No	Yes	Yes
F, IX, NP, NC, UW	No	Yes	Yes
V	No	No	No

Table 7
Impact of Course Type on Pace of Progression and Maximum Time-Frame

Course Type	Pace of Progression		Counted Toward Maximum Time-Frame
	Units Completed	Units Attempted	
Graduate-level course work	Yes	Yes	Yes
Preparatory course work (including all undergraduate course work regardless of course level, taken for credit or no credit)	No	No	No
Repeated course work (previous passing grade)	Yes	Yes	Yes
Repeated course work (previous failing grade)	Yes	Yes	Yes
Transfer course work (pre- and post-matriculation)	Yes	Yes	Yes
Course work dropped after Last Day to Drop and Receive a Refund, but before Last Day to Withdraw without a "W" on Transcript	No	Yes	Yes
Course work successfully petitioned for deletion from the transcript by the Registrar	No	No	No

Maximum Time-Frame Requirement

Students must complete their program objective within a specified amount of time. The time-frame will depend on the student's enrollment status and educational objective. Students will be eligible for the maximum attempted units or the maximum SAP semesters, whichever comes first.

Changing Graduate Programs of Study at USC

Previous course work completed at USC as part of a prior program of study that can also be accepted toward the new program of study will be counted toward the current program's Maximum Time-Frame.

Students enrolled concurrently in multiple eligible graduate degree programs and/or eligible graduate certificate programs may be granted an increase in the unit and semester allowances commensurate with the additional program requirements.

Solely for the purpose of evaluating the SAP Maximum Time-Frame, the Financial Aid Office establishes the following guidelines on SAP semesters.

SAP Semesters for Doctoral Students

Each semester in which a doctoral student attempts 6 or more units, or attempts a full-time exception course as defined below, is counted as a full (1.0) SAP semester. Each semester in which a doctoral student attempts 3 to 5 units is counted as a half (0.5) SAP semester. Semesters in which a doctoral student attempts fewer than 3 units that are not full-time exception courses are not counted as SAP semesters.

SAP Semesters for Master's Degree and Graduate Certificate Students

Each semester in which a master's degree or a graduate certificate student attempts 8 or more units, or attempts a full-time exception course as defined below, is counted as a full (1.0) SAP semester. Each semester in which a master's degree or eligible graduate certificate student attempts 4 to 7.5 units is counted as a half (0.5) SAP semester. Semesters in which a master's degree or a graduate certificate student attempts fewer than 4 units that are not full-time exception courses are not counted as SAP semesters.

Full-Time Exception Courses

Other than the number of units attempted, there are additional circumstances that confer full-time enrollment status. These include enrollment in thesis or dissertation courses, courses with a prefix of 594, 694, 791, 794, 800 or 810 as well as other courses and programs as determined by the Office of Academic Records and Registrar. Any semester in which a student attempts a full-time exception course will be counted as 1.0 SAP semester, regardless of the number of units enrolled or concurrent course work.

Maximum Unit Allowance

Students pursuing graduate and professional degrees and eligible graduate certificates can apply for financial aid for up to the maximum number of units of course work required for the particular program of study, plus the equivalent units for one full-time semester course load (see Table 8). Due to program length, this allowance may not apply to some graduate certificate programs if it causes the Maximum Unit Allowance to exceed 150 percent of the program's published unit requirements.

Table 8
Full-Time Course Load for Determining Maximum SAP Units and Semesters

Program	Full-Time Course Load
Doctoral programs	6 units or exception course
Master's degree programs and graduate certificates	8 units or exception course

Maximum Semester Allowance

To determine the maximum number of full-time semesters of aid available for a graduate or professional program of study, divide the number of units required for the particular program by the full-time semester course load for that program according to Table 8. Due to program length, this allowance may not apply to some graduate certificate programs if it causes the Maximum Semester Allowance to exceed 150 percent of the program's published time-frame.

After rounding up to the nearest whole number, add one additional full-time semester to determine the maximum allowed for the program.

$$\text{Maximum SAP Semesters} = \frac{\text{units required for degree}}{\text{full-time course load}} + 1 \text{ full-time semester}$$

The *USC Catalogue* specifies a maximum time-frame for some doctoral programs. In such cases, maximum SAP semesters will be based on the catalogue rather than the calculation above.

Review the examples to understand how the maximum SAP units and semesters are calculated.

Example 1
Maximum SAP Semester and Unit Calculation for a Doctoral Degree

A doctoral program that requires 60 units for graduation:
Maximum SAP Semesters = 60 units/6 units+ 1 full-time semester
Maximum SAP Semesters = 10 + 1 full-time semester
Maximum SAP Semesters = 11 full-time semesters

Example 2
Maximum SAP Semester and Unit Calculation for a Master's Degree or Graduate Certificate

A master's or graduate certificate program that requires 28 units for graduation:
Maximum SAP Semesters = 28 units/8 units + 1 full-time semester
Maximum SAP Semesters = 4* + 1 full-time semester
Maximum SAP Semesters = 5 full-time semesters
**Rounded up from 3.5*

How and When Satisfactory Academic Progress is Monitored

The Financial Aid Office evaluates the three SAP criteria for graduate and professional financial aid applicants annually. The evaluation will occur after the end of the summer semester when the summer has been considered part of the prior academic year for financial aid purposes. Students who do not enroll in summer courses or whose summer is considered part of the upcoming academic year will be monitored at the end of the spring semester.

When a full-time graduate student can be expected to complete a program of study within one academic year (two semesters or fewer), the Financial Aid Office will evaluate SAP at the end of every enrolled semester. These programs generally include, but are not limited to, graduate certificate programs that can be completed in 16 units. Certain master's degree programs that require more than 16 units, but are designed to be completed within one academic year (two semesters), will also be evaluated after each enrolled semester.

Potential Delay of Disbursements Due to Monitoring of Satisfactory Academic Progress

Financial aid may not be disbursed to a student's account until SAP has been evaluated. The Financial Aid Office cannot complete the SAP evaluation until prior semester grades have been officially posted by the Office of Academic Records and Registrar. An otherwise eligible student may experience a delayed financial aid disbursement if grades are not made official before the beginning of the subsequent semester. No exceptions can be made to this process.

Notification of Satisfactory Academic Progress Status

Students who have successfully met SAP requirements will not receive a SAP notification. The Financial Aid Office will notify any student who does not meet SAP requirements via email at the student's USC email address. Students who are notified that they are SAP ineligible for financial aid should consult their academic advisers.

Failure to Maintain Satisfactory Academic Progress

There are no financial aid SAP Warning Periods for graduate/professional students who are evaluated annually.

Students who fail to meet GPA or Pace of Progression standards or who have reached the Maximum Time-Frame will be ineligible for financial aid without an approved, written SAP Appeal. The Financial Aid Office will never increase the Maximum Time-Frame past 150 percent of the published requirements for one undergraduate degree program. As soon as a student is mathematically incapable of completing a degree program within 150 percent of the published requirements, the student will be ineligible for financial aid from that point forward.

Regaining Financial Aid Eligibility

Regaining Financial Aid Eligibility with a Grade Change

Students who have lost financial aid eligibility as a result of insufficient GPA or Pace of Progression can be reinstated by a grade change if the grade change allows them to complete sufficient units and/or improve their GPA to meet stated requirements. The student must notify the Financial Aid Office in writing that the grade has been changed and requirements have been met.

Regaining Financial Aid Eligibility with an SAP Appeal for Maximum Time-Frame

Students who need additional time to complete their degrees must meet with their academic adviser to complete an SAP Appeal form. Students must also update their expected graduation date with the Office of Degree Progress. The Financial Aid Office may increase the maximum time-frame for students who have changed programs, are adding a program or have experienced a one-time extenuating circumstance such as illness or injury that has since been resolved. However, the Financial Aid Office will not approve any appeal when the additional time required for completing the program objective extends beyond 150 percent of the published requirements.

Regaining Financial Aid Eligibility with an SAP Appeal for GPA and/or Pace of Progression

Students who are not meeting Satisfactory Academic Progress GPA and/or Pace of Progression requirements may appeal to have their financial aid eligibility reinstated on a semester-by-semester basis. Students must meet with their academic adviser to complete an SAP Appeal Form. The following conditions can be considered in your appeal: extended illness, one-time extenuating circumstances that have since been resolved, and enrollment limitations due to academic advisement.

SAP Appeal Form and Letter

The student and adviser must submit a Satisfactory Academic Progress appeal form with complete supporting documentation to the Financial Aid Office. The SAP Appeal form must contain the specific academic plan for the student that the adviser has approved. For the appeal to be approved, the academic plan must lead to graduation within 150 percent of the published time-frame and unit requirements to complete the program objective. The student must also provide a written letter that addresses the reasons for the appeal.

Students requesting an extension past the Maximum Time-Frame should address the following points in their letters of appeal:

(1) What prevented the student from completing the program objective within the Maximum Time-Frame?

(2) How does the student intend to ensure completion of the program objective within no more than 150 percent of the published time-frame to complete the program of study?

Students appealing due to unsatisfactory GPA and/or Pace of Progress, or failing to meet the terms of an existing SAP contract, should address the following points in their letters of appeal:

(1) What caused the work at USC to fall below acceptable standards? Students should think carefully and provide a specific explanation.

(2) How have those conflicts been resolved?

(3) How will the student maintain good academic standards and progress toward the program objective if the appeal is granted?

Limitations on Approvals for SAP Appeals

The Financial Aid Office will never increase the Maximum Time-Frame past 150 percent of the published degree requirements for one graduate/professional degree or eligible graduate certificate. As soon as a student is mathematically incapable of completing the program objective within 150 percent of the published requirements, the student will be ineligible for financial aid from that point forward.

Notification of SAP Appeal Decisions

SAP Appeals will be evaluated and the Financial Aid Office will notify the student of the decision via the student's USC email address.

The Financial Aid SAP Contract

Appeals for insufficient Pace of Progression and GPA are approved through the use of a semester-by-semester SAP Contract. Appeals for extensions to the Maximum Time-Frame may also result in an SAP Contract to ensure completion within 150 percent of the published program time-frame. Students must adhere to the academic plan, and terms and conditions of the SAP Contract to maintain future financial aid eligibility. The Financial Aid Office will review a student's academic progress each semester to ensure they have met the specific terms of their contract.

The SAP Contract is a written agreement between the student, the academic adviser and the Financial Aid Office in which the student commits to following a specific academic plan that leads to graduation. Reinstated eligibility through a contract may alter the type and amount of the financial aid for which a student is eligible. Terms of the SAP Contract may be stricter than the standard SAP regulations cited in this section.

Acceptance of the approved SAP Contract supersedes all other SAP regulations. Any deviation by the student from the terms of the contract will result in the forfeiture of future financial aid eligibility.

Submitting SAP Appeals after Failing SAP Contract

Students on SAP Contracts as a result of an approved appeal who fail to meet the terms of their accepted SAP Contracts are ineligible for future financial aid, but may submit a subsequent SAP Appeal. However, these appeals are granted on an exception basis. Students will be required to document specifically the exceptional circumstances that caused them to fail their SAP Contract and how those problems have been resolved.

Financial Aid Application and SAP Appeal Deadlines

Any student who is appealing his or her Satisfactory Academic Progress status must meet all financial aid application deadlines and other eligibility requirements.

An SAP Appeal must be submitted before the end of the semester for which the aid is sought. **Financial aid cannot be reinstated retroactively for a past semester.**

Course Work Taken Elsewhere

Admitted students receive a transfer credit report showing unit and subject credit granted for graduate courses.

For course work taken at universities within the United States, the Degree Progress Department will prepare the transfer credit report. For course work taken at universities outside the United States, the Graduate Admissions Office will review the academic credentials and the academic department or program will determine subject credit granted.

Accreditation

The University of Southern California affirms the practice of accreditation of American post-secondary academic institutions by the six regional accreditation agencies: the Middle States Association of Colleges and Schools, the Higher Learning Commission, the New England Association of Schools and Colleges, the Northwest Commission on Colleges and Universities, the Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges. Acceptance of course work and/or degrees completed by undergraduate and graduate students applying to the University of Southern California will generally be based on accreditation by these six agencies. Certain graduate schools, seminaries, conservatories and professional institutions of national renown that are not accredited by a regional agency may be considered for graduate transfer work by Transfer Credit Services in consultation with the USC department, program or professional school to which the student is applying.

Acceptance of course work and/or degrees from post-secondary institutions overseas will be based on the recognition and approval of the college or university as a degree-granting institution by the ministry of education within the respective country.

Proof of Prior Degree

Students applying for graduate degrees conferred by the Graduate School must hold a baccalaureate degree or its equivalent from an accredited college or university comparable in standard to that awarded at USC. Students who have earned a master's degree from an accredited U.S. institution with a GPA of 3.0 or higher may have the baccalaureate degree requirement waived after review. Diplomas granted for a preponderance of life experience, portfolio or equivalency examinations are not considered appropriate preparation for acceptance into USC's graduate degree programs and are not the equivalent of USC's undergraduate degrees. Verification of a completed undergraduate degree must be provided before enrollment in a second semester at USC.

Transfer Credit

Transfer of Course Work

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. Faculty of the student's degree program determine whether such credit is applicable toward a specific graduate degree, subject to approval by the dean of the degree-conferring unit. The faculty's decision should be made no later than the end of the first year in a master's program or the second year in a doctoral program.

Credit will only be allowed for courses (1) from an accredited graduate school, (2) of a quality of at least 3.0 on a 4.0 grading scale, (3) constituting a fair and reasonable equivalent to current USC course work at the graduate level and (4) logically fitting into the program for the degree. The university also evaluates courses completed through the armed services and may grant credit for such courses as detailed in the subsequent Credit for Military Education section (see below). Transfer course work is applied as credit (CR) toward the degree and is not included in the calculation of a minimum grade point average for graduation.

Graduate transfer credit will not be granted for life experience, credit by examination, extension courses not accepted toward a degree by the offering institution, correspondence courses or thesis supervision. Graduate transfer credit will not be granted for course work taken elsewhere after a student has been admitted and enrolled at USC unless the student receives prior written approval from the department. Students may not take courses elsewhere as a substitute for courses in which they have received grades that fail to meet departmental or university requirements.

Transfer work must have been completed within seven years of admission to a USC master's degree program (or 10 years for a doctoral program) to be applied toward that degree. Departments have the option of reevaluating transfer work when a student is readmitted to a USC graduate degree program. Requests for exceptions should be directed to the dean of the degree program for approval.

The faculty of a degree program may establish limits on the number of transfer credits stricter than those of the university, which follow:

1. Courses used toward a degree completed elsewhere may not be applied toward a master's degree at USC. If courses were not used toward a completed degree, the maximum number of transfer credits that may be applied toward a master's degree, subject to departmental approval, is no more than 25 percent of the minimum units required for the program. Except in formally designated dual degree programs, the same limits apply if a student wishes to apply credits from

any advanced degree previously completed at USC toward a master's degree.
2. A maximum of 30 units of transfer credit may be applied toward a doctoral degree.
3. It is not permitted to apply more than 6 units of transfer credit toward a doctoral degree with Advanced Standing. Admission with Advanced Standing is based upon a completed graduate degree. The only course work available for transfer credit is course work taken after completion of that degree. No exceptions are allowed.
4. A maximum of 4 units of transfer credit may be applied toward an approved dual degree program.

The University Committee on Curriculum (UCOC) must approve policies and procedures for considering individual exceptions within any specific program of study. Program exceptions to the transfer of course work policies require the approval of the UCOC and are listed in the departmental sections of this catalogue. Departments establishing lower maximum limits may waive their own policy (within the university's limits) by approval of the dean of the degree-conferring unit.

Credit for Military Education

Academic credit will be awarded for graduate level course work taken at a regionally accredited U.S. military institute/college upon receipt of official transcripts.

The university will also evaluate course work/experience completed through the armed services and may award credit for such courses if they meet the following criteria:

- Students must provide official Joint Services (JST) or Coast Guard Institute (CGI) transcripts to Degree Progress.
- Course work must be evaluated by ACE as graduate credit.
- Students must submit an articulation petition for each course in which credit is requested. Each petition must include a statement of faculty support.

USC will not grant credit for the following:

- DD-214 or DD-295.
- Course work not offered in an area of study taught at USC.
- Course work/experience not evaluated by ACE.
- DSST and CLEP exam scores.
- Other Learning Experiences (OLE's).

Application of Previous USC Course Work to a Current Degree

USC course work taken prior to matriculation to a current USC degree program must have been completed within seven years of admission or readmission to a master's degree program (or 10 years for a doctoral program) to be applied toward that degree. Exceptions require approval from the Vice Provost for Academic Programs.

Credit Evaluation

The purpose of the evaluation is to verify all previously earned degrees and may list graduate course work completed at other institutions which is available for consideration toward the USC degree. Students who intend to apply transfer course work toward a USC degree program can request a comprehensive credit evaluation through the Degree Progress Department. Only courses with a grade of B (3.0) and above are available for transfer. These courses do not apply toward a specific USC degree unless approved by the student's major department or program and school.

Concurrent Enrollment

If a student in a graduate degree program is simultaneously enrolled elsewhere, he or she may not seek to transfer credits to USC for those studies without advance permission from the dean of the degree program (except for concurrent enrollment at UCLA. See the Academic and University Policies section for details). Failure to secure such permission will result in invalidation of course work taken during periods of unauthorized concurrent enrollment.

Requirements for Graduation

Catalogue Regulations, Policies and Procedures

In addition to degree requirements outlined below, undergraduate and graduate students are also subject to current catalogue regulations, policies and procedures. Examples include, but are not limited to, the policies on the grades of incomplete (IN), missing grade (MG) and continuous enrollment for graduate students. Unlike degree requirements, changes in regulations, policies and procedures are immediate and supersede those in any prior catalogue.

Graduation Date

A student will be awarded the graduation date for the term in which degree requirements, including submission of supporting documents, have been met. Although course work may have been completed in a prior term, the degree will be awarded only for the term for which all academic and administrative requirements have been fulfilled. Application for the degree is a requirement for all graduate degrees. Students wishing to change the degree date from that indicated on the STARS Report may do so under Other Services in usc.edu/OASIS. Degrees are not awarded retroactively.

Discontinued Degree Programs

Students pursuing major programs that the university discontinues will be allowed to complete them within a specified time limit. The time limit will be specified at the point of discontinuance of a major program and begins at that point. It is determined according to the student's progress toward degree completion and will not exceed five years for any student.

Closed Record

The academic record of a student who has completed the program of study or ceased attendance is considered closed. Once a student's record is closed, no further additions or changes may be made. This includes, but is not limited to, such things as registering in additional course work, resolution of marks of incomplete (IN), missing grade (MG), etc.

Degree Requirements

All graduate students must meet both university degree requirements and those degree requirements specific to their program of study to receive an advanced degree. University degree requirements consist of grade point averages, unit, residence and time limit requirements. Degree requirements specific to a student's program of study consist of course, examination and research requirements. University degree requirements and degree requirements specific to the program of study are collectively defined as degree requirements. Graduate students may elect to follow (a) the degree requirements in the catalogue current for the semester of their admission to the degree program or (b) degree requirements in subsequent catalogues as long as they are continuously enrolled (see Continuous Enrollment). However, they may not mix catalogues. Graduate students who discontinue their enrollment without a leave of absence approved by the dean of the degree program (see Leave of Absence) will be subject to the degree requirements in effect for the semester of their readmission to the program. Students requesting exceptions to the catalogue year should petition the dean of the degree program.

Time Limit for Degree Completion

Students must maintain satisfactory progress toward their stated degree objective at all times. Progress is measured from the beginning of the first course at USC applied toward a specified degree, and all requirements for that degree must be completed within a specified time. The maximum time limit allowed for each degree is considerably greater than what is needed to complete all requirements. Departments may set more stringent time limits than those specified in this section.

The time limit for completing the master's degree is five years. The time limit for completing the doctoral degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the doctoral degree is six years from the date of admission to the doctoral program. An academic department or program may grant an extension of one semester at a time, up to a maximum of two years. For PhD students all extensions must also have the approval of the dean of the degree program.

In unusual cases, a student's committee and the department chair or program director may petition the Graduate School for further extensions.

Students who have exceeded the time limit for completing their degree program will not be permitted any further registrations. If granted an extension of time, the dean of the degree-conferring unit will permit registration for the specified period of extension. Approved leaves of absence (up to a total of two years or four semesters) are not counted in the time allowed for completion of degree requirements.

The time limits apply unless otherwise designated by the faculty and previously approved by the University Committee on Curriculum for a particular degree program.

Progressive Degree Programs

Applicants for a progressive degree program will have completed at least 64 total units of undergraduate course work, excluding AP, IB or transfer units earned prior to graduation from high school. Applicants may apply in their junior (recommended) or senior year but no later than the semester prior to beginning graduate course work. Applicants do not have to submit GRE scores but are expected to have at least a 3.0 GPA at the time of application.

The Application for Admission to a Progressive Master's Program must be approved by the deans of the bachelor's and the master's degree-granting schools at USC and submitted to the Degree Progress Department. Refer to the Progressive Degree website for information about how to apply.

Progressive degree program students must fulfill all the requirements for both the bachelor's degree and the master's degree. The total number of units for the master's degree, however, may be reduced by a maximum of one-third. A minimum of two-thirds of the units required for the master's degree must be at or above the 500 level. Students will be subject to undergraduate academic progress standards while in undergraduate status and master's academic progress standards while in graduate status. The degrees may be awarded separately, but the master's degree will not be awarded before the undergraduate degree. The time limit for completing a progressive degree program is 12 semesters.

Financial aid eligibility differs for students in progressive degree programs. Please visit Financial Aid for Enrollment in a Progressive Degree Program for more details.

Additional information about specific progressive degree programs is listed in the corresponding school section.

Dual Degree Programs

Dual degree programs offer graduate students the opportunity to concurrently complete requirements for two degrees. Students enrolled in dual degree programs must complete all requirements for the dual degree program and then will be awarded both diplomas at the same time. The academic units that offer these programs frequently adjust the requirements for each degree to take into account the correlations between required course work. Students who have completed all the requirements for one of the degree programs and who decide to withdraw from the dual degree program may receive the appropriate single diploma. Students who have withdrawn from the dual degree program to receive the appropriate single diploma and later decide to complete the second degree must apply for admission, be admitted and then fulfill all requirements for the second degree. Detailed information regarding dual degree programs is listed in the appropriate school section.

Grade Point Average Requirement

At no time should the overall GPA drop below 3.0. A minimum grade of C (2.0) is required in a course to receive graduate credit. Work graded C- or below is not acceptable for subject or unit credit toward any master's or doctoral program. An overall grade point average of at least 3.0 on all units attempted at USC while a graduate student is required for graduation, whether or not all such units are applied toward the degree. In some cases, the University Committee on Curriculum has approved different GPA requirements for professional schools. The university will not deviate from policies governing the calculation of the grade point average through inclusion or exclusion of course work.

Unit Requirement

The course of study for the master's degree must include at least 24 units in required and elective courses. In addition, students in a program requiring a thesis must register for 4 units of 594ab Master's Thesis. The minimum unit requirement for a master's degree is established at the time the program is approved and may not be waived. At least 20 of these units must be completed at USC. The minimum number of units for a doctoral degree is 60, at least 24 of which (exclusive of Doctoral Dissertation 794) must be completed at USC. In addition, at least one-half of the total number of units applied toward a graduate degree must be completed at USC. The minimum number of units for a doctoral degree with Advanced Standing upon entrance is 36. No exceptions are allowed.

A department or school that has a graduate program approved by the university requiring a higher minimum may not waive that requirement. The unit requirement for a dual degree program is established at the time the program is approved by the university and may not be waived.

Regardless of the number of units specified in the university catalogue as required for a graduate degree, at least two-thirds of the units applied toward the degree (including transfer work and not including 594 or 794) must be at the 500 level or higher. Students with Advanced Standing in doctoral programs may not apply additional 400-level course work toward that degree; individual exceptions will not be allowed. Some degree programs, where designated by the faculty and approved by the University Committee on Curriculum, permit a higher maximum number of 400-level units.

Unit credit indicates the number of semester units earned in the course; these units may or may not be applicable to the degree. Degree credit indicates the units are applicable to the degree.

Residence Requirements

A minimum of 20 graduate units of USC course work is required for the master's degree; 24 units for the doctoral degree.

Each degree-conferring unit may establish a school residence policy. School residence requirements as presented in the *USC Catalogue* are approved by the University Committee on Curriculum and are to be interpreted consistent with university policies on continuous enrollment, leaves of absence, transfer of credit and time limits for completion of graduate degrees. Individual exceptions must be approved by the Vice Provost for Academic Programs.

Pass/No Pass Graded Work

Graduate students may elect to enroll in courses on a pass/no pass basis with department or program approval. Course work taken on a pass/no pass basis cannot be applied toward a graduate degree. If a student later requires the course for a degree program (because of a change in degree objective or a decision to obtain an additional degree), the degree-granting unit can decide to allow subject credit for the course and require a substitute course for the unit credit. Individual departments may have placed further restrictions on whether a course taken on a pass/no pass basis can be used to fulfill specific requirements.

All students should consult their academic advisers before enrolling in any course on a pass/no pass basis.

Substitution of Course Requirements

Students admitted to graduate degree programs are expected to complete the degree requirements listed in the USC Catalogue. A maximum of 25 percent of the stated degree course requirements (exclusive of 594 Master's Thesis and 794 Doctoral Dissertation) may be approved for waiver or substitution by other USC course work, directed research or transfer course work. Substitution of courses with the same prefix are exempted from this limit, as are transfer courses in the same discipline and graduate degree programs with three or fewer specified required courses as part of the entire degree program.

Individual academic programs/departments may approve substitutions and waivers within this limit for their programs. In rare instances, the program or department can request approval of additional substitutions from the dean of the degree program. Waivers or substitutions of over 25 percent should be very rare and will be periodically reviewed by the Vice Provost for Academic Programs.

Programs establishing a lower maximum substitution limit may waive their own policy by approval of the dean of the academic school. Waiver or substitution of course requirements does not reduce the minimum number of units required for the degree.

Second Master's Degree

A "second master's degree" is any master's degree pursued after a first master's degree is earned at USC. The maximum number of units that may be applied toward the second master's degree for course work taken from a first master's degree at USC is no more than 25 percent of the minimum units required for the program. Second master's degrees are not allowed in the same program of study for students who earned their first master's degree at USC.

For students who earned their first master's degree at another institution, no course work may be repeated from the first program of study and no unit credit from the first program of study may be counted toward the second master's degree. Subject credit could be awarded if approved through a petition process to the dean of the degree program. Program exceptions require approval of the University Committee on Curriculum and are listed in the departmental sections of this catalogue. No individual exceptions are allowed.

Enrollment Status

To be considered full time, a master's level student must be enrolled in a minimum of 8 units of 400- and 500-level course work, and a doctoral level student must be enrolled in a minimum of 6 units of 500-level and above course work. All graduate assistants are classified as full-time students during the semester(s) of their appointments as long as they are enrolled for the minimum units required for their assistantship. In order to make normal progress toward the timely completion of course work for a graduate degree, most students will be enrolled for 12 units; 16 units will constitute a maximum load. Students wishing to carry more than 16 units must have prior permission from the degree-conferring unit; such permission will be granted only in exceptional circumstances.

A student who has completed all course work for the master's degree will be considered full time when properly enrolled in either 594 Master's Thesis or GRSC 810 Studies for Master's Examination.

A student who has completed all course work for the doctoral degree (except dissertation registration) will be considered full time during the semester in which the student is preparing for the doctoral qualifying examination, provided the Appointment or Change of Qualifying Exam or Dissertation Committee form has been submitted and approved for that semester and the student is enrolled in the course GRSC 800a GRSC 800b GRSC 800z Studies for the Qualifying Examination. Students should not enroll in more than two semesters of GRSC 800a GRSC 800b. Students who need an additional semester — GRSC 800z — will receive a warning letter that includes clear conditions for continuation in the program, including benchmarks and deadlines. If these conditions are not met, the student may be dismissed. Doctoral students who have been advanced to candidacy, that is, who have completed all course work and have passed the qualifying examination, will be considered full time when properly enrolled in 794 Doctoral Dissertation. In addition to GRSC 800a GRSC 800b GRSC 800z /GRSC 810 and 594 Master's Thesis and 794 Doctoral Dissertation, there are several other courses and programs as determined by the Registrar of Academic Records and Registrar for which enrollment confers full-time status. Students should consult their academic unit for this information.

International students on student visas must be enrolled as full-time students or must receive authorization from the Office of International Services to enroll in fewer than the minimum units. Such students are not eligible to be considered students without formal registration and are in violation of immigration laws when not properly enrolled. Any international student having questions about his or her registration should consult the Office for International Services.

Continuous Enrollment

Students are considered to be pursuing advanced degrees only when they are formally enrolled. Students admitted to a graduate degree objective are required to be enrolled at USC for fall and spring semesters each year until all degree requirements have been satisfactorily completed within the time limit. Enrollment in graduate-level course work is necessary to meet this requirement. Graduate students who fail to register are no longer considered to be enrolled in a graduate degree program. After an unauthorized absence, formal readmission is required. Students who have been granted a leave of absence do not need to apply for readmission following the approved leave. Where appropriate to the design of a given academic program, the faculty of the program may obtain the permission of the University Committee on Curriculum for a different definition of continuous enrollment.

A master's candidate who is writing a thesis and has completed all course work for the degree must enroll in the appropriate thesis registration until the thesis has been approved. A doctoral candidate who has passed the qualifying examination must enroll each fall and spring semester in 794 Doctoral Dissertation until the dissertation has been approved. It is expected that students will enroll in no more than eight semesters of 794 Doctoral Dissertation. Please note that some courses with no academic credit require payment of tuition. Most classes with course numbers ending in z (e.g., 594z and 794z) require payment of 2 units of tuition.

Exceptions to continuous enrollment are subject to policies governing leaves of absence and readmission.

Leave of Absence

Interruptions of enrollment can cause problems in the continuity of course work within a student's graduate program and, therefore, leaves of absence are generally discouraged.

A student in good standing and making satisfactory progress toward a degree who must interrupt studies for compelling reasons may petition for a leave for a stated period, usually one semester.

Students with serious medical conditions should consult the Medical Leave policy, which is not the same as a general leave of absence. Students who find it necessary to be excused from registration must request a leave of absence by the last day to drop or add courses. The request should include a plan for academic progress upon return. A leave must be requested before the drop-add deadline and approved by the dean of the degree program, the committee chair and the department chair or program director, if applicable. During the period of leave, a student is not entitled to assistance from the faculty or use of university facilities. If granted, the leave is recorded on the student's transcript and the period of leave is not counted in the time allowed for the completion of degree requirements. Within the degree time limit, a leave of absence may be allowed for one semester at a time, up to a maximum of four semesters. A student who does not return to enrolled status at the end of an approved period of leave is no longer considered to be pursuing an advanced degree. Students who fail to apply for a leave of absence or for whom a leave has been denied (or has expired) are subject to policies governing continuous enrollment and readmission.

Financial aid recipients considering a leave of absence should be aware of the financial aid implications. For more information, refer to the Withdrawal Implications for Recipients of Financial Aid section in Financial Aid for Graduate Students.

Readmission

A student who leaves the university without obtaining a formal leave of absence from graduate study is not automatically readmitted. A student wishing to apply for readmission to a graduate degree program must first get the recommendation of the department chair or program director and submit an Application for Readmission to the dean of the degree program. However, if the cumulative GPA is below 3.0, or if readmission is sought after more than two years of an unapproved absence, the Application for Readmission must be sent to the Graduate School for approval. The readmission approval process must be completed by the first day of classes for the term in which resumption of graduate studies is sought. Approvals are to be based on the academic merits of the student's request and the likelihood of academic success and completion of the degree. If readmitted, the student will be subject to all of the current University Catalogue requirements for the degree in effect at the time of readmission. Individual exceptions to the *Catalogue* year require the approval of the dean of the degree program. Students seeking readmission after an absence of more than 10 years may be required to re-apply to the university.

A student may not be readmitted into a program of study that has been terminated. The student must either be subject to retroactive enrollment or admission to the new program of study with the corresponding catalogue requirements.

Comprehensive and Qualifying Examinations

In graduate degree programs that require a comprehensive examination and for all doctoral qualifying examinations, a student who fails the examination may be permitted, at the discretion of the faculty, to take it a second time. For time limits on retaking the comprehensive examinations, consult The Graduate School section of the Catalogue.

Requests for exception must be approved by the Graduate School.

A student may not take the comprehensive or qualifying examination more than twice and must be appropriately enrolled at USC during the semester in which any such examination is taken or retaken. A student who fails the comprehensive or qualifying examination a second time may not continue in the degree program after the end of the semester in which the second examination was taken. No exceptions are allowed.

Application for Graduate Degrees

Application for the degree is required for all graduate degrees. Application for the master's degree should be made in the student's academic unit in the semester preceding the one in which the student hopes to graduate and prior to enrolling in 594a. Application for the PhD should be made when the student has passed the qualifying exam and been admitted to candidacy. At least one semester prior to expected graduation, the student must contact his or her academic adviser and have the application submitted online. When the application is received by the Degree Progress office, a STARS report will be issued to the student. The degree cannot be conferred if no application has been submitted.

Theses and Dissertations

See the Theses and Dissertation section in The Graduate School section.

International Study

Graduate Study Abroad

The Graduate School provides referral to information sources about nationally competitive fellowships, grants, awards and opportunities for graduate study abroad.

Any non-USC administered overseas study programs or any courses taken abroad by currently enrolled USC students must be reviewed and pre-approved by the student's home program and school, and the Offices of Admission and Degree Progress prior to enrollment.

School Programs

Many schools and departments offer international study opportunities and internships. Refer to the school sections of the *Catalogue* for specific information.

Special Study Options

Center for Excellence in Teaching
Grace Ford Salvatori, Suite 227
(213) 740-9040
FAX: (213) 821-2474
Email: usccet@usc.edu
usc.edu/cet
Director: Ginger Clark, PhD

Mission

The Center for Excellence in Teaching (CET) promotes a vibrant culture of teaching and learning for the university community, for schools and for faculty by:

1. Ensuring that USC's core values and strategic priorities are reflected in the university's teaching mission.
2. Serving as a resource for developing, evaluating and rewarding teaching excellence.
3. Providing best practices in instruction and course design.

Strategy

Ensuring that USC's core values and strategic priorities are reflected in the university's teaching mission

CET serves as a resource for the university community by:

- Consulting on policies that elevate the status of teaching so that pedagogical best practices are a required component of academic achievement.
- Developing culturally responsive and evidence-based training for teaching.

- Supporting the cultivation of inclusive curricula and classroom environments, where diverse perspectives are both respected and challenged.
- Providing guidance on establishing and sustaining interdisciplinary approaches to education that lead to a convergence of knowledge and training.
- Offering support in incorporating civic engagement into curricula, leveraging Los Angeles in particular as a rich training ground for applying course content to real-world challenges.
- Providing guidance on distinguished teaching honors, hosting teaching conferences, administering innovation grants and seeding transformational teaching programs.

Serving as a resource for developing, evaluating and rewarding teaching excellence

CET serves as a resource for schools by:

- Providing assistance in establishing school-based plans for advancing teaching.
- Consulting on school-based teaching development, evaluation and reward infrastructure and resources.
- Training Faculty Fellows who will facilitate teaching development cohorts within their schools.

Providing best practices in instruction and course design

CET serves as a resource for faculty and future faculty by:

- Providing foundational principles of inclusive teaching, learning and best pedagogical practices through training and resource distribution.
- Training and supporting new and future faculty members as they establish their pedagogical practices.
- Offering confidential consultation and training opportunities.

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Elizabeth Graddy, *Executive Vice Provost*
Robin Romans, *Associate Vice Provost for Academic Affairs*
Dan Carino, *Senior Manager for Postdoctoral Affairs*

A key component of USC's research engine is its postdoctoral workforce. Thus, building a vibrant postdoctoral scholars program is an essential part of the Provost's efforts to expand sponsored research. There are currently about 600 postdoctoral scholars across USC's academic units. From the time they arrive at USC through the end of their postdoctoral appointment, the Office of Postdoctoral Affairs provides support, resources and a suite of Provost Signature Programs that propel these young scholars toward careers as independent researchers, academics, and leaders of their chosen fields.

Supporting our postdoctoral workforce also provides an important opportunity to enhance diversity across the academy. And as we grow our community, we continue our mission and commitment to 1) promote and support the fair and equitable treatment of postdocs through the course of their career development and advanced training, 2) enhance their postdoctoral experience, and 3) cultivate a sense of community across USC.

For more information, visit the website at postdocs.usc.edu.

Graduate Degree Programs

The basic graduate degrees are the Master of Arts, Master of Science, the Doctor of Philosophy and the professional doctoral degree.

The Master of Arts degree is normally given for study in the humanities and social sciences. The Master of Science degree is normally given for study in the natural sciences and engineering. Other master's degrees are granted by USC for proficiency in professional fields. Master's degree programs are subject to the policies of the Graduate School.

All Doctor of Philosophy degrees must meet the standards of scholarship and other regulations established by the Graduate School. With the exception of Doctor of Dental Surgery, Juris Doctor and Doctor of Medicine, all professional doctoral programs are subject to the policies of the Graduate School.

University Certificates

In addition, the university also offers a number of graduate certificate programs. Graduate credit certificate programs must be approved by the University Committee on Curriculum and meet the following requirements: (1) a minimum of 12 units is required; the maximum number of units may vary; (2) for certificate programs of 16 units or fewer, all course work must be at the 500 level or above. For programs of more than 16 units, not more than 25 percent of the total units for the program may be at the 400 level; (3) for completion, a minimum cumulative USC grade point average of 3.0 must be achieved on all course work applied to the certificate; (4) all course work must be earned at USC, except for programs of more than 16 units, in which case not more than 25 percent of the course work may be transfer credit.

Area of Emphasis

An Area of Emphasis is a specific focus within a major that has been formally approved. Areas of Emphasis are listed within parentheses following the appropriate majors and do not appear on diplomas but are indicated on transcripts.

Dual Degree

A dual degree program joins two distinct graduate degree programs under a single, new program and POST (program of study) code. (Applicants to dual degree programs must apply separately to each degree and be admitted to both programs. After admission to both degree programs, the student is assigned the single, dual degree POST code.) Upon completion of the dual degree program, two degrees (and two diplomas) are awarded. Both degrees in a dual degree program must be awarded with the same conferral date.

Progressive Degree Programs

A progressive degree program enables a USC undergraduate to begin work on a master's degree while completing requirements for the bachelor's degree. The degree may be in the same or different departments but should be in a similar field of study. Students in a progressive degree program must fulfill all requirements for both the bachelor's degree and the master's degree except for the combined total number of units for the degrees. The master's degree may be awarded simultaneously with but not before the bachelor's degree is awarded.

Online Programs and Courses

The university does not distinguish online programs and courses from those offered on campus. Requests to provide information about which programs and courses are offered online will be denied.

The Graduate School

Administration

Andrew McConnell Stott, PhD, *Vice Provost for Academic Programs and Dean*
Meredith Drake-Reitan, PhD, *Associate Dean*
Laura Yoneda, *Associate Dean*

History

Graduate studies had their formal beginnings at the University of Southern California in 1910, and 1923 marked the official constitution of the Graduate School of the university.

Mission

The mission of the Graduate School is to promote a distinguished educational experience at the graduate level for an outstanding and diverse student body, to support and celebrate graduate student achievements, and to provide leadership in the establishment and communication of policies, standards, and processes related to graduate education.

The Graduate School awards fellowships to incoming PhD students who show outstanding promise, and provides advanced fellowships on a competitive basis to students who have done outstanding work in their programs at USC. The Graduate School also provides academic professional development activities for students across the university.

The Vice Provost for Academic Programs has academic oversight responsibility for all graduate programs at the university. Excellence in graduate and professional education is critically dependent on the exchange of scholarly ideas across a diverse community of faculty and students. The values that characterize these interactions include dedication to excellence, mutual respect, fairness, collegiality, honesty and integrity.

Graduate School Policies and Requirements

Admission

Admission to degree or certificate programs in the Graduate School is processed through the USC Office of Graduate Admission, which receives all applications, evaluates credentials and issues notification letters. Admission to the university, under the standards of the Graduate School, is decided by the appropriate academic department or program. With the exception of a few professional and online programs, only a letter from the Office of Graduate Admission grants official admission to a graduate degree objective in the university. The Graduate School establishes and monitors the standards under which students are admitted for study in degree programs. The following are the basic requirements: (1) a bachelor's degree or its equivalent from a regionally accredited college or university, comparable in standard to that awarded at USC; (2) for international applicants, a valid score on the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Pearson Test of English (PTE); (3) intellectual promise, including evaluation of grade point averages (GPA) that indicates an ability to do acceptable graduate work; and (4) strong personal qualifications.

Credentials and academic records for admission must include a complete set of records of all previous college or university work. For applicants whose previous studies were conducted in a language other than English, the official original language academic records will likely be required in addition to full word-for-word English-language translations. These translations should be provided by either the originating institution or a certified translation service. Academic records must be registrar-issued and not marked unofficial or student-generated.

Applicants are advised that individual departments and programs may establish additional admission standards, such as requiring the submission of the appropriate GRE Subject Test or the submission of academic letters of recommendation directly to the department or program at USC. The applicant should contact the department or program of interest for information on additional required supplementary documents. See the departmental sections of this catalogue or visit the department or program website.

Graduate Record Examinations (GRE)

Applicants will also be asked to provide satisfactory scores on the Graduate Record Examinations (GRE), unless the program has received an exemption reviewed by the GRE Graduate Task Force and approved by the Vice Provost for Academic Programs.

Test scores on the GRE that are more than five years old at the start of the intended first term at USC are not accepted. Students are advised to repeat the GRE if they have not taken the test within five years.

Some programs may require other standardized test scores, such as the GMAT. They may also accept alternate test scores appropriate to the area of study, such as the MCAT. This will be advertised on the program's admissions requirement page.

English Proficiency

Graduate applicants are expected to demonstrate English proficiency as part of the application process. International graduate applicants must submit scores from the TOEFL (Test of English as a Foreign Language), IELTS (International English Language Testing System) or PTE (Pearson Test of English). USC does not set minimum scores for admission purposes. However, meeting university scoring standards is important for placement purposes, and will determine if an admitted international student is exempt from taking the International Student English (ISE) examination. International applicants are exempt from submitting English proficiency scores under certain circumstances. Please see the Graduate Admission website for more details. Official scores must be received electronically from the testing service, and tests must be taken no earlier than two years (24 months) prior to the start of the student's first term at USC.

Deadlines and Notification

The completed application for admission and all required supporting documents should be submitted to the Office of Graduate Admission based on the published deadline for the program of interest.

Some departments and programs only admit graduate students to begin study in the fall semester. Departmental and program deadlines are listed on the department or program websites as well as on the online application for each program. Unless an academic program advertises a different deadline, priority consideration for PhD student funding will be given to those applicants who submit all application materials by December 1. The university will continue to accept and consider graduate applications submitted after December 1.

The Office of Graduate Admission issues all decisions electronically. With the exception of a few professional and online programs, only a letter from the Office of Graduate Admission grants official admission to a degree objective in the university. Correspondence with department chairpersons, program directors or individual faculty members does not constitute admission.

Acceptance with a Degree Objective

Students will be admitted with a specified degree objective. Admission to a degree objective and permission to enroll does not imply that the student is or will be automatically guaranteed the right to continue in a degree program or to be a candidate for an advanced degree.

Exclusions on the Basis of Conduct Violations

Students previously expelled from the university for any reason are barred from re-applying to USC.

Applicants whose applications are found to include false information, falsified documents, and/or fraudulent test scores (collectively, "Fraudulent Applications") prior to receiving a decision

on their application will be summarily denied admission and barred from re-applying to USC. In the case of applicants who are found to have submitted a Fraudulent Application after receiving an offer of admission but prior to the first day of classes, the offer of admission will be revoked and the applicant will be barred from re-applying to USC, regardless of whether or not the applicant has accepted the offer. If the applicant has already paid an enrollment deposit, the deposit will be refunded. In the case of students who have already attended classes at USC, allegations of admissions violations will be reviewed in accordance with the USC Student Handbook.

Classification of Admission Status

Full Graduate Standing

Students who have been accepted for admission, have met all the basic admission requirements and filed all relevant documents with the Office of Graduate Admission are considered admitted to full graduate standing. Occasionally, applicants for admission may lack one of the qualifications listed above or may have difficulty producing appropriate documentation; such students may be enrolled with continuing registration requirements.

Continuing Registration Requirement

Students admitted with continuing registration requirements have not yet met all requirements for admission to full graduate status or have not filed all relevant documents with the Office of Graduate Admission. See the Graduate and Professional Education section for policies governing enrollment as a student with continuing registration requirements. Full graduate student standing is not granted until all registration requirements have been met within the time limit given.

Limited Status Students

Some students may wish to enroll in graduate-level courses for personal satisfaction or professional enhancement without currently seeking a graduate degree. Students may be permitted to enroll with permission from the department or program. Such students should obtain a special Limited Status form from the Office of Academic Records and Registrar at the time of registration. This will permit them to register in the classification of limited status. See the Academic and University Policies section for policies governing limited status enrollment. Limited status enrollment is not to be construed as admission.

Doctoral Admission with Advanced Standing

Students can be admitted with Advanced Standing (entry with an appropriate completed graduate degree from an accredited institution) to all programs in which the PhD degree is conferred by the Graduate School at USC with approval from the Vice Provost for Academic Programs. See the Transfer of Course Work section under Course Work Taken Elsewhere in Graduate and Professional Education for more information.

Advancement to Candidacy

Admission to graduate study does not imply advancement to candidacy for an advanced degree and gives no right or claim to be so admitted. Candidacy is determined after the student has demonstrated the ability to do graduate work with originality, excellence and independence at USC.

General Requirements for Graduate Degrees

The foundation for a master's or doctoral degree is a baccalaureate degree or its equivalent, comparable in standard to that awarded at USC, from a regionally accredited college or university. Many doctoral students will already have received a master's degree. Select doctoral programs at USC may require students to have a master's degree as an admission criteria.

University policies governing unit, grade point average and time limit requirements are stated in the Academic and University Policies section of this catalogue. Graduate students should also consult this section for policies on transfer of credit, concurrent enrollment, continuous enrollment, leaves of absence, readmission, and waiver and substitution of course requirements.

Unit Requirements

The course of study for the master's degree must include at least 24 units in required and elective courses. In addition, students in a program requiring a thesis must register for 4 units of 594ab Master's Thesis.

A minimum of 60 units of course work beyond the baccalaureate is required for the PhD degree, including research courses and 4 units of 794ab Doctoral Dissertation. No more than 8 units of 794 may be received or applied toward the degree.

A minimum of 36 units of course work beyond the first graduate degree, exclusive of 794 Doctoral Dissertation, is required for doctoral degree students admitted with Advanced Standing. Additional course work may be required if deemed necessary by the student's faculty.

Residence

Residence is a period of intensive study completed at USC. For the master's degree a minimum of 20 units of course work applicable toward the degree must be completed on the University Park and/or Health Sciences Campuses and/or at one of the university's approved off-campus study centers.

For the PhD degree, a minimum of 24 units applicable toward the degree, exclusive of 794 Doctoral Dissertation, must be completed on the University Park and/or Health Sciences Campuses. Internships, fieldwork and other off-campus experiences do not count toward residency.

It is not intended that the PhD degree be conferred as a certificate of residence, however faithful or extended, or as a certificate of the satisfaction of unit requirements, which are to be regarded as largely preliminary. It has been found that the scholastic requirements for the degree cannot be completed in less than the equivalent of three full years of work devoted wholly to graduate study and research with appropriate facilities and under university supervision.

Exception to Graduate School Policy

Exceptions to certain policies and procedures governing Graduate School degree programs will be considered by the Vice Provost for Graduate Programs upon the submission of a specific request supported by adequate reasons, information and documentation, if needed. The signatures and recommendation of the faculty adviser or committee chair, the department chair or program director, and, in some cases, the dean of the degree program, are required. Requests must be initiated and submitted on behalf of the student by the department's or program's staff adviser. After training on the Graduate School's online request system, advisers may access the necessary forms through the Graduate School's website.

Academic Warning and Dismissal

Faculty advisers and departments and programs take factors other than satisfactory grades and adequate GPAs into consideration in determining a student's qualifications for an advanced degree. A student's overall academic performance, specific skills and aptitudes, and faculty evaluations will be considered in departmental or program decisions regarding a student's continuation in a master's or doctoral degree program.

Satisfactory progress toward an advanced degree as determined by the faculty is required at all times. Students who fail to make satisfactory progress, will be informed by their department chair, program director, committee chair or school dean. The faculty has the right to recommend at any time after written warning that a student be dismissed from a graduate program for academic reasons or that a student be denied readmission.

General Requirements for Progressive Degree Programs

A progressive degree program enables a USC undergraduate to begin work on a master's degree while completing requirements for the bachelor's degree. The degree may be in the same or different department or program but should be in a similar field of study. See the Graduate and Professional Education section for detailed information.

Departmental Requirements

The requirements and regulations set forth in this portion of the catalogue are to be construed only as minimal requirements established by the Graduate School. In addition, the student is obligated to meet all the requirements established by the individual department or program as described in the departmental sections.

Advisement and Program of Study

Academic advisement of entering graduate students will be provided by a designated faculty member in the student's home department or program. Ideally, during the first semester of graduate enrollment a formal program of study should be developed and agreed upon in writing. This academic plan should include: (1) the sequence of required and elective courses, with a diversity of faculty instruction and a reasonable balance between course work and directed research appropriate for the degree; (2) evaluation of available transfer credit for application toward the degree; and (3) the schedule and procedures for departmental or program evaluation of the student. The program of study should be on file in the student's department or program and may be modified in keeping with the student's progress toward the degree objective. This should become the responsibility of the student's qualifying exam committee when it has been established.

Foreign Language/Research Tool Requirements

Although the Graduate School does not require a foreign language examination, some departments and programs do have specific language requirements for their graduate programs.

The foreign language requirement is determined by the individual departments, programs or schools, subject to approval by the University Committee on Curriculum. For the PhD student, these requirements should be met well in advance of the qualifying examination.

When proficiency in a foreign language or a research tool is required, the evidence attesting to proficiency may not be more than five years old. This regulation applies regardless of the form of the evidence.

For specific information, see Foreign Language/Research Tool Requirement under the appropriate department and program sections of this catalogue.

General Requirements for the Master's Degree

Course Requirements

The Graduate School confers the master's degree upon the satisfactory completion of a carefully planned curriculum. A comprehensive examination or summative experience may replace a thesis in certain departments and programs. A student must enroll in GRSC 810 during the semester in which the comprehensive examination is to be taken if not otherwise enrolled. Consult the appropriate departmental section of this catalogue for specific course requirements.

For those master's degrees not conferred by the Graduate School, the degree-conferring school determines if a thesis, comprehensive exam or other summative experience is required.

When the summative experience is not a thesis or comprehensive examination, the nature of the summative experience needs to be explicitly defined including the method by which the student's performance will be assessed and how the results of that assessment will be recorded. The summative experience requirement will often be satisfied by passing a course designed specifically for this purpose.

See Transfer of Course Work in the Course Work Taken Elsewhere section for the maximum number of units of transferred course work that may be applied toward a master's degree. Except in formally designated dual degree programs, this same policy regulates the number of credits that may be applied toward a master's degree from an advanced degree previously completed at USC.

Master's Committee

The student's master's committee directs the student's program of study and thesis and/or comprehensive examination. The master's committee consists of at least three and no more than five members. At least two of the members must be full-time faculty in the student's home program, and may be tenured, tenure track or RTPC (research, teaching, practice, clinical). The committee chair must have an appointment in the student's program. All committees must have a majority of members from the student's home program. A member may be another faculty member from the student's home program, an outside member from another program at USC, or an external member who is either faculty at another institution or a significant practitioner in the field. If a member is external to USC, the external member's CV must be uploaded with the appointment of committee form.

Application for the Master's Degree

At least one semester preceding the one in which the student expects to receive the degree and prior to registration in 594a Master's Thesis, the student should ask the academic department or program to request an online degree check from Degree Progress. Application is made online by the academic department or program and then transmitted to the Degree Progress Department following approval of the program of studies by the student's home department. Degree Progress will prepare a Degree Audit Report (STARS Report) reflecting course work and requirements completed and those remaining to be met.

Master's Examinations

A student who fails the master's examination may be permitted, at the discretion of the faculty, to take it a second time. The retaking of a failed master's examination must be completed before the end of the second consecutive semester (excluding summer session) following the first examination. Requests for exception must be approved by the department chair or program director. A student may not take the master's examination more than twice and must be appropriately enrolled at USC during the semester in which such an examination is taken or retaken. A student who fails the master's examination a second time may not continue in the degree program after the end of the semester in which the second examination was taken. No exceptions are allowed.

Master's Thesis

The thesis is supervised throughout its preparation by the student's master's committee. It is desirable for the student to have a conference with each committee member promptly following the approval of the topic. Thereafter, thesis work is normally under the immediate supervision of the committee chair. Final acceptance is based upon the unanimous recommendation of all members of the committee.

A student who is required to write a thesis must submit a satisfactory outline and comprehensive bibliography for the proposed thesis and demonstrate a mastery of the subject satisfactory to the master's committee. The student's thesis or master's committee is responsible for the content, adherence to departmental formatting requirements, and bibliographical consistency of the thesis.

During the five-year time limit allowed for completion of the degree and following the completion of all course work, the student must enroll in 594 Master's Thesis for two consecutive semesters and for each semester thereafter, until the thesis has been approved and the approval of the master's thesis form has been signed by the student's master's committee. Registration for the thesis in two semesters is the minimum requirement entitling the student to thesis supervision by the master's committee. No more than 4 units of credit in 594 may be received regardless of the number of semesters the student may be required to be enrolled. Students may not register for more than 2 units of 594 during a given semester; individual exceptions require the approval of the dean of the degree program.

Leave of Absence

Students who find it necessary to be excused from registration in 594 for a semester must request a leave of absence by petition to the dean of the degree program prior to the beginning of the semester. See Leave of Absence in the Financial Aid for Graduate Students section. Approval of the committee chair, department

chair or program director, and dean of the degree program are required. During a leave of absence students will not be entitled to assistance from the master's committee or to the use of university facilities. Considerations for approving a leave of absence include the student's progress to date in meeting the time schedules for the completion of degree requirements.

Final Approval of the Thesis

If a thesis defense is required: After the thesis defense has been completed and after the committee determines that no further changes are required of the thesis manuscript, each committee member electronically certifies on the Approval to Submit Defended and Final Copy of Master's Thesis form that: (1) the defense was appropriately rigorous; (2) the student's thesis is original and represents advanced scholarly work in keeping with the standards of the given field; and (3) the thesis defense process was fair and in keeping with USC's academic and ethical standards. This includes adherence to departmental formatting requirements. No changes can be made to the manuscript's content after the Approval to Submit form is complete. The Approval to Submit form is electronically available through Thesis Center, the Graduate School's online thesis and dissertation processing system.

Master's Thesis Submission

Master's thesis manuscripts must be submitted to Thesis Center on the Graduate School website. Please refer to the Theses and Dissertations section for information on the submission process.

General Requirements for the Doctor of Philosophy Degree

Qualified students will be received as applicants for candidacy for the Doctor of Philosophy degree with a major in departments and programs that are adequately equipped with staff, library and laboratory facilities to furnish the necessary training and opportunities for original research.

Screening Procedures

A screening examination or other procedure designated by the department or program is to be administered before the student has taken more than 24 units (including research courses). Passing this procedure is prerequisite to continuation in the doctoral program. Students who fail the screening procedure will be advised that they are not recommended to continue in the PhD program and that any additional work may not be counted toward the degree. Failure to undertake the screening procedure before completion of 24 units of course work may jeopardize additional units. Ideally, a faculty member will be appointed to serve as the student's adviser until the student establishes an approved qualifying exam committee.

Course Requirements

The subject or field of concentration is called a major. The major is usually a departmental major, although several interdepartmental majors have been authorized.

Undergraduate prerequisite and graduate course work will be required in accordance with the regulations of the major department or program and the recommendation of the student's qualifying exam committee. Consult the appropriate departmental section of this catalogue for specific course requirements.

Appointment of the Qualifying Exam Committee

The qualifying exam committee is responsible for supervising the student's preparation for the exam and for the fair and timely administration and evaluation of the written and oral parts of the examination. The Appointment or Change of Qualifying Exam or Dissertation Committee form, available on the Graduate School website, is used to establish the qualifying exam committee. The form requires the signature of each member of the committee, the department chair or program director, and the dean or dean's designate. The completed form is filed in the student's home department or program.

Qualifying Exam Committee

The qualifying exam committee is composed of five members. The committee chair and at least two additional members must have an appointment in the student's program.

Because the goal of USC PhD programs is to create scholars who will shape their fields in a wide range of settings, the university encourages PhD students to take advantage of the full array of faculty expertise available at USC. This includes the expertise of tenured, tenure track and RTPC (research, teaching, practice, clinical) faculty. A USC faculty member from outside the student's home program is called an "outside member." The committee may also include a faculty member from an institution other than USC, called an "external member."

Any faculty member – external, outside, or from the student's home program – who serves on PhD dissertation and qualifying exam committees must have a professional profile that demonstrates academic impact on the field in significant, measurable ways. The judgment about these qualifications will be made on the basis of hard evidence: for example, peer-reviewed publications in major journals and presses, grant funding, and exceptionally influential practice in a given field, taking into account the person's total career, current stage of career and any changes in performance in a more recent period.

Faculty who are evaluated on the basis of criteria other than those noted above will not normally be considered appropriate members of PhD and qualifying exam committees, except by explicit permission of the Vice Provost for Academic Programs acting on the advice of the dean of the school.

For faculty within the student's home program and external faculty members, qualification to serve will be judged by the dean of the school that houses the student's PhD program. The CV of the external member must be uploaded along with the Appointment of Committee form to Thesis Center and will become part of the official record.

For outside faculty – faculty outside the student's program but internal to USC – the judgment of qualification to serve will be made by the dean of the school of the outside faculty member's primary appointment.

Some schools and programs require "outside members," and others do not. If an outside or external member is required, this must be specified in the program's or school's section in the Catalogue.

Changes in Qualifying Exam Committees

The Appointment or Change of Qualifying Exam or Dissertation Committee form, available on the Graduate School Website, must be completed whenever a change is made in a qualifying exam committee. All such changes must be made in advance of the qualifying examinations. Informal substitutions for either the written or oral parts of the qualifying examination are not permitted. Changes in a qualifying exam committee are not permitted between the written and oral portions of the examination. The examinations must be scheduled at times when it is possible for all members of the committee, including the outside member, to participate. Changes made without the prior approval of the dean of the degree program are not recognized and may result in the invalidation of the examination.

A student may not change committee members after failing the qualifying examination the first time. The student must be reexamined by the same faculty on the same subject matter. If a faculty member is unable to serve on the committee (for example, due to serious illness, retirement or transfer to another institution), the dean of the degree program must be notified in writing in advance of the rescheduled exam in order to approve the change. The faculty replacement must be approved by the dean of the degree program and the student must file a change of committee form well in advance of the exam.

Qualifying Examination

The examination qualifying a student for candidacy for the PhD degree is designed to test the student's fitness to undertake independent research. It is comprehensive in nature and includes both written and oral parts.

Prior to taking the qualifying examination, the student must have met all of the university's and program's requirements for the PhD degree, except the dissertation and successful qualifying exam.

The student must have a GPA of at least 3.0 on all USC course work available for graduate credit and the approval of his or her qualifying exam committee to proceed to the exam. Students with a master's degree in the same or similar field may be approved to take the qualifying examination after the completion of 12 units and successful passage through the screening process. The GPA and qualifying exam committee approval requirements are the same as for students without a prior master's degree in the field of study. If not otherwise enrolled, a student must enroll in GRSC 800a and GRSC 800b Studies for the Qualifying Examination during the semester in which the qualifying examination is to be taken. Students are allowed to enroll in GRSC 800a and GRSC 800b Studies for the Qualifying Examination a maximum of three times, first in GRSC 800a, followed by GRSC 800b and, only if necessary, GRSC 800z.

Because two semesters of preparation for the qualifying examination should suffice in the vast majority of cases, programs with students enrolling in GRSC 800z will be required to get D-clearance from the Graduate School. In addition, the student's program will be expected to issue a warning letter laying out academic expectations and a path toward timely completion of the PhD.

The oral portion of the examination must be completed within 60 days of the submission of the completed written portion to the qualifying exam committee. If the student's written examination is satisfactory, the student may proceed to the oral portion of the exam. If additional material is to be covered in the oral portion, the student should be notified of the content expectations in advance. The oral examination is also administered on campus. For the PhD Qualifying Examination, a maximum of two committee members may participate remotely. Remote participation of a committee member should be indicated in writing on the Report on Qualifying Examination form. If the oral exam is delayed beyond the 60-day limit, the student may need to retake the written exam unless an exception is approved by the Vice Provost for Academic Programs.

There are three possible results of a qualifying exam:

- Pass, and proceed to candidacy based on a positive vote by members of the committee.
- Fail, with the option to retake either specific sections of the exam or the whole exam, at the discretion of the committee. The student may not be required to repeat parts of the qualifying examination that were passed on the first administration. The retaking of a failed qualifying examination or any portion of a qualifying examination must take place between one and six months from the date of the first examination. If not otherwise enrolled, the student must be enrolled in GRSC 800a and GRSC 800b Studies for the Qualifying Examination in the term in which any portion of the exam is repeated.
- Fail, with the result of dismissal from the program.

If the committee concludes that the written portion of the exam is so weak that the oral portion cannot counterbalance the poor performance, the student does not proceed to the oral and the exam is failed. The committee may provide the option of a retake, but is not required to do so. If the committee decides that a retake is not warranted, the student is dismissed from the program.

A student who fails the qualifying exam a second time is automatically dismissed from the program.

Report on the PhD Qualifying Exam

At the conclusion of the qualifying exam, each member of the committee is asked to certify on the Report on the PhD Qualifying Examination that: (1) the exam was appropriately rigorous; (2) the student's performance on the exam was at the doctoral level; and (3) the entire qualifying examination process was fair and in keeping with USC's academic and ethical standards. The Report on the PhD Qualifying Examination is available to graduate advisers on the Graduate School website in myGradSchool.

Advancement to Candidacy

Graduate students are officially advanced to candidacy for the PhD degree when they have completed the residency requirement and passed the written and oral portions of the PhD qualifying examination upon the favorable recommendation of the qualifying exam committee to the Graduate School.

Application for the PhD

After being advanced to candidacy, students must contact their academic department or program to initiate an online degree check that is transmitted to the Degree Progress Department. Degree Progress counselors prepare a Degree Audit Report (STARS Report) for each student listing any remaining requirements. The requirements will not be checked or the degree conferred if the student has not applied.

Dissertation Committee

The dissertation committee is appointed as soon as possible after the qualifying examination has been passed and a dissertation topic approved. The committee should be appointed at least one month before the dissertation defense. The Appointment or Change of Qualifying Exam or Dissertation Committee form, available on the Graduate School website, is used to establish the dissertation committee. The form requires the signatures of each member of the committee, the department chair or program director, and dean or dean's designate. The completed form is filed in the student's home department or program, and a signed copy provided to the student.

The dissertation committee is composed of at least three and no more than five members. The committee chair must have an appointment in the student's program. All committees must have a majority of members from the student's home program.

Because the goal of USC PhD programs is to create scholars who will shape their fields in a wide range of settings, the university encourages PhD students to take advantage of the full array of faculty expertise available at USC. This includes the expertise of tenured, tenure track and RTPC (research, teaching, practitioner, clinical) faculty. A USC faculty member from outside the student's home program is called an "outside member." The committee may also include a faculty member from an institution other than USC, called an "external member."

Any faculty member – external, outside, or from the student's home program – who serves on PhD dissertation and qualifying exam committees must have a professional profile that demonstrates academic impact on the field in significant, measurable ways. The judgment about these qualifications will be made on the basis of hard evidence: for example, peer-reviewed publications in major journals and presses, grant funding, and exceptionally influential practice in a given field, taking into account the person's total career, current stage of career, and any changes in performance in a more recent period.

Faculty who are evaluated on the basis of criteria other than those noted above will not normally be considered appropriate members of PhD and qualifying exam committees, except by explicit permission of the Vice Provost for Academic Programs acting on the advice of the dean of the school.

For faculty within the student's home program and external faculty members, qualification to serve will be judged by the dean of the school that houses the student's PhD program. The CV of the external member must be uploaded along with the appointment of committee form and will become part of the official record.

For outside faculty – faculty outside the student's program but internal to USC – the judgment of qualification to serve will be made by the dean of the school of the outside faculty member's primary appointment.

Some schools and programs require "outside members," and others do not. If an outside or external member is required, this must be specified in the program's or school's section in the Catalogue.

Final Approval of the Dissertation

After the dissertation defense has been completed, and the committee determines that no further changes are required of the dissertation manuscript, each member of the committee electronically certifies on the Approval to Submit Defended and Final Copy of Doctoral Dissertation that: (1) the defense was

appropriately rigorous; (2) the student's dissertation makes an original and substantial contribution to its field of study; and (3) the defense process was fair and in keeping with USC's academic and ethical standards. This includes adherence to departmental formatting requirements. No changes can be made to the manuscript's content after the Approval to Submit form is complete. The Approval to Submit form is electronically available through Thesis Center, the Graduate School's online thesis and dissertation processing system.

The committee must unanimously agree in order for the student to pass the defense.

Doctoral Dissertation

A dissertation is an original contribution to current knowledge in the field and a demonstration that the PhD candidate has achieved sufficient mastery in the field to pursue independent research and scholarship. A dissertation represents the individual candidate's research and writing. In fields where collaborative research has become the norm, the candidate is the sole author of the dissertation. Candidates must specify their contribution to the research and delineate colleagues' contributions.

Dissertations are expected to be written in English. Exceptions require the approval of the Vice Provost for Academic Programs or his or her designee prior to beginning the work and will be granted only when there is strong scholarly justification.

The student is expected to be enrolled in 794 Doctoral Dissertation each semester, except summer sessions, after admission to candidacy until all degree requirements are completed. Registration for 794 for the two semesters (excluding summer sessions) immediately following admission to candidacy is the minimum requirement entitling the candidate to dissertation supervision by the dissertation committee. Enrollment in 794 prior to admission to candidacy is not permitted and such registration is invalid. If the dissertation is not completed and accepted within two semesters the candidate must continue to register for 794 each semester thereafter until the dissertation has been approved and the approval of the PhD dissertation has been signed by the dissertation committee. Students are expected to complete and defend their dissertation in less than five semesters of 794. Students may enroll in 794 during one summer session but may not register for more than 2 units of 794 during a given semester; individual exceptions require the approval of the dean of the degree program. No more than 8 units of credit in 794 may be received, regardless of the number of semesters in which the candidate enrolls. Department or program approval is required for registration in 794.

Leave of Absence

A candidate who finds it necessary to be excused from registration in 794 for a semester must request a leave of absence by petition to the dean of the program of study prior to the beginning of the semester. See Leave of Absence in the Financial Aid for Graduate Students section. Endorsements from the dissertation committee chair and department chair or program director are required. During a leave of absence the candidate will not be entitled to assistance from the dissertation committee or to the use of university facilities. Considerations for approving a leave of absence include the student's progress to date in meeting the time schedules for the completion of degree requirements.

See the USC Policy website for more information about the Student Health Leave of Absence.

Defense of the Dissertation

After passing all required courses and the qualifying examination, and after meeting all other requirements, the candidate must write and defend the dissertation. The doctoral dissertation must be an original contribution to scholarship or scientific knowledge and must exemplify the high degree of scholarly advancement and power of investigation demanded by the university for final recommendation to the doctorate. The dissertation defense is the culminating activity in the assessment of whether this standard has been met.

While the oral examination is open to the general university community, only the members of the dissertation committee have the authority to recommend acceptance of the dissertation. Their recommendation must be unanimous. For the dissertation defense, one committee member may participate remotely. The committee chair and the student must be present, unless the relevant dean and the Vice Provost for Academic Programs provide express written permission for remote participation. Members who participate remotely will be noted on the dissertation Approval to Submit forms.

If the defense is satisfactory, the committee signs the electronic Approval to Submit Defended and Final Copy of Dissertation form. If additional work is required, the electronic form must be signed only after full completion. Departments and programs differ concerning the time of the defense of the dissertation. The student's dissertation committee is responsible for the content, adherence to departmental formatting requirements, and bibliographical consistency of the dissertation.

Dissertation Submission

Doctoral dissertation manuscripts must be submitted to Thesis Center on the Graduate School website. Refer to the Theses and Dissertations section for more information on the submission process.

Theses and Dissertations

Submission of Theses and Dissertations

Required documentation is electronically submitted to the Graduate School through Thesis Center, the Graduate School's online thesis and dissertation processing system, available on the Graduate School website. All documentation must be submitted by the deadline date and time. Documents are reviewed by the academic services coordinator. When the documentation is determined to be complete, the candidate is cleared to electronically submit the dissertation manuscript.

Required documentation for doctoral students includes: 1) the electronic "Approval to Submit Defended and Final Copy of Doctoral Work" form (also called the "Approval to Submit" form); 2) the "Appointment or Change of Qualifying Exam or Dissertation Committee" form and; 3) the electronic Certificate of Completion of the Survey of Earned Doctorates.

For master's students, required documentation includes: 1) the "Approval to Submit Final Copy of Master's Thesis" form and 2) the "Appointment or Change of Master's Committee" form.

The "Appointment or Change of Qualifying Exam or Dissertation Committee" form, and the electronic Certificate of Completion of the Survey of Earned Doctorates, required for doctoral students, are submitted as PDFs. The "Approval to Submit Defended and Final Copy of Doctoral Work" form is electronically available through Thesis Center.

Thesis/dissertation manuscripts may only be submitted after the required documentation has been submitted and reviewed. Required documentation and thesis/dissertation manuscripts are reviewed in the order received. Students have three months from the date the committee chair signs the "Approval to Submit" form to complete any required formatting corrections to Thesis Center.

Early Submission Option: Students who submit the necessary documentation according to the deadlines on the Thesis Center website will be exempt from the requirement to register for 594 or 794 in that semester. Otherwise, to maintain continuous enrollment, student must register for 594 or 794. International students considering the Early Submission Option should check with the Office of International Services to ensure the lack of course registration will not affect their visa status.

Acceptance by the University

The university must accept all theses and dissertations in an approved, final and electronic form before the degree can be conferred. The student's committee must have approved all documents before submission to the Graduate School. The student remains in contact with the Graduate School during the corrections process. Thesis manuscripts must be submitted to the

Graduate School through Thesis Center on the Graduate School website.

At the time of submission, all manuscripts should be formatted and edited according to the style determined by the student's department or program.

If the formatting of the manuscript requires corrections, the student makes the corrections and uploads a revised PDF of the manuscript for approval by the academic services coordinator. All revised manuscripts are processed in the order received.

After a manuscript has been approved by the academic services coordinator, the student uploads an identical copy of the final PDF of the manuscript to the USC Libraries.

Schedule of Deadlines

The Graduate School provides a schedule of specific dates for completing the thesis or dissertation submission for the student to qualify for graduation in the corresponding semester. These dates are published on the Graduate School website. Regardless of the date of submission, students must submit complete documentation and finish all corrections to the manuscript before the degree can be conferred. Upon completion of all requirements, the official USC transcript will serve as evidence of the degree until the diploma is received.

Publication

All theses and dissertations will be made available via the USC Libraries.

Thesis/Dissertation Fees

The doctoral candidate's fee of $115 covers USC Libraries and Graduate School processing fees. The master's candidate's fee of $105 covers USC Libraries and Graduate School processing fees. The fees are assessed by the academic services coordinator after the required documentation has been submitted, and the charges appear on the student's account.

Programs, Minors and Certificates

The programs marked with an asterisk fall under the jurisdiction of the Dornsife College of Letters, Arts and Sciences.

Bachelor's Degree

- Accounting (BS)
- Acting for the Stage, Screen and New Media (BFA)
- Aerospace Engineering (BS)
- American Popular Culture (BA)
- American Studies and Ethnicity (African American Studies) (BA)
- American Studies and Ethnicity (Asian American Studies) (BA)
- American Studies and Ethnicity (BA)
- American Studies and Ethnicity (Chicano/Latino Studies) (BA)
- Animation and Digital Arts (BA)*
- Animation and Digital Arts (BFA)
- Anthropology (BA)
- Anthropology (Visual Anthropology) (BA)
- Applied and Computational Mathematics (BA)
- Applied and Computational Mathematics (BS)
- Applied Mechanics (BS)
- Archaeology (BA)
- Architectural Studies (BS)
- Architecture (BArch)
- Art (BA)*
- Art History (BA)
- Arts, Technology and the Business of Innovation (BS)
- Astronautical Engineering (BS)
- Astronomy (BA)
- Astronomy (BS)
- Biochemistry (BS)
- Biological Sciences (BA)
- Biological Sciences (BS)
- Biomedical Engineering (BS)
- Biomedical Engineering, Electrical Engineering Emphasis, (BS)
- Biomedical Engineering, Mechanical Engineering Emphasis, (BS)
- Biomedical Engineering, Molecular and Cellular Engineering Emphasis, (BS)
- Biopharmaceutical Sciences (BA)
- Biopharmaceutical Sciences (BS)
- Biophysics (BS)
- Business Administration (BS)
- Business Administration (Business Analytics) (BS)
- Business Administration (Cinematic Arts) (BS)
- Business Administration (Communication) (BS)
- Business Administration (Entrepreneurship and Innovation) (BS)
- Business Administration (Finance) (BS)
- Business Administration (International Relations) (BS)
- Business Administration (Leadership and Innovation) (BS)
- Business Administration (Marketing) (BS)
- Business Administration (Real Estate Finance) (BS)
- Business Administration (Risk Management) (BS)
- Business Administration (World Program) (BS)
- Central European Studies (BA)
- Chemical Engineering (BS)
- Chemical Engineering, Biochemical Engineering Emphasis (BS)
- Chemical Engineering, Environmental Engineering Emphasis (BS)
- Chemical Engineering, Nanotechnology Emphasis (BS)
- Chemical Engineering, Petroleum Engineering Emphasis (BS)
- Chemical Engineering, Polymer/Materials Science Emphasis (BS)
- Chemical Engineering, Sustainable Energy Emphasis (BS)
- Chemistry (BA)
- Chemistry (BS)
- Chemistry (Chemical Biology) (BS)
- Chemistry (Chemical Nanoscience) (BS)
- Chemistry (Research) (BS)
- Choral Music (BA)*
- Choral Music (BM)
- Cinema and Media Studies (BA)*
- Cinematic Arts, Film and Television Production (BA)*
- Cinematic Arts, Film and Television Production (BFA)
- Civil Engineering (BS)
- Civil Engineering, Building Science Emphasis (BS)
- Civil Engineering, Construction Engineering and Management Emphasis (BS)
- Civil Engineering, Environmental Engineering Emphasis (BS)
- Civil Engineering, Structural Engineering Emphasis (BS)
- Civil Engineering, Water Resources Engineering Emphasis (BS)
- Classics (BA)
- Cognitive Science (BA)
- Communication (BA)*
- Comparative Literature (BA)
- Composition (BM)
- Computational Linguistics (BS)
- Computational Neuroscience (BS)
- Computer Engineering and Computer Science (BS)
- Computer Science (BS)
- Computer Science Games (BS)
- Computer Science/Business Administration (BS)
- Contemporary Latino and Latin American Studies (BA)
- Dance (BFA)
- Data Science (BA)*
- Design (BFA)

- Earth Sciences (BA)
- East Asian Area Studies (BA)
- East Asian Languages and Cultures (BA)
- Economics (BA)
- Economics and Data Science (BS)
- Electrical and Computer Engineering (BS)
- English (BA)
- Environmental Engineering (BS)
- Environmental Science and Health (BA)
- Environmental Science and Health (BS)
- Environmental Studies (BA)
- Environmental Studies (BS)
- Fine Arts (BFA)
- French (BA)
- Game Art (BFA)
- Gender and Sexuality Studies (BA)
- Geodesign (BS)
- Geological Sciences (BS)
- Global Geodesign (BS)
- Global Health Studies (BS)
- Global Studies (BA)
- Health and Human Sciences (BA)
- Health and Humanity (BA)
- Health Promotion and Disease Prevention Studies (BS)
- History (BA)
- History and Social Science Education (BA)
- Human Biology (BA)
- Human Biology (BS)
- Human Development and Aging (BS)
- Human Development and Aging, Health Science Track (BS)
- Human Development and Aging, Honors Programs (BS)
- Human Security and Geospatial Intelligence (BS)
- Industrial and Systems Engineering (BS)
- Intelligence and Cyber Operations (BA)
- Interactive Entertainment (BA)*
- International Relations (BA)
- International Relations (Global Business) (BA)
- International Relations and the Global Economy (BA)
- Italian (BA)
- Jazz Studies (BM)
- Jewish Studies (BA)
- Journalism (BA)*
- Latin American and Iberian Cultures, Media and Politics
- Law, History, and Culture (BA)
- Lifespan Health (BS)
- Linguistics (BA)
- Linguistics and Cognitive Science (BA)
- Mathematics (BA)
- Mathematics (BS)
- Mechanical Engineering (BS)
- Mechanical Engineering, Petroleum Engineering (BS)
- Media Arts and Practice (BA)*
- Middle East Studies (BA)
- Music (BA)*
- Music Industry (BM)
- Music Industry (BS)
- Music Production (BM)
- Musical Theatre (BFA)
- Narrative Studies (BA)
- Neuroscience (BA)
- Neuroscience (BS)
- Non-Governmental Organizations and Social Change (BA)
- Occupational Therapy (BS)
- Performance (Classical Guitar) (BM)
- Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion) (BM)
- Performance (Organ) (BM)
- Performance (Piano) (BM)
- Performance (Popular Music) (BM)
- Performance (Studio Guitar) (BM)
- Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp) (BM)
- Performance (Vocal Arts) (BM)
- Pharmacology and Drug Development (BA)
- Pharmacology and Drug Development (BS)
- Philosophy (BA)
- Philosophy and Physics (BA)
- Philosophy, Politics and Economics (BA)
- Philosophy, Politics and Law (BA)
- Physical Sciences (BS)
- Physical Sciences (BS)
- Physics (BA)
- Physics (BS)
- Physics/Computer Science (BS)
- Political Economy (BA)
- Political Science (BA)
- Psychology (BA)
- Public Policy (BS)
- Public Relations (BA)*
- Quantitative Biology (BS)
- Real Estate Development (BS)
- Religion (BA)
- Russian (BA)
- Social Sciences, with an Emphasis in Economics (BA)
- Social Sciences, with an Emphasis in Psychology (BA)
- Sociology (BA)
- Spanish (BA)
- Theatre (BA)*
- Theatre, Acting Emphasis (BA)*
- Theatre, Comedy Emphasis (BA)*
- Theatre, Design Emphasis (BA)*
- Theatre, Design Emphasis (BFA)
- Theatre, Sound Design Emphasis (BFA)
- Theatre, Stage Management Emphasis (BFA)
- Theatre, Technical Direction Emphasis (BFA)
- Urban Studies and Planning (BS)
- Visual and Performing Arts Studies (BA)*
- Writing for Screen and Television (BFA)

Combined Major

- Economics/Mathematics (BS)
- Linguistics and East Asian Languages and Cultures (BA)
- Linguistics and Philosophy (BA)
- Mathematics/Economics (BS)

Undergraduate Certificate

- Food Industry Management Program

Minor

- 3-D Animation in Cinematic Arts Minor
- 3-Dimensional Design Minor
- 3D Computer Graphics and Modeling Minor
- Accounting Minor
- Addiction Science Minor
- Advertising Minor
- American Popular Culture Minor
- American Studies and Ethnicity Minor
- Animation and Digital Arts Minor
- Applied Analytics Minor
- Applied Computer Security Minor
- Arabic Minor
- Archaeology Minor
- Archaeology of California Minor
- Architecture Minor
- Art History Minor
- Astronautical Engineering Minor
- Astronomy Minor
- Behavioral Economics Minor
- Biology of Human Movement Minor
- Biopharmaceutical Business Minor
- Biotechnology Minor

- Blockchain Minor
- Business Economics Minor
- Business Finance Minor
- Business Law Minor
- Business Minor
- Business Technology Fusion Minor
- Ceramics Minor
- Chemistry Minor
- Chinese for the Professions Minor
- Choreography for Stage and Screen Minor
- Cinema-Television for the Health Professions Minor
- Cinematic Arts Minor
- Classical Greek Minor
- Classical Perspectives Minor
- Classics Minor
- Cloud Computing with DevOps Minor
- Comedy (Performance) Minor
- Comedy Minor
- Communication Design Minor
- Communication Policy and Law Minor
- Communication Technology Practices and Platforms Minor
- Comparative Literature Minor
- Computational Biology and Bioinformatics Minor
- Computer and Digital Forensics Minor
- Computer Programming Minor
- Computer Science Minor
- Connected Devices and Making Minor
- Construction Planning and Management Minor
- Construction Planning and Management Minor (Public Policy)
- Consumer Behavior Interdisciplinary Minor
- Consumer Behavior Minor
- Contemplative Studies Minor
- Craniofacial and Dental Technology Minor
- Critical Approaches to Leadership Minor
- Cultural Anthropology Minor
- Cultural Competence in Medicine Minor
- Cultural Diplomacy Minor
- Cultural Studies Minor
- Culture, Media and Entertainment Minor
- Cultures and Politics of the Pacific Rim Minor
- Customer Analytics Minor
- Dance in Entertainment Minor
- Dance Minor
- Designing for Digital Experiences Minor
- Designing for Live Experiences Minor
- Designing Multimedia Experiences Minor
- Designing Products Minor
- Digital Studies Minor
- Disruptive Innovation Minor
- Documentary Minor
- Drawing Minor
- Dynamics in Workplace Communication Minor
- Early Modern Studies Interdisciplinary Minor
- Earth Sciences Minor: Climate Change, Stewardship and Resiliency
- East Asian Area Studies Minor
- East Asian Languages and Cultures Minor
- Economics Minor
- Education and Computing Minor
- Education and Society Minor
- Education Policy Minor
- Engineering Management Minor
- English Minor
- Enterprise Information Systems Minor
- Entertainment Industry Minor
- Entrepreneurship Minor
- Environmental Chemistry and Sustainability Minor
- Environmental Health Minor
- Environmental Studies Minor
- Folklore and Popular Culture Minor
- Food and Society Minor
- Forensics and Criminality Minor
- Foundation in Regulatory Sciences Minor
- Foundations of Data Science Minor
- French Minor
- Future Cinema Minor
- Game Animation Minor
- Game Audio Minor
- Game Design Minor
- Game Entrepreneurism Minor
- Game Studies Minor
- Game User Research Minor
- Gender and Sexuality Studies Minor
- Gender and Social Justice Minor
- Geobiology Minor
- Geohazards Minor
- German Studies Minor
- GIS and Sustainability Science Minor
- Global Communication Minor
- Global Health Minor
- Health Administration Minor
- Health Care Studies Minor
- Health Communication Minor
- Health Innovation Minor
- Health Policy Minor
- Hip Hop, Street and Social Dance Forms Minor
- History and Culture of Business Minor
- History Minor
- Human Disease Minor
- Human Resource Management Minor
- Human Rights Minor
- Human Security and Geospatial Intelligence Minor
- Immersive Media Minor
- Individuals, Societies and Aging Minor
- Innovation: The Digital Entrepreneur Minor
- Intermedia Arts Minor
- International Health, Development, and Social Justice Interdisciplinary Minor
- International Policy and Management Minor
- International Relations Minor
- Internet of Things Engineering Minor
- Iranian Studies Minor
- Italian Minor
- Jazz Studies Minor
- Jewish American Studies Minor (American Studies)
- Jewish American Studies Minor (Jewish Studies)
- Jewish Studies Minor
- Judaic Studies Minor
- Justice, Voice, and Advocacy Minor
- Korean Studies Minor
- Landscape Architecture Minor
- Latin American Studies Minor
- Latin Minor
- Law and Migration Studies Minor
- Law and Public Policy Minor
- Law and Social Justice Minor
- Law and Society Minor
- Legal Studies Minor
- LGBTQ Studies Minor
- Linguistics Minor
- Luso-Brazilian Studies Minor
- Management Consulting Minor
- Managing Human Relations Minor
- Marine Biology Minor
- Marketing Minor
- Mathematical Data Analytics Minor
- Mathematical Finance Minor
- Mathematics Education Minor
- Mathematics Minor
- Media and Social Change Minor
- Media Economics and Entrepreneurship Minor
- Medical Anthropology Minor

- Middle East Studies Minor
- Mobile App Development Minor
- Modern Art Markets and Ethics Minor
- Multilingualism and Multiculturalism Minor
- Music Industry Minor
- Music Production Minor
- Music Recording Minor
- Musical Studies Minor
- Musical Theatre Minor
- Nanotechnology Minor
- Native American Studies Minor
- Natural Science Minor
- Neuroscience Minor
- News and Information Innovation Minor
- News Media and Society Minor
- Nonprofits, Philanthropy and Volunteerism Interdisciplinary Minor
- Nonprofits, Philanthropy and Volunteerism Minor
- Nutrition and Health Promotion Minor
- Occupational Science Minor
- Operations and Supply Chain Management Minor
- Organizational Leadership and Management Minor
- Painting Minor
- Performance Art Minor
- Performance Science Minor
- Performing Arts Studies Minor
- Performing Leadership Minor
- Performing Social Change Minor
- Petroleum Engineering Minor
- Philosophy Minor
- Philosophy of Law, Politics and Economics Minor
- Photography and Social Change Minor
- Photography Minor
- Physics Minor
- Playwriting Minor
- Podcasting Minor
- Political Organizing in the Digital Age Minor
- Political Science Minor
- Popular Music Studies Minor
- Practical Politics Minor
- Professional and Managerial Communication Minor
- Psychology and Law Minor
- Psychology Minor
- Public Health Minor
- Public Relations Minor
- Race, Ethnicity and Politics Minor
- Real Estate Development Minor
- Real Estate Finance Minor
- Religion Minor
- Resistance to Genocide Interdisciplinary Minor
- Risk Management Minor
- Russian Area Studies Minor
- Russian Minor
- Science and Management of Biomedical Therapeutics Minor
- Science Visualization Minor
- Science, Health and Aging Minor
- Screenwriting Minor
- Sculpture Minor
- Social Entrepreneurship Minor
- Social Work and Juvenile Justice Minor
- Sociology Minor
- Songwriting Minor
- Southeast Asia and its People Minor
- Spanish Minor
- Spatial Studies Minor
- Speech-Language and Hearing Professions Minor
- Sports Business and Management Minor
- Sports Media Industries Minor
- Sports Media Studies Minor
- Statistics Minor
- Substance Abuse Prevention Minor
- Teaching English to Speakers of Other Languages (TESOL) Minor
- Technical Game Art Minor
- Technology Commercialization Minor
- The Dynamics of Early Childhood Minor
- Theatre Minor
- Thematic Approaches to Humanities and Society Minor
- Themed Entertainment Minor
- Two-Dimensional Studies Minor
- Urban Sustainable Planning Minor
- User Experience Minor
- Video Game Design and Management Minor
- Video Game Programming Minor
- Visual Culture Minor
- Visual Narrative Art Minor
- Web Technologies and Applications Minor

Interdisciplinary Minors

- Narrative Structure Interdisciplinary Minor

Joint Degree

- Communication Data Science Dual Degree with Tsinghua University School of Journalism and Communication (MS)
- Computer Science Dual Degree with Tsinghua University School of Information Science and Technology (MS)
- Pharmaceutical Economics and Policy (PhD)

Diploma

- Artist Diploma Program

Master of Business Administration

- Executive MBA Program
- Full-time MBA Program
- International Management Science (STEM) MBA Program
- International MBA Program
- Management Science (STEM) MBA Program
- MBA Program for Professionals and Managers
- Online MBA Program

MBA Dual Degree Programs

- Juris Doctor/Master of Business Administration (JD/MBA)
- Master of Business Administration/Doctor of Medicine (MBA/MD)
- Master of Business Administration/Doctor of Pharmacy (MBA/PharmD)
- Master of Business Administration/Master of Arts in East Asian Area Studies (MBA/MA)
- Master of Business Administration/Master of Arts in Jewish Nonprofit Management (MBA/MA)
- Master of Business Administration/Master of Real Estate Development (MBA/MRED)
- Master of Business Administration/Master of Science in Gerontology (MBA/MS)
- Master of Business Administration/Master of Science in Industrial and Systems Engineering (MBA/MS)
- Master of Business Administration/Master of Science, Systems Architecting and Engineering (MBA/MS)
- Master of Business Administration/Master of Social Work (MBA/MSW)
- Master of Business Administration/Master of Urban Planning (MBA/MUP)

Master's Degree

- Academic Medicine (MACM)
- Accounting (Data and Analytics) (MAcc)
- Accounting (MAcc)
- Advanced Architectural Research Studies (City Design and Housing) (MAARS)
- Advanced Architectural Research Studies (Performative Design and Technology) (MAARS)
- Advanced Architectural Studies (MAAS)
- Advanced Orofacial Pain and Oral Medicine (MS)

- Advanced Placement Gerontology (MS)
- Aerospace and Mechanical Engineering (Computational Fluid and Solid Mechanics) (MS)
- Aerospace and Mechanical Engineering (Dynamics and Control) (MS)
- Aerospace Engineering (MS)
- Aerospace Engineering/Engineering Management (MS)
- Aging Services Management (MA)
- Alternative Certification Master of Arts in Teaching, Multiple Subject
- Alternative Certification Master of Arts in Teaching, Single Subject
- Alternative Dispute Resolution (LLM)
- Analytics (MS)
- Animation and Digital Arts (MFA)
- Anthropology (MA)
- Applied Behavior Analysis (MS)
- Applied Biostatistics/Epidemiology (MS)
- Applied Data Science (MS)
- Applied Economics and Econometrics (MS)
- Applied Mathematics (MA)
- Applied Mathematics (MS)
- Applied Physics (MS)
- Applied Psychology (MS)
- Applied Technology and Aging (MS)
- Applied Theatre Arts (MA)
- Architecture (MArch)
- Art History (MA)
- Arts Leadership (MS)
- Astronautical Engineering (MS)
- Biochemistry and Molecular Medicine (MS)
- Biokinesiology (MS)
- Biokinesiology (Sports Science) (MS)
- Biology (MS)
- Biomaterials and Digital Dentistry (MS)
- Biomedical Data Analytics (MS)
- Biomedical Engineering (Medical Imaging and Imaging Informatics) (MS)
- Biomedical Engineering (MS)
- Biomedical Implants and Tissue Engineering (MS)
- Biomedical Sciences (MS)
- Biopharmaceutical Marketing (MS)
- Biostatistics (MS)
- Building Science (MBS)
- Business Administration (MS)
- Business Analytics (MS)
- Business for Veterans (MBV)
- Business Research (MS)
- Business Taxation (Data and Analytics) (MBT)
- Business Taxation (MBT)
- Business Taxation for Working Professionals (MBT)
- Chemical Engineering (MS)
- Choral Music (MM)
- Cinema and Media Studies (MA)
- Cinematic Arts (Media Arts, Games and Health) (MA)
- Cinematic Arts, Film and Television Production (MFA)
- Civil Engineering (Advanced Design and Construction Technology) (MS)
- Civil Engineering (MS)
- Civil Engineering (Transportation Systems) (MS)
- Civil Engineering (Water and Waste Management) (MS)
- Classics (MA)
- Clinical and Experimental Therapeutics (MS)
- Clinical, Biomedical and Translational Investigations (MS)
- Communication (MA)
- Communication Data Science (MS)
- Communication Management (MCG)
- Community Music (MM)
- Community Oral Health (MS)
- Comparative Law (MCL)
- Comparative Studies in Literature and Culture (Comparative Literature) (MA)
- Comparative Studies in Literature and Culture (Comparative Media and Culture) (MA)
- Comparative Studies in Literature and Culture (French and Francophone Studies) (MA)
- Comparative Studies in Literature and Culture (Spanish and Latin American Studies) (MA)
- Composition (MM)
- Computational Molecular Biology (MS)
- Computational Psychology (MS)
- Computer Engineering (MS)
- Computer Science (Artificial Intelligence) (MS)
- Computer Science (Computer Networks) (MS)
- Computer Science (Computer Security) (MS)
- Computer Science (Data Science) (MS)
- Computer Science (Game Development) (MS)
- Computer Science (High Performance Computing and Simulations) (MS)
- Computer Science (Intelligent Robotics) (MS)
- Computer Science (MS)
- Computer Science (Multimedia and Creative Technologies) (MS)
- Computer Science (Scientists and Engineers) (MS)
- Computer Science (Software Engineering) (MS)
- Conducting (MM)
- Construction Management (MCM)
- Contemporary Teaching Practice (MM)
- Craniofacial Biology (MS)
- Criminal Justice (MS)
- Curatorial Practices and the Public Sphere (MA)
- Cyber Security Engineering (MS)
- Design (MFA)
- Digital Media Management (MS)
- Digital Social Media (MS)
- Dispute Resolution (MDR)
- Dollinger Master of Real Estate Development (MRED)
- Early Music Performance Emphasis (MA)
- East Asian Area Studies (MA)
- East Asian Languages and Cultures (MA)
- Economics (MA)
- Educational Counseling (MEd)
- Electrical and Computer Engineering (Analog, Mixed-Signal and Radio-frequency Integrated Circuits) (MS)
- Electrical and Computer Engineering (Machine Learning and Data Science) (MS)
- Electrical Engineering (Computer Architecture) (MS)
- Electrical Engineering (Computer Networks) (MS)
- Electrical Engineering (Electric Power) (MS)
- Electrical Engineering (MS)
- Electrical Engineering (VLSI Design) (MS)
- Electrical Engineering (Wireless Health Technology) (MS)
- Electrical Engineering (Wireless Networks) (MS)
- Electrical Engineering/Engineering Management (MS)
- Engineering Management (MS)
- English (MA)
- Enrollment Management and Policy (MEd)
- Entrepreneurship and Innovation (MS)
- Environmental Data Science (MS)
- Environmental Engineering (MS)
- Environmental Risk Analysis (MS)
- Environmental Studies (MA)
- Experimental and Molecular Pathology (MS)
- Finance (MS)
- Financial Engineering (MS)
- Fine Arts (MFA)
- Food Industry Leadership (MS)
- Foodservice Management and Dietetics (MA)
- Geographic Information Science and Technology (MS)
- Geological Sciences (MS)

- Geriatric Dentistry (MS)
- Gerontology (MA)
- Gerontology (MS)
- Global Communication (MA)
- Global Medicine (MS)
- Global Security Studies (MA)
- Global Supply Chain Management (On-Campus/Residential) (MS)
- Global Supply Chain Management for Executives (MS) (Online)
- Green Technologies (MS)
- Health Administration (Executive MHA)
- Health Administration (MHA)
- Health Systems Management Engineering (MS)
- Healthcare Data Science (MS)
- Healthcare Decision Analysis (MS)
- Heritage Conservation (MHC)
- History (MA)
- Hospitality and Tourism (MS)
- Human Resource Management (MS)
- Human Security and Geospatial Intelligence (MS)
- Industrial and Systems Engineering (MS)
- Integrated Design, Business and Technology (MS)
- Integrative Anatomical Sciences (MS)
- Interactive Media (Games and Health) (MFA)
- Interactive Media (MFA)
- International Business and Economic Law (LLM)
- International Public Policy and Management (IPPM)
- International Relations (MA)
- International Trade Law and Economics (MITLE)
- Jazz Studies (MM)
- Journalism (MS)
- Landscape Architecture (MLArch)
- Leadership (Executive ML)
- Learning Design and Technology (MEd)
- Library and Information Science (MMLIS)
- Lifespan, Nutrition and Dietetics (MS)
- Linguistics (MA)
- Literary Editing and Publishing (MA)
- Long Term Care Administration (MA)
- Management of Drug Development (MS)
- Management Studies (MMS)
- Manufacturing Engineering (MS)
- Marine and Environmental Biology (MS)
- Marketing (Marketing Analytics) (MS)
- Marketing (MS)
- Marriage and Family Therapy (MS)
- Master of Laws (LLM)
- Master of Public Administration with Seoul National University
- Master of Studies in Law (MSL)
- Materials Engineering (Machine Learning) (MS)
- Materials Engineering (MS)
- Materials Science (MS)
- Mathematical Finance (MS)
- Mathematics (MA)
- Mechanical Engineering (Energy Conversion) (MS)
- Mechanical Engineering (MS)
- Mechanical Engineering (Nuclear Power) (MS)
- Mechanical Engineering/Engineering Management (MS)
- Medical Device and Diagnostic Engineering (MS)
- Medical Gerontology (MA)
- Medical Physiology (MS)
- Medical Product Quality (MS)
- Molecular and Computational Biology (MS)
- Molecular Epidemiology (MS)
- Molecular Genetics and Biochemistry (MS)
- Molecular Microbiology and Immunology (MS)
- Molecular Pharmacology and Toxicology (MS)
- Multiple Subject (MAT)
- Music History and Literature Emphasis (MA)
- Music Industry (MS)
- Narrative Medicine (MS)
- Neuroimaging and Informatics (MS)
- Neuroscience (MS)
- Nonprofit Leadership and Management (MNLM)
- Nursing, Family Nurse Practitioner (MSN-FNP)
- Nutrition, Healthspan and Longevity (MS)
- Nutritional Science (MS)
- Occupational Therapy (MA)
- Ocean Sciences (MS)
- Online MA in Occupational Science and Occupational Therapy
- Operations Research Engineering (MS)
- Pain Medicine (MPM)
- Performance (Classical Guitar) (MM)
- Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion) (MM)
- Performance (Keyboard Collaborative Arts) (MM)
- Performance (Organ) (MM)
- Performance (Piano) (MM)
- Performance (Studio Guitar) (MM)
- Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp) (MM)
- Performance (Vocal Arts) (MM)
- Petroleum Engineering (Digital Oilfield Technologies) (MS)
- Petroleum Engineering (Geoscience Technologies) (MS)
- Petroleum Engineering (MS)
- Pharmaceutical Economics and Policy (MS)
- Pharmaceutical Sciences (MS)
- Philosophy (MA)
- Philosophy and Law (MA)
- Physical Biology (MS)
- Physician Assistant Practice (MPAP)
- Physics (MA)
- Physics (MS)
- Planning and Development Studies (MPDS)
- Political Science and International Relations (MA)
- Population, Health and Place (MS)
- Postsecondary Administration and Student Affairs (MEd)
- Privacy Law and Cybersecurity (LLM)
- Producing for Film, Television, and New Media (MFA)
- Product Development Engineering (MS)
- Product Innovation (MS)
- Project Management (MS)
- Psychology (MA)
- Public Administration (MPA)
- Public Diplomacy (MPD)
- Public Diplomacy (Practitioner and Mid-Career Professional) (MPD)
- Public Health (MPH)
- Public Health (MPH) (Online)
- Public Health Data Science (MS)
- Public Policy (MPP)
- Public Policy Data Science (MS)
- Public Relations and Advertising (MA)
- Quantitative and Computational Biology (MS)
- Quantum Information Science (MS)
- Regulatory Management (MS)
- Regulatory Science (MS)
- Sacred Music (MM)
- School Counseling (MEd)
- School Leadership (MEd)
- Screen Scoring (MM)
- Senior Living Hospitality (MA)
- Single Subject (MAT)
- Social Entrepreneurship (MS)
- Social Work (MSW)
- Spatial Data Science (MS)
- Spatial Economics and Data Analysis (MS)
- Specialized Journalism (MA)
- Specialized Journalism (The Arts) (MA)

- Speech-Language Pathology (MS)
- Statistics (MS)
- Stem Cell Biology and Regenerative Medicine (MS)
- Stem Cell Biology and Regenerative Medicine with Research Year (MS)
- Systems Architecting and Engineering (MS)
- Teaching and Learning (MM)
- Teaching English to Speakers of Other Languages (World Masters in Language Teaching) (MAT)
- Teaching, Teaching English to Speakers of Other Languages (MAT)
- Theatre (MFA)
- Translational Biomedical Informatics (MS)
- Translational Biotechnology (MS)
- Transportation Systems Management (MS)
- Urban Planning (Executive MUP Online)
- Urban Planning (MUP)
- Visual Anthropology (MVA)
- Writing for Screen and Television (MFA)

Dual Degree

- Advanced Periodontology Certificate/Master of Science, Craniofacial Biology
- Doctor of Medicine/Master of Business Administration (MD/MBA)
- Doctor of Medicine/Master of Public Health (MD/MPH)
- Doctor of Medicine/Master of Science, Global Medicine
- Doctor of Pharmacy/Doctor of Philosophy (PharmD/PhD)
- Doctor of Pharmacy/Juris Doctor (PharmD/JD)
- Doctor of Pharmacy/Master of Business Administration (PharmD/MBA)
- Doctor of Pharmacy/Master of Public Health (PharmD/MPH)
- Doctor of Pharmacy/Master of Science, Gerontology (PharmD/MS)
- Doctor of Pharmacy/Master of Science, Global Medicine (PharmD/MS)
- Doctor of Pharmacy/Master of Science, Regulatory Science (PharmD/MS)
- Doctor of Philosophy in Political Science and International Relations/Juris Doctor (PhD/JD)
- Doctor of Philosophy in Psychology (Clinical) and Master of Public Health (Health Promotion) (PhD/MPH)
- Doctor of Physical Therapy/Master of Public Health (DPT/MPH)
- Healthcare Decision Analysis (PharmD/MS)
- Juris Doctor/Doctor of Pharmacy (JD/PharmD)
- Juris Doctor/Doctor of Philosophy in Political Science and International Relations (JD/PhD)
- Juris Doctor/Master of Arts, Philosophy (JD/MA)
- Juris Doctor/Master of Business Taxation (JD/MBT)
- Juris Doctor/Master of Communication Management (JD/MCG)
- Juris Doctor/Master of Public Administration (JD/MPA)
- Juris Doctor/Master of Public Policy (JD/MPP)
- Juris Doctor/Master of Real Estate Development (JD/MRED)
- Juris Doctor/Master of Science in Gerontology (JD/MS)
- Juris Doctor/Master of Social Work (JD/MSW)
- Master of Advanced Architectural Studies/Master of Urban Planning (MAAS/MUP)
- Master of Arts, East Asian Area Studies/Master of Business Administration (MA/MBA)
- Master of Arts, Philosophy/Juris Doctor (MA/JD)
- Master of Building Science/Master of Heritage Conservation (MBS/MHC)
- Master of Communication Management/Juris Doctor (MCG/JD)
- Master of Communication Management/Master of Arts, Jewish Nonprofit Management (MCG/MA)
- Master of Health Administration/Master of Science in Gerontology (MHA/MS)
- Master of Heritage Conservation/Master of Landscape Architecture (MHC/MLArch)
- Master of Heritage Conservation/Master of Urban Planning (MHC/MUP)
- Master of Landscape Architecture/Master of Urban Planning (MLArch/MUP)
- Master of Public Administration/Master of Arts, Jewish Nonprofit Management (MPA/MA)
- Master of Public Administration/Master of Science in Gerontology (MPA/MS)
- Master of Public Administration/Master of Social Work (MPA/MSW)
- Master of Public Health/Doctor of Pharmacy (MPH/PharmD)
- Master of Public Health/Master of Science, Social Entrepreneurship (MPH/MS)
- Master of Public Health/Master of Social Work (MPH/MSW)
- Master of Public Health/Master of Urban Planning (MPH/MUP)
- Master of Public Policy/Juris Doctor (MPP/JD)
- Master of Public Policy/Master of Urban Planning (MPP/MUP)
- Master of Real Estate Development/Juris Doctor (MRED/JD)
- Master of Real Estate Development/Master of Business Administration (MRED/MBA)
- Master of Science, Gerontology/Doctor of Pharmacy (MS/PharmD)
- Master of Science, Gerontology/Juris Doctor (MS/JD)
- Master of Science, Gerontology/Master of Business Administration (MS/MBA)
- Master of Science, Gerontology/Master of Health Administration (MS/MHA)
- Master of Science, Gerontology/Master of Public Administration (MS/MPA)
- Master of Science, Gerontology/Master of Social Work (MS/MSW)
- Master of Science, Global Medicine/Doctor of Pharmacy (PharmD/MS)
- Master of Science, Industrial and Systems Engineering/Master of Business Administration (MS/MBA)
- Master of Science, Petroleum Engineering/Master of Science, Engineering Management (MS/MS)
- Master of Science, Social Entrepreneurship/Master of Public Health (MS/MPH)
- Master of Science, Systems Architecting and Engineering/Master of Business Administration (MS/MBA)
- Master of Social Work/Doctor of Philosophy (MSW/PhD)
- Master of Social Work/Juris Doctor, Law (MSW/JD)
- Master of Social Work/Master of Arts, Jewish Nonprofit Management (MSW/MA)
- Master of Social Work/Master of Business Administration (MSW/MBA)
- Master of Social Work/Master of Public Administration (MSW/MPA)
- Master of Social Work/Master of Public Health (MSW/MPH)
- Master of Social Work/Master of Science, Gerontology (MSW/MS)
- Master of Social Work/Master of Urban Planning (MSW/MUP)
- Master of Urban Planning/Master of Arts, Curatorial Practices and the Public Sphere (MUP/MA)
- Master of Urban Planning/Master of Public Administration (MUP/MPA)
- Master of Urban Planning/Master of Real Estate Development (MUP/MRED)
- Master of Urban Planning/Master of Social Work (MUP/MSW)
- Medicine (MD/PhD)
- Urban Education Policy/Public Policy (PhD/MPP)

University Certificate

- General Practice Residency

Graduate Certificate

- Academic Medicine Certificate
- Advanced Endodontics Certificate
- Advanced Operative and Adhesive Dentistry Certificate
- Advanced Operative and Adhesive Dentistry Certificate/MS, Craniofacial Biology
- Advanced Oral and Maxillofacial Surgery
- Advanced Orofacial Pain Certificate
- Advanced Orthodontics Certificate
- Advanced Pediatric Dentistry Certificate
- Advanced Periodontology Certificate
- Advanced Pharmacy Practice Graduate Certificate
- Advanced Prosthodontics Certificate
- Alternative Dispute Resolution Certificate
- Applied Data Science Graduate Certificate
- Architecture Certificate
- Arts Leadership Graduate Certificate
- Astronautical Engineering Certificate
- Building Science Certificate
- Business Analytics Graduate Certificate
- Business Fundamentals Graduate Certificate
- Business Law Certificate (On-Campus)
- Business Law Certificate (Online)
- Business of Entertainment Graduate Certificate
- Certificate in U.S. Legal Studies
- Cinematic Arts Archiving and Preservation Graduate Certificate
- City/County Management Certificate
- Clinical Research Design and Management Certificate
- Clinical, Biomedical and Translational Investigations Certificate
- Community Oral Health Certificate
- Compliance Certificate
- Craniofacial Biology Certificate
- Data Science Foundations Graduate Certificate
- Digital Media and Culture Graduate Certificate
- Digital Oilfield Technologies Certificate
- Doctor of Pharmacy/Graduate Certificate in Gerontology
- East Asian Area Studies Graduate Certificate
- Entertainment Law and Industry Certificate
- Financial Analysis and Valuation Graduate Certificate
- Financial Compliance Certificate
- Food Safety Certificate
- Gender Studies Graduate Certificate
- Geographic Information Science and Technology Graduate Certificate
- Geospatial Intelligence Graduate Certificate
- Geospatial Leadership Graduate Certificate
- Geriatric Dentistry Graduate Certificate
- Gerontology Graduate Level Certificate
- Gerontology Online Graduate Level Certificate
- Gifted Education Certificate
- Global Health Innovation and Entrepreneurship Graduate Certificate
- Global Medicine Graduate Certificate
- Health Care Compliance Certificate
- Health Communication Management Graduate Certificate
- Health Management and Policy Programs Certificate
- Health Systems Operations Graduate Certificate
- Health, Technology and Engineering Graduate Certificate
- Healthcare Decision Analysis Certificate
- Heritage Conservation Certificate
- History of Collecting and Display Certificate
- Homeland Security and Public Policy Certificate
- Human Resources Law and Compliance Certificate
- Integrated MD Degree/Oral and Maxillofacial Surgery Certificate Program
- International and Intercultural Communication Management Graduate Certificate
- International Policy and Planning Certificate
- Jewish Studies Graduate Certificate
- Journalism Certificate
- Landscape Architecture Certificate
- Latinx and Latin American Studies Graduate Certificate
- Learning Design and Technology Graduate Certificate
- Library and Information Management Graduate Certificate
- Lifestyle Redesign® Graduate Certificate (online)
- Management Studies Graduate Certificate
- Marketing Communication Management Graduate Certificate
- Marketing Graduate Certificate
- Media and Entertainment Law Certificate
- Media and Entertainment Management Graduate Certificate
- Medical Product Quality Graduate Certificate
- Network Centric Systems Graduate Certificate
- New Communication Technologies Graduate Certificate
- Nonprofit Management and Policy Certificate
- Optimization and Supply Chain Management Graduate Certificate
- Oral Pathology and Radiology Certificate
- Orofacial Pain Certificate
- Pain Medicine Certificate
- Pain Science Certificate
- Patient and Product Safety Certificate
- Performance Graduate Certificate
- Performance Studies Graduate Certificate
- Political Management Certificate
- Preclinical Drug Development Certificate
- Privacy Law and Cybersecurity Certificate
- Public Financial Management Certificate
- Public Interest Certificate
- Public Management Certificate
- Public Policy Advocacy Graduate Certificate
- Public Policy Certificate
- Pupil Personnel Services Certificate
- Real Estate Development Certificate
- Regulatory and Clinical Affairs Certificate
- Religious Studies Certificate
- Remote Sensing for Earth Observation Certificate
- Science and Technology Studies Graduate Certificate
- Social Innovation Certificate
- Social Justice Certificate
- Software Architecture Graduate Certificate
- Spatial Analytics Graduate Certificate
- Stem Cell Biology and Regenerative Medicine Certificate
- Strategic Corporate and Organizational Communication Management Graduate Certificate
- Strategy and Management Consulting Graduate Certificate
- Sustainability and Business Graduate Certificate
- Sustainable Design Graduate Certificate
- Sustainable Policy and Planning Certificate
- Systems Architecting and Engineering Graduate Certificate
- Technology and Entrepreneurship Law Certificate
- Technology Commercialization Graduate Certificate
- The Business of Product Innovation Certificate
- The Foundations of Product Innovation Certificate
- Translation and Entrepreneurship in Biomedical Sciences Certificate
- Translation Studies Certificate
- Translational Biotechnology Certificate
- Transnational Law and Business Certificate
- Transportation Planning Certificate
- Transportation Systems Graduate Certificate
- Unconventional Resources in Petroleum Engineering
- Visual Anthropology Certificate
- Visual Studies Graduate Certificate
- Writing for Screen and Television Certificate

Doctoral Degree

- Aerospace Engineering (PhD)
- American Studies and Ethnicity (PhD)
- Anthropology (PhD)

- Applied Mathematics (PhD)
- Architecture (PhD)
- Art History (PhD)
- Astronautical Engineering (PhD)
- Biokinesiology (PhD)
- Biology of Aging (PhD)
- Biomedical Engineering (PhD)
- Biostatistics (PhD)
- Business Administration (PhD)
- Cancer Biology and Genomics (PhD)
- Chemical Engineering (PhD)
- Chemistry (Chemical Physics) (PhD)
- Chemistry (PhD)
- Choral Music (DMA)
- Cinema and Media Studies (PhD)
- Cinematic Arts (Critical Studies) (PhD)
- Cinematic Arts (Media Arts and Practice) (PhD)
- Civil Engineering (PhD)
- Classics (PhD)
- Clinical and Experimental Therapeutics (PhD)
- Communication (PhD)
- Comparative Studies in Literature and Culture (Comparative Literature) (PhD)
- Comparative Studies in Literature and Culture (Comparative Media and Culture) (PhD)
- Comparative Studies in Literature and Culture (French and Francophone Studies) (PhD)
- Comparative Studies in Literature and Culture (Spanish and Latin American Studies) (PhD)
- Composition (DMA)
- Computational Biology and Bioinformatics (PhD)
- Computer Engineering (PhD)
- Computer Science (PhD)
- Craniofacial Biology (PhD)
- Dental Surgery (DDS)
- Development, Stem Cells, and Regenerative Medicine (PhD)
- Doctor of Nurse Anesthesia Practice
- East Asian Languages and Cultures (PhD)
- Economics (PhD)
- Educational Leadership (EdD)
- Electrical Engineering (PhD)
- Engineering (Environmental Engineering) (PhD)
- English and American Literature (PhD)
- Epidemiology (PhD)
- Geological Sciences (PhD)
- Gerontology (PhD)
- Global Executive (EdD)
- Health Economics (PhD)
- History (PhD)
- Industrial and Systems Engineering (PhD)
- Infectious Diseases, Immunology and Pathogenesis (PhD)
- Integrative and Evolutionary Biology (PhD)
- Jazz Studies (DMA)
- Law (JD)
- Linguistics (PhD)
- Linguistics (Specialization in East Asian Linguistics) (PhD)
- Literature and Creative Writing (PhD)
- Longevity Arts and Sciences (DLAS)
- Marine Biology and Biological Oceanography (PhD)
- Materials Science (PhD)
- Mathematics (PhD)
- Mechanical Engineering (PhD)
- Medical Biophysics (PhD)
- Medicine (MD)
- Molecular Biology (PhD)
- Molecular Pharmacology and Toxicology (PhD)
- Music, Historical Musicology Emphasis, (PhD)
- Neuroscience (PhD)
- Occupational Science (PhD)
- Occupational Therapy (OTD)
- Ocean Sciences (PhD)
- Organizational Change and Leadership (EdD)
- Performance - Organ, Percussion or Winds (DMA)
- Performance - Violin, Viola, Violoncello, Double Bass or Harp (DMA)
- Performance - Vocal Arts (DMA)
- Performance — Classical Guitar (DMA)
- Performance — Early Music (DMA)
- Performance — Keyboard Collaborative Arts (DMA)
- Performance — Piano (DMA)
- Performance — Studio Guitar (DMA)
- Petroleum Engineering (PhD)
- Pharmaceutical Sciences (PhD)
- Pharmacy (PharmD)
- Philosophy (PhD)
- Physical Biology (PhD)
- Physics (PhD)
- Policy, Planning, and Development (DPPD)
- Political Science and International Relations (PhD)
- Population, Health and Place (PhD)
- Preventive Medicine (Health Behavior Research) (PhD)
- Professional Entry-Level Doctor of Physical Therapy Program (DPT)
- Psychology (PhD)
- Public Policy and Management (PhD)
- Regulatory Science (DRSc)
- Religion (PhD)
- Sacred Music (DMA)
- Slavic Languages and Literatures (PhD)
- Social Work (DSW)
- Social Work (PhD)
- Sociology (PhD)
- Teaching and Learning (DMA)
- Urban Education Policy (PhD)
- Urban Planning and Development (PhD)

Other Programs

- General Education

The Schools and Academic Units

- Office of the Provost
- USC Iovine and Young Academy
- USC Leventhal School of Accounting
- USC School of Architecture
- USC Roski School of Art and Design
- USC Marshall School of Business
- USC School of Cinematic Arts
- USC Bovard College
- USC Dornsife College of Letters, Arts and Sciences
- USC Annenberg School for Communication and Journalism
- USC Kaufman School of Dance
- Herman Ostrow School of Dentistry of USC
- USC School of Dramatic Arts
- USC Rossier School of Education
- USC Viterbi School of Engineering
- USC Leonard Davis School of Gerontology
- USC Independent Health Professions at the Herman Ostrow School of Dentistry
- USC Gould School of Law
- Keck School of Medicine of USC
- USC Thornton School of Music
- USC School of Pharmacy
- USC Price School of Public Policy
- USC Suzanne Dworak-Peck School of Social Work

Office of the Provost

- American Language Institute
- USC International Academy
- Neuroscience Graduate Program

English Language Requirements

Academic success at USC is strongly dependent upon the ability to communicate in English. Listening, speaking, reading and writing proficiency must be well developed in order to assimilate large amounts of difficult material under limited time conditions with full comprehension. Such proficiency is much greater than that required for ordinary everyday living. Therefore, every effort should be made to acquire English proficiency prior to entering the university.

Admitted international students whose first language is not English are normally required to take the International Student English Examination (ISE Exam) at the beginning of the first term of study. The examination results determine whether students must take additional English for academic purposes course work.

International students who meet one of the following conditions may be exempt from taking the ISE Exam:

- International students who have completed their entire bachelor's degree at regionally accredited universities located in the United States or in another country in which English is both the language of instruction and the only official language of the country.
- Applicants to master's degree programs who have attained an Internet Based TOEFL (iBT) score of 90, with no less than 20 on each sub-score; or an IELTS score of 6.5, with no less than 6 on each band score.
- PhD and undergraduate applicants who have achieved an Internet Based TOEFL (iBT) score of 100 with no less than 20 on each sub-score; or an IELTS score of 7, with no less than 6 on each band score.

USC does not accept "superscores" or TOEFL "MyBest scores." Some departments may have higher requirements for English proficiency than what is listed above. USC must receive scores electronically from the testing service for them to be considered official. Photocopies or paper copies of scores are not acceptable. Scores must be received no later than the Friday before classes begin. Students should contact the American Language Institute (ALI) Office before the deadline to confirm that their scores have been received.

American Language Institute

Any student not demonstrating adequate English proficiency will be required to enroll in courses at the American Language Institute (ALI) at USC. The ALI provides courses designed to improve an international student's oral and written communication skills in English. The extent to which a student may be required to take courses at the ALI is determined by his or her performance on the International Student English Examination (ISE Exam) or, in the case of potential teaching assistants, the ITA Exam.

ALI tuition units are charged at the regular university rate. Entering students who need English language classes should be aware that the ALI course requirements will likely increase the overall cost of their degree program. ALI classes can normally be taken concurrently with a student's other university classes and must be completed at the earliest opportunity. See here or the ALI website for more information.

Teaching Assistantships

All new teaching assistants (TAs) for whom English is a second language must demonstrate their competence in spoken English before assuming classroom or laboratory duties. Normally, new international teaching assistants (ITAs) demonstrate their English proficiency by taking the ITA Exam, administered by the American Language Institute (ALI) located on the USC University Park Campus.

The exam must be taken before assuming classroom or laboratory duties and no later than the first day of classes. The ITA exam is graded on a scale of 1 to 7. Those who achieve a score of 6 or higher are cleared for classroom duties and have no English oral skills requirement. Those who score 5 or 5.5 are cleared for classroom duties, but are required to enroll in an English language course through the ALI while performing their ITA responsibilities. Those who score below 5 on the exam are not cleared for classroom duties. These students are normally required to enroll in an English language course offered by ALI until adequate English proficiency is obtained. For more information, call (213) 740-0079 or visit ALI's website at ali.usc.edu.

Those ITAs denied clearance for teaching duties may have their offer of graduate assistantship withdrawn or alternative responsibilities assigned. An ITA who is denied clearance to teach should immediately seek assistance from the chair of his or her home department or program director.

American Language Institute
PSD 106
(213) 740-0079
FAX: (213) 740-8549
Email: aliusc@usc.edu
ali.usc.edu

Director: James Valentine, PhD
Associate Professor (Teaching): James Polk, PhD
Assistant Professors (Teaching): Lucienne Aarsen, MA; Reka Clausen, MA; Tracy Levin, PhD
Master Lecturers: Kimberley Briesch-Sumner, MA; Barry Griner, MA; Nina Kang, EdD, MLS; Eric H. Roth, MA; Anastassia Tzoytzoyrakos, MA
Senior Lecturers: Juli Ann Kirkpatrick, MA; Mary Ann Murphy, MA
Lecturer: Olivia Martinez, MA

Purpose of the Program

The American Language Institute provides instruction in English as a Second Language for international students who need or desire to improve their English language skills in order to participate successfully in their degree programs. Before beginning studies with ALI, all students must be admitted to the university in a degree program. The institute also provides student advisement.

Placement in the Program

Most international students entering USC must take the International Student English Examination (ISE Exam). The examination is offered immediately prior to the beginning of classes each semester. The purpose of this examination is to evaluate the level of a student's proficiency in English and to determine how well prepared the student is to undertake his or her degree studies in English. On the basis of the scores achieved, students are placed at the appropriate levels of instruction or are exempted from having to receive English language instruction.

Elective Credit

Undergraduates may earn up to 12 units of credit toward their degree for ALI courses numbered 100 or above. Some departmental restrictions may apply.

Limitation on Enrollment

International students placed into ALI classes must commence their ALI course work in their first semester at USC and must register in ALI courses each fall and spring semester until their ALI

requirements are satisfied. Students must successfully complete their ALI required courses within four semesters in order to remain academically eligible to pursue a degree program. Students who receive a final grade of "No Credit" more than once in any of their ALI required classes will not be allowed to continue to complete their ALI requirement.

Students not meeting the ALI requirement will not be allowed to continue at USC. The Committee on Academic Policies and Procedures will consider appeals if submitted within 10 working days of being dropped from ALI. Contact the Academic Review Department at acadrev@usc.edu for additional details.

USC International Academy

The USC International Academy offers three avenues of study to prepare international students for admission to USC and other U.S. universities through intensive English instruction, test preparation, and maximum academic support. Qualified students may also apply for admission with continuing registration requirements to select USC master's programs through the academy's Pre-Master's Program. For further information about admissions, courses and program dates, visit the USC International Academy's website at international.usc.edu or email info-international@usc.edu.

Neuroscience – Graduate Program

ngp.usc.edu
Director: Jason Zevin, PhD

Application deadline: December 1

Breadth of interests and training are major features of the graduate program in neuroscience. Wide and varied skills in many research areas characterize the faculty of the program. Close contact between faculty and students is considered of major importance in this highly interdisciplinary field.

Training is given in several areas of specialization: behavioral and systems neuroscience, cellular and molecular neurobiology, cognitive neuroscience, computational neuroscience, neuroengineering, brain diseases, and neuroscience of aging and development.

Applicants should normally have defined an interest in one or two specializations. A final choice of the specialization will be made during the first year through laboratory rotations.

Admission Requirements

A baccalaureate degree in a field relevant to the student's graduate goals is required.

Appropriate fields would include neuroscience, biology, chemistry, computer science, linguistics, psychology and many areas of engineering. Undergraduate study should provide evidence of substantive research experience, and proficiency in mathematics, including statistics. Students planning to enter the specialization in computational and mathematical neuroscience should have taken course work in calculus and, where possible, linear algebra and computer programming. Applicants who are accepted with minor deficiencies are expected to correct these during the first year.

Master's Degree

Neuroscience (MS)

Director: Jason Zevin, PhD

The MS degree program in Neuroscience is a terminal degree for students admitted into the Neuroscience PhD program who cannot complete the PhD program for personal or medical reasons. Enrollment of graduate students as master's degree candidates is not encouraged and is reserved for special circumstances that must be approved by the Executive Committee of the Neuroscience Graduate Program. The master's curriculum includes all course work required of PhD students for a minimum of 24 units and successful completion of both the written and oral portions of the qualifying examination. Students may opt for a thesis or non-thesis master's degree. The thesis master's degree requires presentation of a written thesis based on original research to a Neuroscience thesis committee and submission of the thesis to the Graduate School for publication. The non-thesis master's degree requires a formal research paper that is approved by three members of the Neuroscience Graduate Program faculty. The qualifying examination will serve as the comprehensive master's examination for non-thesis master's degrees. Students must also satisfy residency and other requirements of the Graduate School.

Doctoral Degree

Neuroscience (PhD)

Director: Jason Zevin, PhD

Application deadline: December 1

Breadth of interests and training are major features of the graduate program in neuroscience. Wide and varied skills in many research areas characterize the faculty of the program. Close contact between faculty and students is considered of major importance in this highly interdisciplinary field.

Training is given in several areas of specialization: behavioral and systems neuroscience, cellular and molecular neurobiology, cognitive neuroscience, computational neuroscience, neuroengineering and neuroscience of aging and development.

Applicants should normally have defined an interest in one or two specializations. A final choice of the specialization will be made during the first year.

Admission Requirements

A baccalaureate degree in a field relevant to the student's graduate goals is required.

Appropriate fields would include neuroscience, biology, chemistry, computer science, linguistics, psychology and many areas of engineering. Undergraduate study should provide evidence of proficiency in mathematics, including statistics. Students planning to enter the specialization in computational and mathematical neuroscience should have taken course work in calculus and, where possible, linear algebra and computer programming. Applicants who are accepted with minor deficiencies are expected to correct these during the first year.

Degree Requirements

These degrees are awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Advisory Committee

The student will be advised during the first year by the Graduate Advisement Committee. As soon as the student has selected a specialization, an Advisory Committee of appropriate faculty will be appointed. This committee will be chaired by the thesis adviser, when chosen. The purpose of the Advisory Committee is to help the student in the selection of courses and research; to monitor the student's progress; to ensure preparation for the qualifying examination; and to administer that examination.

Course Requirements

A minimum of 60 units is required, consisting of formal courses, seminars and research credits. At least 24 of the 60 units are to be

formal graduate course work (lecture or seminar courses). During the first year the student is expected to complete the core courses in neuroscience (NSCI 524 and NSCI 525), one key course, INTD 500 Responsible Conduct of Research, and two semesters of NSCI 539. Other courses in the area of specialization may also be taken in the first year and will be taken in subsequent years.

Core Courses: NSCI 524 and NSCI 525 Advanced Overview of Neuroscience (8 units), will be taken by all students in the fall and spring of their first year to provide an integrated multilevel view of neuroscience. To take the core course, students should have mastered the material currently taught in BISC 421. (Students will be expected to review a detailed syllabus and reading list for BISC 421 to identify their level of knowledge prior to their arrival at USC and will receive advice at Orientation on whether to take BISC 421 or read recommended material to remedy their deficiencies.)

Key Courses: All students will be required to complement their thesis-directed studies with a "breadth with depth" requirement by taking two key courses, one each from two different tracks listed below. Each key course will be for 3 or 4 units. (At least one of these courses will serve to advance thesis-related study as well.)

- Cellular, Molecular and Developmental Neuroscience Track
- Cognitive Neuroscience Track
- Computational Neuroscience and Neuroengineering Track
- Systems and Behavioral Neuroscience Track

All students are required to take INTD 500 Responsible Conduct of Research (1 unit), as well as a 4-unit approved statistics course (PM 510, PSYC 501 or equivalent).

Students may request permission to have non-NSCI advanced courses satisfy the track requirements.

It is required that all neuroscience PhD students demonstrate competence in statistics in fulfillment of their PhD requirements.

Qualifying Examination

The qualifying examination concentrates on the student's ability to demonstrate a grasp of the major area of interest chosen and its relation to other areas of training offered in the program. The examination is partly written and partly oral and is designed to test the student's ability to meet the demands of the profession.

Dissertation

An acceptable dissertation based on completion of an original investigation is required. The candidate must defend an approved draft of the dissertation in an oral examination.

USC Iovine and Young Academy

With a visionary gift from entrepreneurs Jimmy Iovine and Andre "Dr. Dre" Young, the University of Southern California established an academy to nurture unbridled creativity at the intersection of four essential areas: the arts and design; engineering and computer science; business and venture management; and communication.

Conceived as a collaborative environment that brings multidisciplinary students, instructors and professional mentors together, the USC Jimmy Iovine and Andre Young Academy for Arts, Technology and the Business of Innovation has become a transformational presence on one of the nation's most dynamic university campuses.

The focus of the program's course of study is on creativity and critical thinking, as empowered by the languages and methodologies of the arts, technology and business. It draws on the talents and influence of faculty and leaders from multiple disciplines and industries to empower the next generation of disruptors and professional thought leaders who will apply their skills in a global arena. USC's strategic location in Los Angeles, widely viewed as the creative and media capital of the world, provides an unrivaled opportunity for students to learn in a living laboratory in which media, technology and the arts are deeply intertwined. In addition, the university's proximity to the city's burgeoning "Silicon Beach" and its vibrant downtown Arts District, as well as Northern California's Silicon Valley, provides access to the world's premiere creative and technology companies and institutions from which students can learn and draw inspiration.

Students who complete the undergraduate course of study in the Academy will graduate with a Bachelor of Science in Arts, Technology and the Business of Innovation, and possess an unprecedented combination of knowledge and skill. Crafted via a unique and groundbreaking integration of its core disciplines, the degree facilitates each individual's ability to engage differently and successfully with a dramatically changing, tech-driven global marketplace, and to address some of the world's most intractable problems.

Academy majors and minors fine-tune their ideas and complete working models, systems or prototypes in Iovine and Young Hall, which officially opened in 2019. The facility offers approximately 10,000 square feet of makerspace and cutting-edge technologies, workshops, and flexible studios to nurture collaboration to engender innovation and support the development of creative ideas, inventions and startups.

Students work both individually and in self-directed teams, and are guided by faculty and industry mentors who include artists, designers, technologists, founders, venture capitalists, public policy leaders, philanthropists, global entrepreneurs and more.

The Academy offers two graduate degree programs – the online Master of Science in Integrated Design, Business and Technology (MSIDBT) and the Master of Science in Product Innovation (MSPRIN). The online MSIDBT graduate degree program provides a first-of-its-kind interdisciplinary education at the intersection of the educational and professional disciplines central to our changing world. The program creates leaders with diverse and creative ways of thinking and doing – professionals trained to recognize and cultivate innovation, catalyze change and leverage new opportunities to not only support, but also help shape and build our rapidly evolving economy.

In 2020, the Academy launched the Master of Science in Product Innovation – a revolutionary new degree for advanced students wishing to pursue product design for the 21st century. Reimagining the traditional concept of a product to encompass not just physical objects but also virtual, multi-dimensional and cross-platform devices, environments and experiences, this program provides students with an expertise in the development and launch of products that address the needs of a technology-enhanced global society. In addition to the traditional two-year course of study for applicants holding a qualified bachelor's degree, MSPRIN offers a progressive option for select USC undergraduates who wish to begin work on the master's degree while simultaneously completing their USC bachelor's degree.

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Senior Administration

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Lynn Miles, *Senior Associate Dean, Advancement and External Affairs*
Jessica Vernon, MEd, *Associate Dean, Admission and Student Affairs*
Patrick Dent, MS, *Assistant Dean, Curriculum*
Raul Petris, *Associate Dean, Finance and Administration*
Matthew Manos, MFA, *Assistant Dean, Academic Strategy*
Yolanda DiConti, *Executive Assistant to the Dean*

External Affairs, Communications, Events

Danielle Boutier, MA, *Director of Events*
Karine Kim, MA, *Communications Manager*
Laura Gonzales, *Development Coordinator*
Sam de Leve, MA, *Communications Assistant*

Student Affairs

Sharif Joshua, MEd, *Academic Adviser, Online Programs*

Business Affairs

Patricia Rangel, *Budget Analyst*
Tanisha Senaratne, SHRM-CP, *HR and Payroll Coordinator, DEI Coordinator*
Luisa Sanchez Vidaurrazaga, *Administrative Budget Assistant*

Facilities and Information Technologies

Derek Williams, *Technology Operations Supervisor*
Jacob Patapoff, *Makerspace Manager*
Cris Argueta, *Computer Services Consultant*

Academic Program Administration

Michael Crowley, PhD, *Director, Online Programs*
Imre Meszaros, EdD, *Associate Director, Online Programs*
Stephen Child, MFA, *Chair of Design*
Grant Delgatty, BS, *Chair of Product Innovation*
Jennifer Ellis, *Undergraduate Programs Coordinator*
Jessica Hernaiz, MEd, *Graduate Programs Coordinator*

Faculty

Joshua Alexander, MBA, *Adjunct Lecturer, Entrepreneurship; Lecturer, Finance (McCombs School of Business, University of Texas, Austin)*
Jean-Michel Arnoult, BA, *Entrepreneur in Residence*
Carsten Becker, MA, *Adjunct Lecturer, Communication*
Safir Bellali, BS, *Adjunct Lecturer, Design*
Estevan Carlos Benson, *Adjunct Lecturer, Technology*
Krystina Castella, BFA, *Adjunct Lecturer, Design; Faculty, Humanities and Sciences (Art Center College of Design)*
Samir Chatterjee, PhD, *Visiting Professor of Technology and Innovation; Fletcher Jones Chair of Technology, Design and Management (Claremont Graduate University)*
Steven Child, MFA, *Associate Professor of Teaching, Design*
Jay Clewis, MS, *Adjunct Lecturer, Communication*
Michael Crowley, PhD, *Professor of Teaching, Technology*
Grant Delgatty, BS, *Associate Professor of Teaching, Design*
Patrick Dent, MS, *Associate Professor of Teaching, Technology*
Trina Gregory, MS, *Senior Lecturer, Information Technology (USC Viterbi School of Engineering)*
Matthew Hanson, PhD, *Adjunct Lecturer, Entrepreneurship*

Adam Hughes, BSME, *Adjunct Lecturer*
Trent Jones, BS, *Lecturer, Maker in Residence*
Nayeon Kim, BS, *Lecturer, Information Technology (USC Viterbi School of Engineering)*
Matthew Manos, MFA, *Assistant Professor of Teaching, Design*
Phil More, PhD, *Professor Emeritus (USC Marshall School of Business)*
Zune Nguyen, BS, *Lecturer, Information Technology (USC Viterbi School of Engineering)*
Michael Overing, JD, *Adjunct Lecturer, Entrepreneurship*
Robert Parke, MS, *Senior Lecturer, Information Technology (USC Viterbi School of Engineering)*
Leon Rodriguez, BS, *Adjunct Lecturer, Design*
Aaron Siegel, MFA, *Assistant Professor of Teaching, Design*
Chris Swain, *Adjunct Lecturer, Communication*
Sue-Tze Tan, MS, *Adjunct Lecturer, Design*
Douglas Thomas, PhD, *Associate Professor of Communication (USC Annenberg School for Communication and Journalism)*
Davina Wolter, BFA, BA, *Assistant Professor, Design*

General Information

Degrees Offered

The Iovine and Young Academy offers a Bachelor of Science in Arts, Technology and the Business of Innovation; a Master of Science in Integrated Design, Business and Technology; and a Master of Science in Product Innovation and graduate certificates in the Business of Product Innovation and the Foundations of Product Innovation.

Minimum Grade Requirement

Iovine and Young Academy undergraduate majors must receive a minimum final grade of B- (2.7) in all required courses offered by the Iovine and Young Academy. Failure to meet this requirement will result in the following:

For final grades of C+, C or C- in a required Academy course, the student must enroll in an approved 1-unit Academy Independent Study designed to ensure the student has obtained sufficient skill and knowledge in the subject area. The student must enroll in the Independent Study in the semester immediately following the term in which the insufficient grade was received (excluding summer session) and must receive a minimum final grade of B- in the Independent Study. Failure to receive a minimum final grade of B- in the Independent Study will result in a determination of unsatisfactory academic progress, and ineligibility to continue in the major. Substitutions for the Independent Study may occur at the discretion of the director, based on an evaluation of the academic needs of the student, and/or course or instructor availability.

For final grades of D+, D, D-, F or NC in a required Academy course, the student must repeat the course in order to ensure sufficient skill and knowledge in the subject area. The student must repeat the course in the semester immediately following the term in which the insufficient grade was received (or at the earliest opportunity, i.e., in the next semester it is offered), and must receive a minimum final grade of B- in the repeated course. Failure to receive a minimum final grade of B- in the repeated course will result in a determination of unsatisfactory academic progress, and ineligibility to continue in the major. Students may repeat a maximum of two required Academy courses. Receipt of a D+, D, D-, F or NC in a third required Academy course will result in ineligibility to continue in the major.

Note: If a student's grade results in the need to seek remediation as described above, students are advised that, due to prerequisites and other program elements, such remediation may affect the student's ability to register for subsequent course work and could result in a delay of the anticipated graduation date.

Minor Programs

The Iovine and Young Academy offers minors as supplements to major fields of specialization in other departments and schools. The minors offered in the Academy include: Designing Products, Disruptive Innovation, Designing for Digital Experiences, Designing for Live Experiences, Designing Multimedia Experiences, Designing Products, Health Innovation, and News and Information Innovation. There is a separate application for Academy minors available at *iovine-young.usc.edu*. Candidates for the minors in the Iovine and Young Academy will be counseled by an academic adviser in the school.

Responsive Learning Modules

Developed to complement Academy course work, RLM sessions augment students' classroom education and meet their individualized needs by providing them with critical learning opportunities, but without the full infrastructure of a semester-long course. As a result, RLM sessions are diverse enough to respond to a wide variety of student interests, and flexible enough to deliver each subject in the most useful and relevant way. Participation in RLM sessions is expected for all undergraduate Academy students and open to graduate students. Most sessions take place on Fridays from 10 a.m.-12 p.m. Additional alternate times may be scheduled on a case-by-case basis.

Undergraduate Admission

Admission to the Iovine and Young Academy is granted through the USC Office of Admission. The incoming freshmen and external transfer application deadline for Fall 2022 is December 1, 2021. Specific requirements and additional information are available at *iovine-young.usc.edu/admissions/index.html*.

Entrance Requirements for Current USC Students as Internal Transfers

The Academy will consider entrance into the major for current USC students. While completed USC course work will be taken into account, there is no guarantee it will be credited toward Academy requirements. For example, a sophomore may not be able to transfer to the Academy with sophomore standing. Credit and standing will be considered on a case-by-case basis. Admission to the Academy is limited to fall semester only. The application deadline for Fall 2022 is January 1, 2022. Specific requirements and additional information are available at *iovine-young.usc.edu/admissions/index.html.*

Entrance Requirements for External Transfers

The Academy will consider entrance into the major for current students at other two-year and four-year higher education institutions. While completed course work will be taken into account, there is no guarantee it will be credited toward Academy requirements. For example, a sophomore may not be able to transfer to the Academy with sophomore standing. Credit and standing will be considered on a case-by-case basis. Admission to the Academy is limited to fall semester only. The application deadline for Fall 2022 is December 1, 2021. Specific requirements and additional information are available at *iovine-young.usc.edu/admissions/index.html.*

Graduate Admission

Admission to the Academy's Master of Science in Integrated Design, Business and Technology program is offered for fall, spring and summer semesters. Specific requirements and additional information are available at *online-iovine-young.usc.edu/admissions.*

Admission to the Master of Science in Product Innovation is offered once a year. Specific requirements and additional information are available at *iovine-young.usc.edu/program/ms-product-innovation.html*.

Advisement

Academic advisement is provided to Academy major and minor students. The staff advisers provide information regarding academic life at the university, program requirements, policies and procedures to assist students with their degree completion. Undergraduate majors are required to meet with the adviser before registering each semester. Appointments may be scheduled at most times during the academic year.

Waiver of Course Requirements

Under special circumstances course waivers and substitutions may be granted. All course waivers and course substitutions must be approved by the dean of the Academy or her designee.

Tuition and Fees

Undergraduate and graduate programs are assessed the university-wide tuition rate. The university reserves the right to assess new fees or charges. The rates listed are subject to change without notice by action of the Board of Trustees.

Bachelor's Degree

Arts, Technology and the Business of Innovation (BS)

This unique Bachelor of Science degree offers a highly select group of students an integrated, four-year course of study that provides in-depth learning in four core areas deemed *new literacies for the 21st century*: art and design; engineering and computer science; business and venture management; and communication. Through the Academy's Core, students learn applied skills and gain understanding of the theories, concepts and "language" common to each area, and the innovative potential where they intersect. Academy electives serve to customize each student's experience to their individual strengths or desired focus. Courses such as Design Strategy and Industry Practicum place students inside powerful professionalizing experiences with industry collaborators, providing unparalleled preparation for careers or graduate study. The fourth-year "Garage Experience" provides an advanced workshop environment for student teams to develop original ideas and take them from concept to prototype, leading to new products, systems and services. Throughout the program students are taught to think seamlessly across multiple disciplines, and to apply a vast array of relevant technologies and techniques toward innovative problem solving.

The degree requires a total of 128 units, including 76 units in the Core and 12 units in major electives. Students must select elective courses from the Academy's current offerings in areas such as product, experience, or multimedia design; design strategy and human-centered design; creativity and innovation; venture management; the business of products; technology; and communication or from specialized electives as they become available, such as branding new ventures, intellectual property and machine learning. In consultation with their academic adviser, students may also petition to create unique degree paths by selecting courses from academic units or disciplines outside of the Academy. In addition to required courses, students may elect to register for other Academy experiences such as summer study abroad, Impact and Industry Labs (see CurriculumPlus for complete details) and internships.

Required Core Courses

Lower Division (48 units)

- ACAD 174 Innovators Forum Units: 2 (needs to be taken twice)
- ACAD 176 Rapid Visualization Units: 4
- ACAD 177 Digital Toolbox: Design Units: 2
- ACAD 178 Digital Toolbox: Motion Graphics Units: 2
- ACAD 180 Digital Toolbox: Sound and Audio Units: 2
- ACAD 187 Digital Toolbox: 3D Design Units: 2
- ACAD 181g Disruptive Innovation Units: 4
- ACAD 182 Case Studies in Innovation Units: 4
- ACAD 207 Designing Narrative Media Units: 4
- ACAD 240 Materials: Denim to Nanotubes Units: 4
- ACAD 275 Dev I Units: 4
- ACAD 276 Dev II Units: 4

Choose one from the following:

- ACAD 280 Designing Digital Experiences Units: 4
- ACAD 281 Designing Live Experiences Units: 4

Choose one from the following:

- ACAD 217 Designing Immersive Media Units: 4
- ACAD 245 Designing Products I Units: 4
- ACAD 277 Dev III: Designing Applications for Emerging Platforms Units: 4

Upper Division (28 units)

- ACAD 302 The Hacker Imagination: from Ancient Greece to Cupertino Units: 4
- ACAD 324g The Practice of Design: Ideation to Innovation Units: 4
- ACAD 360 Design Strategy: Problem Solving for Organizations Units: 4
- ACAD 376 Industry Practicum I: Designing and Implementing Real-World Solutions Units: 4
- ACAD 475a The Garage Experience Units: 4
- ACAD 475b The Garage Experience Units: 4

Choose one 4-unit course or two 2-unit courses from the following:

- ACAD 377 Industry Practicum II: Designing and Implementing Real-World Solutions Units: 4
- ACAD 450 Industry Lab Units: 2
- IDSN 515 Professional Practices Residential Units: 2
- PRIN 550 Industry Lab Units: 2

Major Electives

Complete 12 units from the following. ACAD 217 and ACAD 450 may not double-count as a core course and an elective course. A course in more than one elective area may not be double-counted.

Design

- ACAD 188 Digital Toolbox: Modeling Products I Units: 2
- ACAD 189 Digital Toolbox: Modeling Products II Units: 2
- ACAD 200 Advanced Sound and Audio Units: 4
- ACAD 217 Designing Immersive Media Units: 4
- ACAD 317 Designing Media Studio Units: 4
- ACAD 345 Designing Products II Units: 4
- ACAD 445 Designing Products III Units: 4
- ACAD 499 Special Topics Units: 2, 3, 4 (select offerings)
- By advisement, select offerings in the Academy's IDSN and PRIN graduate programs

Technology

- ACAD 344 Advanced iOS App Development Units: 4
- ACAD 365 Managing Data in C++ Units: 4
- ACAD 382 Mobile Game Development Units: 4
- ACAD 404 Advanced Front-End Web Development Units: 4
- ACAD 405 Advanced Back-End Web Development Units: 4
- ACAD 425 Web Application Security Units: 4
- ACAD 442 Mobile App Project Units: 4
- ACAD 449 Data Mining: Descriptive and Predictive Units: 4
- ACAD 460 Web Application Project Units: 4
- ACAD 476 Technologies for Interactive Marketing Units: 4
- ACAD 499 Special Topics Units: 2, 3, 4 (select offerings)
- ITP 388 Developing Connected Devices Units: 4
- ITP 468 Connected Devices Project Units: 4
- By advisement, select offerings in the Academy's IDSN and PRIN graduate programs

Venture Management

- ACAD 315x Basics of Project and Operations Management for Non-Majors Units: 2
- ACCT 380x Introduction to Enterprise Risk Management Units: 4
- ACCT 387 Risk Management in Entertainment, Sports and the Arts Units: 4
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 461 Design of Effective Organizations Units: 4

Communication

- ACAD 206 Communication and Culture Units: 4
- ACAD 217 Designing Immersive Media Units: 4

- ACAD 255 Advancing Journalism with Human-Centered Design Units: 4
- ACAD 256 Designing for News and Information Units: 4
- ACAD 317 Designing Media Studio Units: 4
- ACAD 375 Business and Professional Communication Units: 4
- JOUR 200w The Power and Responsibility of the Press Units: 4
- JOUR 210x Basics of News Production for Non-Majors Units: 2
- JOUR 472 Strategies for Monetizing New Media Units: 4

Mechanics and Materials

- ACAD 203 Statics Units: 3
- ACAD 204 Strength of Materials Units: 3
- ACAD 308 Computer-Aided Design for Bio-Mechanical Systems Units: 3
- ACAD 312 Materials Behavior and Processing Units: 4
- AME 231L Mechanical Behavior of Materials Units: 3
- AME 301 Dynamics Units: 3

Health Innovation

- ACAD 260 Introduction to Healthcare Innovation Units: 4
- ACAD 261 Human Health and Technology Units: 4
- ACAD 362 Analytics for Health Innovators Units: 4
- ACAD 463 Evidence Based Medicine for Health Innovators Units: 2
- ACAD 464 Mining Health Data Through Machine Learning Units: 4

Other

- ACAD 301 Understanding Play Units: 4
- ACAD 350 International Experience Units: 2
- ACAD 450 Industry Lab Units: 2
- ACAD 490 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ACAD 499 Special Topics Units: 2, 3, 4 (select offerings)
- By advisement, other ACAD offerings as they may arise
- By advisement, select offerings in the Academy's IDSN and PRIN graduate programs

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see the General Education Program for more information.

Sample Four-Year Program

Year 1 - Fall

- ACAD 174 Innovators Forum Units: 2
- ACAD 176 Rapid Visualization Units: 4
- ACAD 177 Digital Toolbox: Design Units: 2
- ACAD 180 Digital Toolbox: Sound and Audio Units: 2
- ACAD 181g Disruptive Innovation Units: 4
- General Education Seminar Units: 4

Total units: 18

Year 1 - Spring

- ACAD 174 Innovators Forum Units: 2
- ACAD 178 Digital Toolbox: Motion Graphics Units: 2
- ACAD 187 Digital Toolbox: 3D Design Units: 2
- ACAD 182 Case Studies in Innovation Units: 4
- ACAD 275 Dev I Units: 4
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

Total units: 18

Year 2 - Fall

- ACAD 207 Designing Narrative Media Units: 4
- ACAD 240 Materials: Denim to Nanotubes Units: 4
- ACAD 276 Dev II Units: 4
- ACAD 324g The Practice of Design: Ideation to Innovation Units: 4

Total units: 16

Year 2 - Spring

- ACAD 360 Design Strategy: Problem Solving for Organizations Units: 4
- General Education Units: 4

Choose one from the following:

- ACAD 280 Designing Digital Experiences Units: 4
- ACAD 281 Designing Live Experiences Units: 4

Choose one from the following:

- ACAD 217 Designing Immersive Media Units: 4
- ACAD 245 Designing Products I Units: 4
- ACAD 277 Dev III: Designing Applications for Emerging Platforms Units: 4

Total units: 16

Year 3 - Fall

- ACAD 302 The Hacker Imagination: from Ancient Greece to Cupertino Units: 4
- WRIT 340 Advanced Writing Units: 3, 4
- ACAD 376 Industry Practicum I: Designing and Implementing Real-World Solutions Units: 4
- General Education Units: 4

Total units: 16

Year 3 - Spring

Choose one 4-unit course or two 2-unit courses from the following:

- ACAD 377 Industry Practicum II: Designing and Implementing Real-World Solutions Units: 4
- ACAD 450 Industry Lab Units: 2
- PRIN 550 Industry Lab Units: 2
- IDSN 515 Professional Practices Residential Units: 2
- Major Elective Units: 4
- General Education Units: 8

Total units: 16

Year 4 - Fall

- ACAD 475a The Garage Experience Units: 4
- Major Elective Units: 4
- General Education Units: 8

Total units: 16

Year 4 - Spring

- ACAD 475b The Garage Experience Units: 4
- Major Elective Units: 4
- General Education Units: 4

Total units: 12

Minor

Designing for Digital Experiences Minor

The Designing for Digital Experiences minor provides students in all fields of study an opportunity to gain essential knowledge and skills in interaction design. Courses focus on the tools required to implement powerful interactive visual and touch experiences, as well as the conceptual and theoretical knowledge necessary to apply universal standards for human-centered design. The minor is of particular interest to students wishing to further develop highly sought-after specializations such as interaction design, data visualization, app design, social media marketing and digital art direction.

Additional electives, including in other schools at USC, will be considered through student advisement.

Information on how to apply for the minor can be found at: **iovine-young.usc.edu**

Required Courses (16 units)

Students must complete the following 16 units:

- ACAD 177 Digital Toolbox: Design Units: 2
- ACAD 178 Digital Toolbox: Motion Graphics Units: 2
- ACAD 275 Dev I Units: 4
- ACAD 280 Designing Digital Experiences Units: 4
- ACAD 324g The Practice of Design: Ideation to Innovation Units: 4

Electives (8 units)

Students must complete 8 units from the following:

- ACAD 180 Digital Toolbox: Sound and Audio Units: 2
- ACAD 207 Designing Narrative Media Units: 4
- ACAD 276 Dev II Units: 4
- ACAD 277 Dev III: Designing Applications for Emerging Platforms Units: 4
- ACAD 307 Multimedia for Designers and Entrepreneurs II Units: 4
- ACAD 407 Multimedia for Designers and Entrepreneurs III Units: 4
- ACAD 490 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ACAD 491 Individual Instruction Units: 1, 2, 3, 4
- DSCI 454 Data Visualization and User Interface Design Units: 4

Designing for Live Experiences Minor

The Designing for Live Experiences minor provides USC students, in all fields of study, the opportunity to gain essential knowledge and skills as related to human-centered interactivity and learning in and with our physical environments. Courses focus on the practical tools needed to assess, interpret, ideate, and solve for successful interactions and memory making. Benefits of considered physical experience design solutions lead to a repeat customer base, meaningful community engagement, and relevance in the competitive landscape of service and education design. This minor is of particular interest to students wishing to expand their understanding of user interactions with spatial design and how to capture prolonged, and repeat engagement.

Additional electives, including in other schools at USC, will be considered through student advisement.

Information on how to apply for the minor can be found at: **iovine-young.usc.edu**

Required Courses (16 units)

Students must complete the following 16 units:

- ACAD 176 Rapid Visualization Units: 4
- ACAD 177 Digital Toolbox: Design Units: 2
- ACAD 187 Digital Toolbox: 3D Design Units: 2
- ACAD 281 Designing Live Experiences Units: 4
- ACAD 324g The Practice of Design: Ideation to Innovation Units: 4

Electives (8 units)

Students must complete 8 units from the following:

- ACAD 178 Digital Toolbox: Motion Graphics Units: 2
- ACAD 207 Designing Narrative Media Units: 4
- ACAD 240 Materials: Denim to Nanotubes Units: 4
- ACAD 307 Multimedia for Designers and Entrepreneurs II Units: 4
- ACAD 490 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ACAD 491 Individual Instruction Units: 1, 2, 3, 4
- ARCH 106x Workshop in Architecture Units: 2
- ARCH 465 The Landscape Imaginary Units: 4
- THTR 330 Scene Design I Units: 4
- THTR 332 Lighting Design I Units: 4

Designing Multimedia Experiences Minor

Entrepreneurs, content creators and experience designers in today's tech- and visuals-rich market environments must understand how multimedia platforms interconnect. Facility with state-of-the-art 2D, 3D and immersive visual and audio tools, and the ability to combine and integrate them successfully to create compelling and persuasive experiences, is essential. The learning approach in this minor combines design-driven, user-focused theory with hands-on, practical tools and production skills that include photo, video, audio, graphics, motion graphics, motion capture and more. Within a studio critique model, technology and visual design fundamentals are combined with entrepreneurial and design thinking perspectives. These skills and techniques will augment and enhance the knowledge students learn in their USC majors, allowing them to excel in virtually any future field of endeavor.

Additional electives, including in other schools at USC, will be considered through student advisement.

Information on how to apply to the minor can be found at: *iovine-young.usc.edu*

Required Courses (20 units)

Students must complete the following 20 units:

- ACAD 177 Digital Toolbox: Design Units: 2
- ACAD 178 Digital Toolbox: Motion Graphics Units: 2
- ACAD 180 Digital Toolbox: Sound and Audio Units: 2
- ACAD 187 Digital Toolbox: 3D Design Units: 2
- ACAD 207 Designing Narrative Media Units: 4
- ACAD 217 Designing Immersive Media Units: 4
- ACAD 317 Designing Media Studio Units: 4

Electives (4 units)

Students must complete 4 units from the following:

- ACAD 176 Rapid Visualization Units: 4
- ACAD 200 Advanced Sound and Audio Units: 4
- ACAD 275 Dev I Units: 4
- ACAD 280 Designing Digital Experiences Units: 4
- ACAD 324g The Practice of Design: Ideation to Innovation Units: 4
- ACAD 491 Individual Instruction Units: 1, 2, 3, 4
- ACAD 490 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Designing Products Minor

The minor in Designing Products provides a deeper understanding of the design process leading to the creation of consumer products and services, including the fundamentals of design strategy and human-centered design as they relate to successful ideation and launch of new ideas. Students will learn the methods by which professional product design decisions are made through an intense studio-based curriculum, and will be guided through hands-on application of acquired knowledge and skills in the areas of user research, market opportunity, consumer insights, competitive analysis, ideation, 3D form development, production methodologies, branding, packaging, marketing and distribution.

Utilizing state-of-the-art physical and digital production facilities in Iovine and Young Hall, the Designing Products minor course of study focuses not just on the process of refining a product's function and aesthetic qualities, but also on determining its relevance to society, and its desirability, feasibility and viability as a potential solution to problems facing for- or non-profit market environments.

Information on how to apply for the minor can be found at: *iovine-young.usc.edu*.

Required Courses (24 units)

Students must complete the following 24 units:

- ACAD 176 Rapid Visualization Units: 4
- ACAD 188 Digital Toolbox: Modeling Products I Units: 2
- ACAD 189 Digital Toolbox: Modeling Products II Units: 2
- ACAD 240 Materials: Denim to Nanotubes Units: 4
- ACAD 245 Designing Products I Units: 4
- ACAD 345 Designing Products II Units: 4
- ACAD 445 Designing Products III Units: 4

Disruptive Innovation Minor

Disruptive innovation results from a discovery that radically changes an existing economic or social system. Successful entrepreneurs understand that disruption is only the beginning, and lasting innovation requires both creativity in generating fresh,

bold new ideas, and an understanding of the constant interplay of economic, technological, cultural and social forces that drive the use and consumption of products, goods and services. Innovators who maintain success and momentum over long periods have learned to anticipate and adapt to trends by focusing on the needs and opportunities presented by society itself, and by utilizing the techniques of human-centered design to identify and solve problems that matter. This minor offering from USC's revolutionary Iovine and Young Academy offers a uniquely interdisciplinary, hands-on approach to provide students with the knowledge and skills to understand, nurture and drive innovation. The course work in this minor delivers a range of fundamental theories, frameworks and experiences to augment and enhance the knowledge students are gaining in their majors with an understanding of the techniques, methods and methodologies of the world's greatest innovators.

Additional electives, including in other schools at USC, will be considered through student advisement.

Information on how to apply for the minor can be found at: **iovine-young.usc.edu**

Required Courses (20 units)

Students must complete the following 20 units:

- ACAD 176 Rapid Visualization Units: 4
- ACAD 181g Disruptive Innovation Units: 4
- ACAD 182 Case Studies in Innovation Units: 4
- ACAD 324g The Practice of Design: Ideation to Innovation Units: 4
- ACAD 360 Design Strategy: Problem Solving for Organizations Units: 4

Electives (4 units)

Students must complete 4 units from the following:

- ACAD 207 Designing Narrative Media Units: 4
- ACAD 245 Designing Products I Units: 4
- ACAD 260 Introduction to Healthcare Innovation Units: 4
- ACAD 275 Dev I Units: 4
- ACAD 302 The Hacker Imagination: from Ancient Greece to Cupertino Units: 4
- ACAD 490 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ACAD 491 Individual Instruction Units: 1, 2, 3, 4
- ITP 479 Cyber Law and Privacy Units: 3

Health Innovation Minor

The potential for innovation at the intersection of health, medicine, design and technology is exploding. In order to take full advantage of the entrepreneurial and research opportunities in this space, a new style of undergraduate education is necessary for a new generation of learners – agile and adaptive thinkers who cross easily from discipline to discipline, steadily advancing the role that technology plays in our present and our future. Because of their strong interdisciplinary foundations, the USC Iovine and Young Academy and the USC Keck MESH Academy are uniquely poised to take the lead in the design and implementation of such a curriculum, one that will provide the knowledge and skills necessary to succeed in the emerging field of health innovation.

Information on how to apply for the minor can be found at: *iovine-young.usc.edu*.

Required Courses (22 units)

Students must complete the following 22 units:

- ACAD 174 Innovators Forum Units: 2
- ACAD 176 Rapid Visualization Units: 4
- ACAD 181g Disruptive Innovation Units: 4
- ACAD 260 Introduction to Healthcare Innovation Units: 4
- ACAD 362 Analytics for Health Innovators Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4

Electives (6 units)

Students must complete 6 units from the following:

- ACAD 245 Designing Products I Units: 4
- ACAD 261 Human Health and Technology Units: 4
- ACAD 360 Design Strategy: Problem Solving for Organizations Units: 4
- ACAD 463 Evidence Based Medicine for Health Innovators Units: 2
- ACAD 464 Mining Health Data Through Machine Learning Units: 4
- MEDS 260 Challenges in the Forefront of Biomedical Ethics Units: 2
- PM 501 Foundations in Health Education and Promotion Units: 4
- PPD 325 Fundamentals of Health Policy and Management Units: 4

News and Information Innovation Minor

Technology has disrupted the news and information sphere at a frenetic pace. Almost anyone with a message now has the means to distribute it widely, but competition is fierce, attention spans are short and trust is low. The surge of information has weakened traditional journalistic gatekeepers and emboldened actors unconcerned with the public good. Solving the most important challenges of our time, including climate change, rising levels of inequality and global instability, will require citizens armed with accurate and reliable news and information. The News and Information Innovation minor combines Annenberg's journalistic expertise with the collaborative team- and design-based strategies fostered at the Iovine and Young Academy to give students from across the university the mindset and skills needed to be thought leaders and change agents in the information ecosystem. Through this minor, students have the opportunity to think differently about how journalism functions in order to innovate the practice through human-centered-design, product innovation, entrepreneurialism, and service design.

Additional electives, including in other schools at USC, will be considered through student advisement.

Information on how to apply for the minor can be found at: *iovine-young.usc.edu.*

Required Courses (16 units)

Students must complete the following 16 units:

- ACAD 174 Innovators Forum Units: 2
- ACAD 207 Designing Narrative Media Units: 4
- ACAD 255 Advancing Journalism with Human-Centered Design Units: 4
- JOUR 200w The Power and Responsibility of the Press Units: 4
- JOUR 210x Basics of News Production for Non-Majors Units: 2

Electives (8 units)

Students must complete 8 units from the following:

- ACAD 176 Rapid Visualization Units: 4
- ACAD 181g Disruptive Innovation Units: 4
- ACAD 187 Digital Toolbox: 3D Design Units: 2
- ACAD 206 Communication and Culture Units: 4
- ACAD 217 Designing Immersive Media Units: 4
- ACAD 256 Designing for News and Information Units: 4
- ACAD 275 Dev I Units: 4
- ACAD 280 Designing Digital Experiences Units: 4
- ACAD 302 The Hacker Imagination: from Ancient Greece to Cupertino Units: 4
- ACAD 324g The Practice of Design: Ideation to Innovation Units: 4
- JOUR 460 Social Responsibility of the News Media Units: 4
- JOUR 472 Strategies for Monetizing New Media Units: 4
- JOUR 489 Hands-on Disruption: Experimenting with Emerging Technology Units: 2
- JOUR 495 Journalism for Mobile and Emerging Platforms Units: 2
- PR 488 Multimedia PR Content: Visual Communication of Information Units: 2

Master's Degree

Integrated Design, Business and Technology (MS)

The Master of Science in Integrated Design, Business and Technology is an online graduate degree program that provides a first-of-its-kind interdisciplinary education at the intersection of the educational and professional disciplines central to our changing world. The program creates leaders with diverse and creative ways of thinking and doing – trained to recognize and cultivate innovation, catalyze change, and leverage new opportunities to not only support, but also help shape and build our rapidly evolving economy.

This program brings together faculty and experts from across the USC campus. Instructors work in cross-disciplinary teams, covering subjects that include conceiving and developing solutions to complex design, business and technological challenges; using data and research to create a portfolio of problem-solving approaches, and how to manage and adapt to uncertainty.

The Master of Integrated Design, Business and Technology is a master of science degree offered predominantly online and is composed of both asynchronous and synchronous sessions. Students also participate in two, intensive residential experiences – the first to be held on the University of Southern California's campus in Los Angeles and the second at locations across the United States.

For admission requirements, refer to *design.usc.edu/admissions/admissions-requirements*.

Program Requirements

At least 38 units are required for the Master of Science in Integrated Design, Business and Technology. The course of study can be completed in five terms, and must include:

Required Residential Courses

- IDSN 510 Integrative Practices Residential Units: 2
- IDSN 515 Professional Practices Residential Units: 2

Required Core Courses

- IDSN 540 Processes and Perspectives Units: 4
- IDSN 545 Integrative Project Units: 3
- IDSN 550 Opportunity and Uncertainty Units: 4
- IDSN 560 Narrative and Storytelling Units: 4
- IDSN 585 Capstone Units: 3

Select 6 Units from the Following Courses

- IDSN 520 Design Essentials Units: 3
- IDSN 525 Business Essentials Units: 3
- IDSN 530 Technology Essentials Units: 3

Select 10 Units from the Following Electives

- IDSN 428 Overview of Intellectual Property Laws for Creatives and Entrepreneurs Units: 1
- IDSN 505 Intensive Units: 0.5, 1, 1.5, 2 (1-6 units)
- IDSN 515 Professional Practices Residential Units: 2
- IDSN 520 Design Essentials Units: 3
- IDSN 525 Business Essentials Units: 3
- IDSN 528 Using Intellectual Property Laws to Protect Your Products and Ideas Units: 2
- IDSN 530 Technology Essentials Units: 3
- IDSN 533 Visual Software Development Units: 2
- IDSN 536 Designing Networked Objects: From IoT to Smart Environments Units: 3
- IDSN 546 Integrative Studio Units: 2 (2-4 units)
- IDSN 565 Sound and Story Units: 2
- IDSN 570 Decisions and Solutions Units: 4
- IDSN 577 Finance for Entrepreneurs Units: 3
- IDSN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (1-4 units)
- IDSN 599 Special Topics Units: 1, 2, 3, 4, 5, 6, 7, 8 (1-8 units)

Product Innovation (MS)

The Master of Science in Product Innovation addresses the 21st century need for advanced, cross-disciplinary knowledge and skills across the product development landscape. Building on a foundation that explores new paradigms for physical, virtual and hybrid product design, students are able to tailor the program to develop design specializations that range from physical objects, to digital and interactive systems and experiences, to unique offerings that require knowledge and experience across multiple realms. Applied techniques and methodologies are augmented at each level of the program with specially crafted courses that provide essential theoretical and cultural context for advanced work, and by modules and courses covering critical elements of product venture development, including strategies for launch, management and growth. Utilizing the Academy's network of leading industry partners, a strong emphasis is placed on collaborations between student teams and select companies and institutions, as well as other opportunities that provide real-world challenges for enhanced learning.

Applicants should hold an undergraduate degree in a design-related field, including: all areas of design, such as graphic, industrial, product (including fashion), and UI/UX or interaction design (including games); select areas of engineering; and architecture. Applicants who possess equivalent professional experience or who hold degrees in other fields, including business, are welcome to apply and will be considered on a case-by-case basis.

Applicants who cannot demonstrate sufficient design-based skills may be required to complete additional course work before registering for degree requirements or electives.

Program Requirements:

At least 64 units, including 52 units in the core and 12 units of electives.

Core Courses (52 units):

- PRIN 501 The Creator's Mindset Units: 4
- PRIN 502 History and Theory of Product Innovation Units: 2
- PRIN 503 Principles of Human-Centered Design Units: 2
- PRIN 504 Aesthetics of Form I Units: 4
- PRIN 505 Aesthetics of Form II Units: 4
- PRIN 510 Foundation Studio Units: 4 *
- PRIN 515 Maker Foundation I Units: 2 *
- PRIN 516 Maker Foundation II Units: 2 *
- PRIN 520 Creators Studio Units: 4
- PRIN 525 Physical Maker Lab Units: 2
- PRIN 526 Virtual Maker Lab Units: 2
- PRIN 530 Business Essentials for Product Innovators Units: 4
- PRIN 531 Product Venture Design and Foresight Units: 4
- PRIN 532 Leading Product Enterprises Units: 4
- PRIN 535 Entrepreneur Lab Units: 2
- PRIN 550 Industry Lab Units: 2
- PRIN 575a The Garage Experience Units: 2
- PRIN 575b The Garage Experience Units: 2

Electives (take an additional 12 units from the following):

- PRIN 525 Physical Maker Lab Units: 2 **
- PRIN 526 Virtual Maker Lab Units: 2 **
- PRIN 535 Entrepreneur Lab Units: 2 **
- PRIN 550 Industry Lab Units: 2
- PRIN 590 Directed Research Units: 1,2,3,4,5,6,7,8,9,10,11,12 ***

Note:

**Topics and titles for sections PRIN 525, 526, and 535 rotate on a regular basis. Sections bearing the same title or content may not be repeated for credit towards the degree.

***PRIN 590 may be applied as an elective for up to eight units.

Additional courses within the Iovine and Young Academy or other departments and schools at USC are eligible for elective credit in the MS-PRIN degree based on advisement and approval by the Associate Dean for Admission and Student Affairs.

Sample Schedule Semester 1

16 units

- PRIN 501 The Creator's Mindset Units: 4
- PRIN 502 History and Theory of Product Innovation Units: 2
- PRIN 503 Principles of Human-Centered Design Units: 2
- PRIN 510 Foundation Studio Units: 4
- PRIN 515 Maker Foundation I Units: 2
- PRIN 516 Maker Foundation II Units: 2

Sample Schedule Semester 2

16 units

- PRIN 504 Aesthetics of Form I Units: 4
- PRIN 520 Creators Studio Units: 4
- PRIN 525 Physical Maker Lab Units: 2
- PRIN 526 Virtual Maker Lab Units: 2
- PRIN 530 Business Essentials for Product Innovators Units: 4

Sample Schedule Semester 3

16 units

- PRIN 505 Aesthetics of Form II Units: 4
- PRIN 531 Product Venture Design and Foresight Units: 4
- PRIN 535 Entrepreneur Lab Units: 2
- PRIN 550 Industry Lab Units: 2
- PRIN 575a The Garage Experience Units: 2
- Elective Units: 2

Sample Schedule Semester 4

16 units

- PRIN 532 Leading Product Enterprises Units: 4
- PRIN 575b The Garage Experience Units: 2
- Elective Units: 10

Graduate Certificate

The Business of Product Innovation Certificate

The Certificate in The Business of Innovation will provide students with a strong foundation in areas of entrepreneurship specific to developing and launching consumer products and product-based companies. Students will gain knowledge in critical areas including: historical milestones of product design and product innovation and how these products opened up new business opportunities to disrupt the status quo; developing and launching products, from product roadmapping, to value chain, to brand and marketing strategy; identifying and activating groundbreaking opportunities in new product development; and launching product-based ventures and enterprises.

Information on how to apply to the certificate can be found at: **iovine-young.usc.edu**

Required Courses (16 units)

- PRIN 502 History and Theory of Product Innovation Units: 2
- PRIN 530 Business Essentials for Product Innovators Units: 4
- PRIN 531 Product Venture Design and Foresight Units: 4
- PRIN 532 Leading Product Enterprises Units: 4
- PRIN 535 Entrepreneur Lab Units: 2

The Foundations of Product Innovation Certificate

The Certificate in The Foundation of Product Innovation provides students with a strong foundation in the theory and practice of consumer product design and development. Students will gain knowledge in critical areas including: the mindsets, personalities and social, cultural and political factors that led to the world's greatest breakthroughs; the process of bringing a product from concept to market, including theory and applied techniques for both physical and virtual products; advanced visualization concepts, techniques and tools used to communicate ideas, solve problems and enhance collaboration for product design and development; and explorations of digital design tools, including industry standard software.

Students will then apply what they have learned through product design studios and labs utilizing the Academy's state of the art maker facilities. In addition to the methods and practices of traditional product design, the course sequence explores new paradigms for physical, virtual, and hybrid products, ranging from objects and built environments, to digital, immersive and interactive experiences.

Information on how to apply to the certificate can be found at: **iovine-young.usc.edu**

Required Courses (16 units)

- PRIN 501 The Creator's Mindset Units: 4
- PRIN 502 History and Theory of Product Innovation Units: 2
- PRIN 503 Principles of Human-Centered Design Units: 2
- PRIN 510 Foundation Studio Units: 4
- PRIN 515 Maker Foundation I Units: 2
- PRIN 516 Maker Foundation II Units: 2

USC Leventhal School of Accounting

The USC Leventhal School of Accounting is dedicated to maintaining a leadership position in accounting education and research. We are committed to educational programs that seek to establish in each graduate the potential for career development into the highest executive levels of public accounting, controllership, financial management and management of accounting information systems. The accounting curriculum explores not only the state of the art but also seeks to explore the accounting discipline's future structures and directions. Relevant concepts and techniques from other academic disciplines are drawn upon and integrated into all accounting programs.

Accounting education has been an integral part of USC since 1920, when the Department of Accounting offered a Bachelor of Science degree in business administration with an emphasis in accounting. The Leventhal School of Accounting was established in 1979 in recognition of the growing importance of accounting to our economy and broader society. It continues to rank as one of the premier AACSB-accredited accounting programs in the nation.

Currently the Leventhal School of Accounting undergraduate program offers a Bachelor of Science accounting degree. Honors students may be eligible for early admission to the graduate program, an efficient way to complete both undergraduate and graduate degrees. An accounting minor is also offered to students outside the USC Marshall School of Business. The school also offers a minor in risk management. Graduate programs include Master of Accounting; Master of Accounting with an emphasis in Data and Analytics; Master of Business Taxation; a Master of Business Taxation (Data and Analytics); a Master of Business Taxation for working professionals; and a Juris Doctor/Master of Business Taxation in conjunction with the USC Gould School of Law. A PhD degree with an accounting major is offered through the doctoral program in the Marshall School of Business.

USC Leventhal School of Accounting
Accounting 101
(213) 740-4838
FAX: (213) 747-2815
Email (graduate students): MAcc.MBT@marshall.usc.edu; (undergraduate students) lsoa_undergrad@marshall.usc.edu
marshall.usc.edu/leventhal

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Mark L. DeFond, PhD, CPA, *Associate Dean, Faculty Affairs*
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Arthur Alba, MA, *Director, Undergraduate Program*

Faculty

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Joseph A. DeBell Chair in Business Administration: TJ Wong, PhD
Deloitte & Touche LLP Chair in Accounting: Richard Sloan
A.N. Mosich Chair in Accounting: Mark L. DeFond, PhD, CPA*
Accounting Associates Professor of Accounting: Clive Lennox, PhD
Accounting Circle Professor of Accounting: Regina Wittenberg Moerman, PhD
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Associate Professors of Clinical Accounting: Robert Kiddoo, MBA, CPA; Smrity Randhawa, PhD; Lori Smith, BS, CPA; Zivia Sweeney, MBA, CPA*
Assistant Professor of Clinical Accounting: Michael C. Paranal, JD MBA, MBT, CPA
Professors of the Practice of Accounting: John Owens, BS; Thomas P. Ryan, MBA
Associate Professors of the Practice of Accounting: George Braunegg, MBA, CPA; Kristen Jaconi, JD*
Lecturer: Gregory M. Kling, MST
Emeritus Professors: Joseph L. Keller, MS, CPA; Thomas W. Lin, PhD, CMA; Kenneth A. Merchant, PhD, CPA; Theodore J. Mock, PhD; ZoeVonna Palmrose, PhD; Leslie Porter, PhD; Kenneth Simmonds, MBA, CPA
**Recipient of university-wide or school teaching award.*

Degree Programs

Undergraduate Degree

Bachelor of Science, Accounting

The USC Leventhal School of Accounting offers the Bachelor of Science, Accounting (BS) degree designed to provide students with a broad foundation in accounting and business to prepare them for entry into the professional program leading to a Master of Accounting or Master of Business Taxation degree. The undergraduate curriculum also provides the background necessary for direct entry into the accounting profession.

Graduate Degrees

Master of Accounting

The Master of Accounting (MAcc) program provides an integrated curriculum designed to prepare graduates for careers in professional accounting, public accounting, industry and government. Students have the opportunity to study accounting in greater depth and in more areas of specialization than in undergraduate accounting programs or MBA programs with concentrations in accounting. Students have flexibility in elective choices to reflect their career goals.

Master of Accounting (Data and Analytics)

The Master of Accounting, Data and Analytics emphasis (MAcc D+A) delivers a firm foundation in accounting, audit and financial reporting with a focus on data and analytics and the enabling of IT capabilities. The exclusive career focus for the D+A emphasis is on the role of an auditor.

Master of Business Taxation

The Master of Business Taxation (MBT) degree is offered to both full-time and part-time students. The program is designed for accountants, attorneys and business professionals who wish to learn or improve skills and knowledge through participation in advanced tax study. Students have flexibility in elective choices to reflect their career focus and goals. The part-time program is referred to as the MBT for Working Professionals (MBTWP).

Master of Business Taxation (Data and Analytics)

The Master of Business Taxation with an emphasis in data and analytics (MBT D&A) delivers a firm foundation in taxation with a focus on data and analytics and the enabling of IT capabilities. This program provides a rigorous approach and will require students to develop strong analytical skills while focusing on such

areas as tax research, corporate taxation, accounting methods and multijurisdictional taxation. Tax instruction is further enhanced by incorporating data analysis into the tax curriculum with the goal of providing students with an understanding of how to capture data, analyze it, draw conclusions and present those conclusions to disparate audiences.

Juris Doctor/Master of Business Taxation

The USC Gould School of Law and the Leventhal School of Accounting offer this dual degree program. Admission to the JD program offered by the Law School is required before applying to the MBT program offered by the Leventhal School of Accounting.

Doctor of Philosophy

The Marshall School of Business offers the Doctor of Philosophy (PhD) degree in conjunction with the Graduate School. A student electing to major in accounting may design a research program that emphasizes auditing, financial accounting, information systems, management accounting or taxation. More information on the doctoral program is available in the USC Marshall School of Business section of this catalogue, or contact the doctoral office at (213) 740-0674 or the director of doctoral studies in accounting at (213) 740-4838.

Admission to Master's Programs

The Leventhal School of Accounting seeks individuals who have the potential for outstanding achievement in accounting or taxation. The Admissions Committee uses the holistic review model. Candidates are reviewed on the merits of their application and the merits of the applicant pool for the year in which they seek admission.

Applicants to the full-time programs are not required to have previous work experience. Applicants to the part-time MBT program (MBTWP) are required to have a minimum of one year full-time professional experience related to taxation after receiving an undergraduate degree.

Application to the Programs

An admission decision requires the following: (1) a completed USC Leventhal School of Accounting online graduate application (available at gradadm.usc.edu/); (2) a non-refundable application fee; (3) one official transcript from the registrar of each college or university attended (undergraduate and/or postgraduate); (4) two letters of recommendation; (5) a professional résumé; (6) an official Graduate Management Admission Test (GMAT) score report or, for JD/MBT applicants or attorneys, an official Law School Admission Test (LSAT) score report; and (7) an essay. Finalists must also complete an interview.

Applicants for the JD/MBT dual degree program should apply to the Leventhal School of Accounting for admission to the MBT program in the second semester of their first year in the USC Gould School of Law. In addition, current Law School transcripts and a "letter in good standing" from the registrar of the Law School must be submitted as part of the application. The same Leventhal School of Accounting admission criteria apply to the MBT portion of the JD/MBT program.

International Students

In addition to the application requirements noted above, all international students must submit TOEFL or IELTS scores. A letter of financial support is also required.

MAcc/MBT for Current USC Students

The Leventhal School of Accounting offers the opportunity to earn both a bachelor's degree and a master's degree in five years or less. This simplified, early admission process is for current USC students who have demonstrated exceptional academic success in undergraduate studies and who have completed a minimum of 70 units of course work. Strong SAT scores may be substituted for GMAT scores for continuing USC students only.

Please see a Leventhal School of Accounting academic adviser for further information and to develop a course plan proposal.

Application Deadlines

Full-time MAcc and MBT – Applicants are urged to file a completed application as early as possible. For applications to the full-time programs that begin in summer or fall, the online application system is generally open beginning early October. For more information regarding application deadlines go to our website marshall.usc.edu/programs/graduate-accounting-programs.

MBT for Working Professionals – For more information regarding application deadlines go to our website marshall.usc.edu/programs/graduate-accounting-programs.

Residence Requirements

Subject to approval of the Leventhal School of Accounting, the maximum number of transfer credits that may be applied toward the master's degree is 3 units. To be applied to the degree, transfer work must have been completed within five years of admission to the master's program. Graduate transfer credit will not be granted for course work taken elsewhere after a student has been admitted and enrolled at USC. Credit will only be allowed for courses (1) from an AACSB-accredited graduate school, (2) of a quality of at least 3.0 on a 4.0 grading scale, (3) constituting a fair and reasonable equivalent to current USC course work at the graduate level, and (4) fitting into the logical program for the degree. Transfer course work is applied as credit (CR) toward the degree and is not included in the calculation of a minimum grade point average for graduation.

Waivers

With the written approval of the Leventhal School of Accounting, waiver of required courses may be granted to students based upon prior academic work. All waived courses must be replaced with approved electives. Students should carefully read their program evaluation form to know what electives must be taken if they are granted subject waivers.

Bachelor's Degree

Accounting (BS)

The USC Leventhal School of Accounting Bachelor of Science, Accounting (BS) degree is designed to provide students with a broad foundation in accounting and business to prepare them for entry into the professional program leading to a Master of Accounting or Master of Business Taxation degree. The undergraduate curriculum also provides the background necessary for direct entry into the accounting profession. The BS, Accounting degree is a 128-unit program.

Admission

Students may be admitted to the program as incoming freshmen, as USC undergraduates transferring from another major or as students transferring from another college or university. Admission to Leventhal is dependent on admission to the university and on academic performance, particularly in quantitative areas. USC students who have not been admitted to the major or the minor in the Marshall School of Business and/or the Leventhal School of Accounting may complete a maximum of 12 units from the Marshall School of Business and/or the Leventhal School of Accounting. No further course work may be taken unless a student is admitted.

Leventhal/Marshall Honors

Leventhal/Marshall Honors is available upon graduation to majors in accounting or business administration and results in a special designation of departmental honors on a student's transcript. Acceptance to the program requires completion of at least 64 units of course work (including transfer units), a GPA of 3.5 or higher in course work to be applied to the major, an application, and a successful interview with the director of the program. Achievement of Leventhal/Marshall Honors requires completion of ACCT 493 Honors Research Seminar prior to the senior year, a thesis (research project and paper) conducted under the guidance of a Leventhal or Marshall faculty member during the senior year, and minimum GPA of 3.5 in upper-division

Leventhal School of Accounting and Marshall School of Business courses applied to the major. For additional information, contact the Leventhal School of Accounting Undergraduate Program Office in ACC 101, (213) 740-4838.

Advisement

Academic advisement is provided through the Leventhal School of Accounting Undergraduate Program Office in Accounting 101, (213) 740-4838. Students are required to meet with an academic adviser before registering and this requirement remains in effect until 24 USC units are completed. However, all students are encouraged to see an academic adviser on a regular basis. A record of each student is kept on file. Appointments for advisement may be scheduled at most times during the academic year. However, during busy times such as the preregistration, registration and drop/add periods, advisers may be available on a walk-in basis only.

The Leventhal Undergraduate Program Office and Marshall Undergraduate Student Services offer students assistance in networking, finding internships, resume writing, interviewing techniques and other career-related issues.

Transferring College Credit

College Courses

USC has established articulation agreements with most community colleges throughout California. Most academic courses are acceptable for transfer credit from a two-year school, but students may not receive credit for specialized, technical or remedial courses.

Courses that do not appear on the articulation agreement are not transferable. A maximum of 64 semester units may be transferred. Check with the Degree Progress Department (JHH 010) for questions about transferable courses or see a counselor in Accounting 101.

Official transcripts of college work taken elsewhere must be submitted, at the time of application, to the USC Office of Admission. A credit evaluation will be completed, which will list transfer courses accepted for credit. All business courses completed at a two-year college, if transferable, will be considered elective credit.

There is one exception to this policy. Students may transfer two semesters of introductory accounting and receive credit equivalent to one semester of introductory accounting at USC. Then students can register for BUAD 305 Abridged Core Concepts of Accounting Information and complete their accounting course requirement in one semester at USC. In this case, students would not be required to take BUAD 280 or BUAD 281.

Four Year Colleges

Most courses are acceptable for unit credit from all fully accredited four-year institutions. If the courses do not satisfy specific subject requirements at USC, they will be accepted for elective course credit.

Students are urged to complete all their required business administration courses at USC. All business courses from four-year institutions, if transferable, will be considered elective credit unless a challenge examination is passed. Only core classes, with the exception of BUAD 497, may be challenged. Students should consult with an academic adviser in Bridge Hall 104 to initiate the challenge examination process.

Grade Point Average Prerequisites for Transfer Students

Transfer students are required to meet the following grade requirements to be admitted to the Leventhal School of Accounting. An average grade of B in the two transferred accounting courses and BUAD 305 (with no grade lower than B-). Grades in accounting courses taken at other institutions will only be considered in meeting the admission requirement for the Leventhal School of Accounting. Once a transfer student completes a minimum of two accounting courses at USC, the student's accounting grades at the prior institution will no longer be considered in determining whether the student meets the 2.7 grade point average standard (see Grade Point Average Prerequisites following).

In the computation of grade point averages for accounting courses taken at other colleges or universities, the courses will be weighted in terms of the number of units provided for the equivalent USC accounting courses.

Grade Point Average Prerequisites

The following are grade point average prerequisites for any undergraduate student enrolled in any accounting course. Individual instructors may not waive these standards: (1) an average grade of B or better in BUAD 280 and BUAD 281 with no grade lower than a B-; and (2) a minimum 2.7 grade point average (A = 4.0) for all accounting courses taken previously.

In meeting the B average required in BUAD 280 and BUAD 281, only one of the courses may be repeated. If the repeated course grade is higher, that grade will be considered in determining whether the student meets the B average, and the original course grade will be disregarded by the Leventhal School of Accounting in the administration of its grade point average requirements. See Repeated Course Work at USC for further restrictions on including grades in repeated courses in the overall university grade point average computation.

In computing grade point average prerequisites, BUAD 280, BUAD 281 or BUAD 305 will be considered accounting courses.

Probation

When a student's cumulative accounting grade point average falls below 2.7, the student is placed on probation. If a student on probation does not regain a minimum accounting cumulative GPA of 2.7 after completing the next 12 semester hours in all courses (including accounting units) attempted within the university, that student will not be permitted to continue as an accounting major in the Leventhal School of Accounting. Exceptions to this policy may be granted only in unusual circumstances by the Academic Standards Committee of the Leventhal School of Accounting. Decisions of the Academic Standards Committee are final.

To be removed from probationary status, a student may elect to take another accounting course or courses for which prerequisites are met or to repeat an accounting course or courses in an attempt to earn a higher grade. Regardless of the course of action taken, all courses completed will be counted in computing the cumulative accounting grade point average.

A grade of "W" in an accounting course taken while on probation will not extend probation. The probation period ends at the end of that semester during which the student completes a cumulative total of 12 semester hours of courses in any subject(s) at the university. Under no conditions will the student be permitted more than two successive semesters, including the summer semester, to complete the 12 semester hours of courses.

Graduation Standard

Students must attain a minimum 2.7 cumulative accounting grade point average (A = 4.0) to graduate with a Bachelor of Science, Accounting degree.

USC Core Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education for more information.

Business Foundation Requirements

All students in the Leventhal School accounting undergraduate degree program take business foundation courses that focus on necessary analytic skills and theoretical knowledge in math, statistics, accounting and economics. Fundamental knowledge of the functional business disciplines and the strategic interplay among them completes the business core.

Accounting/Business Foundation Courses

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4 or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 351 Economic Analysis for Business Decisions Units: 4 or
- ECON 351x Microeconomics for Business Units: 4
- BUAD 352 Macroeconomic Analysis for Business Decisions Units: 4 or
- ECON 352x Macroeconomics for Business Units: 4
- BUAD 497 Strategic Management Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 * or
- MATH 125g Calculus I Units: 4

Note:

**Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam or AP calculus or IB mathematics exam.*

All prerequisites for business and all accounting and business courses must be taken for a letter grade.

A maximum of 24 units of undergraduate course work taken on a pass/no pass basis may be used toward the BS, Accounting degree. No more than four units of credit (or one course) counting toward the general education categories may be taken on a pass/no pass basis. The writing course cannot be taken on a pass/no pass basis.

The Bachelor of Science, Accounting degree includes the following required accounting courses in addition to the accounting/business foundation courses listed above.

Required Accounting Courses

- ACCT 370 External Financial Reporting Issues Units: 4
- ACCT 371 Introduction to Accounting Systems Units: 4
- ACCT 372 Internal Reporting Issues Units: 2
- ACCT 373 Introduction to Auditing and Assurance Services Units: 2
- ACCT 374 Introduction to Tax Issues Units: 2
- ACCT 377 Valuation for Financial Statement Purposes Units: 2
- ACCT 430 Accounting Ethics Units: 4
- ACCT 470 Advanced External Financial Reporting Issues Units: 4
- ACCT 473 Financial Statement Auditing Units: 2 or
- ACCT 474 Tax Issues for Business Units: 2

Elective Courses

Choose one of the following courses:

- ACCT 416 Financial Reporting and Analysis Units: 2
- ACCT 462 Detecting Fraudulent Financial Reporting Units: 2
- ACCT 463 Internal Audit Units: 2
- ACCT 471 Accounting Information Systems Units: 2
- ACCT 472 Managerial Accounting Units: 2
- ACCT 473 Financial Statement Auditing Units: 2 *
- ACCT 474 Tax Issues for Business Units: 2 *
- ACCT 475 Systems Security and Audit Units: 2
- ACCT 476 Performance Measurement Issues Units: 2
- ACCT 477 Intermediate Fair Value Issues in Accounting Units: 2
- ACCT 478 Accounting Systems Design Units: 4
- ACCT 479 Accounting Systems Development Units: 4
- ACCT 493 Leventhal Honors Research Seminar Units: 2

Note:

**If not already completed as a required course*

Minor

Accounting Minor

A minor in accounting is available to students in all schools and departments except the Marshall School of Business. The minor provides the opportunity for non-business majors to gain an understanding, from the perspective of the user of accounting information, of how accounting is used in the business world.

To be approved for the accounting minor, students must have completed a minimum of 32 units of college-level courses and attained a minimum GPA of 2.75.

Successful completion of the minor requires at least 16-18 units with a minimum GPA of 2.0 in the courses applied to the minor:

Minor Course Requirements

Choose one of the following four options: (2-8 units) *

- BUAD 200x Economic Foundations for Business Units: 2 or
- ECON 203g Principles of Microeconomics Units: 4 and
- ECON 205g Principles of Macroeconomics Units: 4 or
- ECON 303 Intermediate Microeconomic Theory Units: 4 ** and
- ECON 305 Intermediate Macroeconomic Theory Units: 4 ** or
- BUAD 351 Economic Analysis for Business Decisions Units: 4 ** or
- ECON 351x Microeconomics for Business Units: 4 ** and
- BUAD 352 Macroeconomic Analysis for Business Decisions Units: 4 ** or
- ECON 352x Macroeconomics for Business Units: 4 **

Required Courses (12 units)

- ACCT 410x Foundations of Accounting Units: 4 or
- BUAD 305 Abridged Core Concepts of Accounting Information Units: 4 or
- BUAD 280 Introduction to Financial Accounting Units: 3 and
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 215x Foundations of Business Finance Units: 4 ** or
- BUAD 306 Business Finance Units: 4 **
- ACCT 415x Intermediate Financial Accounting for Non-Accounting Majors Units: 4

Electives: Choose two of the following courses (4 units)

- ACCT 372 Internal Reporting Issues Units: 2 **
- ACCT 374 Introduction to Tax Issues Units: 2 **
- ACCT 416 Financial Reporting and Analysis Units: 2 **
- ACCT 462 Detecting Fraudulent Financial Reporting Units: 2 **

Notes:

**Students who have earned scores of 4 or 5 on both the AP Microeconomics and the AP Macroeconomics exams will be waived out of the first requirement.*

***Prerequisites and/or Corequisite required. Plan carefully.*

Risk Management Minor

The minor in Risk Management provides students with the fundamental knowledge of risk management - a crucial component of contemporary management, corporate governance and decision making under uncertain conditions.

The required courses provide the foundation of the risk

management framework and present alternative business models of insurance, the most common form of risk transfer. The electives provide opportunities to more deeply understand facets of risk and the environments in which they arise as well as specific methodologies of mitigation.

Industries currently seeking risk management professionals include entertainment, tech, aviation, hospitality, healthcare, manufacturing, insurance and many others.

A student declaring the minor in Risk Management also has the opportunity to participate in the Risk Management Mentorship Program and be paired with a mentor from the risk management industry for the academic year.

The minor is available to students in all schools and departments except for students pursuing the Business Administration (Risk Management) (BS) emphasis.

To declare this minor, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of 2.75.

Successful completion of the Risk Management Minor requires 16 units with a minimum GPA of 2.0 in the following courses:

Required Courses

- ACCT 380x Introduction to Enterprise Risk Management Units: 4

  Choose one of the following:
- ACCT 385x Introduction to Risk Management and Insurance Units: 4
- ECON 361 Understanding Financial Crises Units: 4 *
- PHIL 258g Probability and Rational Choice Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4

Electives

Complete at least 8 units from the following:

- ACCT 385x Introduction to Risk Management and Insurance Units: 4 ***
- ACCT 387 Risk Management in Entertainment, Sports and the Arts Units: 4
- BUAD 315x Basics of Project and Operations Management for Non-Majors Units: 2
- COMM 309 Communication and Technology Units: 4
- COMM 422 Legal Issues and New Media Units: 4
- DSO 427 Designing Spreadsheet-Based Business Models Units: 4
- DSO 455 Project Management Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4 *
- ECON 361 Understanding Financial Crises Units: 4 * ***
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4
- FBE 443 Introduction to Forecasting and Risk Analysis Units: 4 *
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4
- FBE 459 Financial Derivatives Units: 4 *
- ITP 125L From Hackers to CEOs: Introduction to Information Security Units: 2
- ITP 325 Ethical Hacking and Systems Defense Units: 3 *
- ITP 370 Information Security Management Units: 3
- ITP 375 Digital Forensics Units: 3 *
- ITP 479 Cyber Law and Privacy Units: 3
- PHIL 258g Probability and Rational Choice Units: 4 ***
- PPD 357 Government and Business Units: 4 **
- PPD 358 Urban and Regional Economics Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4 ***

  ** Prerequisite required that is not part of this minor.*

  *** PPD will waive the prerequisite.*

  **** If not applied to the minor as a required course.*

Master's Degree

Accounting (Data and Analytics) (MAcc)

The Master of Accounting program with an emphasis in data and analytics combines course work from the Leventhal School of Accounting and Marshall's Data Sciences and Operations department. Advances in computing technology are fundamentally changing the way audits are conducted. The data and analytics emphasis of the MAcc is designed to train auditors for the data age.

The program employs a rigorous case analysis approach that requires students to exercise their analytical abilities and develop both teamwork and professional communication skills.

Integrated into the data and analytics emphasis is an audit internship during the spring semester encompassing both audit and data and analytics in an integrated fashion. This required element of the program builds a critical bridge for the student between his or her academic and work lives, ultimately enriching both.

Application

The data and analytics emphasis of the MAcc is open only to individuals who have earned the equivalent of a four-year bachelor of accounting degree from an accredited program. Applicants also must have an offer letter for a spring internship at a "big four" or major national public accounting firm or equivalent. Spring internships must run from January through April and integrate both audit and data analytics.

Program Requirements

The Master of Accounting, Data and Analytics emphasis requires up to 31.5 units including fundamentals, core requirements and electives. Students with prior study in statistics who pass the challenge exam for Data Driven Decision Making receive a waiver reducing the units required to earn the degree to 30.

Fundamentals (1.5 Units)

- GSBA 545 Data Driven Decision Making Units: 1.5

Core (27 Units)

- ACCT 527 Financial Statement Analysis - Audit Perspective Units: 1.5 *
- ACCT 540 Technological Innovations in Accounting and Auditing Units: 3
- ACCT 541L Auditing in the Enhanced Data Age Units: 3 **
- ACCT 542 Fraud Analytics in the Audit Units: 1.5 *
- ACCT 548L IT Audit and Data Applications Units: 3 **
- ACCT 549 Advanced Enterprise Systems and Technologies Units: 3
- ACCT 585 Professional Responsibilities in Accounting Units: 3
- ACCT 595 Internship in Accounting Units: .5, 1, 1.5, 2, 3 ***
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3 ***
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3

Note:

* Prerequisites required
** Corequisites
*** 3-unit version required

Electives (3 Units)

Working with an adviser, students select a minimum of 3 units from the following.

- ACCT 559 Strategy and Operations Through CFO Lens Units: 3
- DSO 510 Business Analytics Units: 1.5, 3
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3

- DSO 552 SQL Databases for Business Analysts Units: 1.5
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3

Accounting (MAcc)

The Master of Accounting program (MAcc) prepares graduates for careers in public accounting, industry and government. The program offers students technical and conceptual knowledge, professional development, research and lifelong learning, ethical and professional standards and globalization and diversity. For details on these student learning outcomes, see the program Website at *marshall.usc.edu/macc*.

The program employs a rigorous case analysis approach that requires students to exercise their analytical abilities and develop both teamwork and professional communication skills.

Application

An undergraduate accounting or business major is not necessary, nor is work experience a requirement. The program enrolls students in the summer or fall based on their academic backgrounds. For application information visit *marshall.usc.edu/macc/admissions*.

Program Requirements

The Master of Accounting degree requires 48 units, including fundamentals, core requirements and electives.

The Leventhal School of Accounting Master's Program Office evaluates the academic background of each admitted student to determine the courses required to complete the program.

Students admitted for summer term start with ACCT 525 Intensive Accounting Principles and Practices — an eight-week, 40 hours-per-week course for students who have not completed undergraduate degrees or other extensive course work in accounting. This course must be completed successfully prior to beginning the core in the fall.

Students admitted for fall term generally hold a bachelor's degree in Accounting and are waived from the 15-unit ACCT 525 class reducing the number of units required to earn the degree to 33.

USC BS in Accounting students may qualify for waiver of an additional 6 units reducing the number of units required to earn the degree to 27. (USC BS in Accounting students should meet with a graduate adviser during their junior year to determine if they qualify.)

Any of the groups listed above who have taken an equivalent of GSBA 548 Corporate Finance may petition to waive out of the requirement, reducing the number of units required to complete the degree by 3 units.

Degree Requirements

Fundamentals (18 units)

- ACCT 525x Intensive Accounting Principles and Practices Units: 15
- GSBA 548 Corporate Finance Units: 2, 3

Core Program (16.5 Units)

- ACCT 528 Fair Value Accounting: GAAP, IFRS and Emerging Issues Units: 1.5
- ACCT 530L Ethics for Professional Accountants Units: 3
- ACCT 585 Professional Responsibilities in Accounting Units: 3

At least one from the following (to be determined by previous course work)

- ACCT 546 Auditing and Assurance Services Units: 3
- ACCT 557 Advanced Financial Statement Auditing Topics Units: 3

At least one from the following (to be determined by previous course work)

- ACCT 547 Enterprise Information Systems Units: 3
- ACCT 549 Advanced Enterprise Systems and Technologies Units: 3

At least one from the following (to be determined by previous course work)

- BUCO 504T Writing for Accounting and Tax Professionals Units: 3 or
- GSBA 523T Communication for Accounting and Tax Professionals Units: 3 or
- BUCO 503 Advanced Managerial Communication Units: 1.5, 3

Elective Course Work (13.5 Units)

- Select a minimum of 10.5 units of ACCT 5xx electives
- Select a maximum of 6 units of Marshall (BAEP, BUCO, DSO, FBE, GSBA, MKT, MOR) 500-level electives.

Business Taxation (Data and Analytics) (MBT)

Understanding taxation is critical to every business decision and many personal decisions as well. Whether you are preparing for a career as a tax professional in public accounting, industry, government or the investment arena or are starting your own business, tax planning must be done. Because of the complexity of the tax law and its pervasive influence, people facing tax decisions routinely call on tax professionals for advice in planning and structuring their affairs in order to comply with the law and to ensure economic good sense.

The practice of tax is becoming increasingly analytic and data driven. The environment demands great thinking about business, financial and taxation issues. It includes sophisticated IT systems and demands leading edge processes to understand and interact with those systems.

The Master of Business Taxation with an emphasis in data and analytics (MBT D&A) delivers a firm foundation in taxation with a focus on data and analytics and the enabling of IT capabilities. This program provides a rigorous approach and will require students to develop strong analytical skills while focusing on such areas as tax research, corporate taxation, accounting methods, and multijurisdictional taxation. Tax instruction is further enhanced by incorporating data analysis into the tax curriculum with the goal of providing students with an understanding of how to capture data, analyze it, draw conclusions and present those conclusions to disparate audiences.

Admission requirements can be reviewed by visiting marshall.usc.edu/programs/graduate-accounting-programs/master-business-taxation/admissions.

Application

The MBT with data and analytics is open to individuals who have earned the equivalent of a four-year bachelor's degree from an accredited program. An undergraduate degree in accounting or business is not necessary, nor is work experience a requirement. The program enrolls students in the summer or fall based on their academic background. For application information visit marshall.usc.edu/mbt/admissions.

Program Requirements

The Master of Business Taxation with an emphasis in data and analytics (MBT D&A) degree requires 46.5 units, including fundamentals, core requirements and electives.

Academic Background Review and Waivers

The Leventhal School of Accounting Master's Program Office evaluates the academic background of each admitted student to determine the courses required to complete the program.

Students admitted for summer term start with ACCT 525x Intensive Accounting Principles and Practices -- an eight-week, 40 hours-per-week course for students who have not completed undergraduate degrees or other extensive course work in accounting. This course must be completed successfully prior to beginning the core in the fall.

Students admitted for fall term holding a bachelor's degree in Accounting are waived from the 15-unit ACCT 525x course, reducing the number of units required to earn the degree to 31.5.

Fundamentals (15 units)

- ACCT 525x Intensive Accounting Principles and Practices Units: 15

Core Program (22.5 units)

- ACCT 529 Tax Data Analytics Units: 3
- ACCT 531T Taxation of Cross-Border Transactions Using Data Analytics Units: 3
- ACCT 551T Taxation of Partnerships and S-Corps Units: 3
- ACCT 554T Research, Theory and Ethics in Taxation Units: 3
- ACCT 561T Income Tax of Corporations and Their Shareholders Units: 3
- ACCT 580T Tax Accounting Methods Units: 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
  (3-unit version required)
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3
  (1.5-unit version required)

Electives (9 Units)

- Complete at least 6 units of ACCT and/or DSO 500-level electives.
- Complete up to 3 units of FBE, GSBA, and/or MOR 500-level electives.
- All courses taken must be approved by the Leventhal MBT academic adviser.

Total Units Required: 46.5

Business Taxation (MBT)

Understanding taxation is critical to every business decision and many personal decisions as well. Whether you are preparing for a career as a tax professional in public accounting, industry, government or the investment arena or are starting your own business, tax planning must be done. Because of the complexity of the tax law and its pervasive influence, people facing tax decisions routinely call on tax professionals for advice in planning and structuring their affairs in order to comply with the law and to ensure economic good sense.

The Master of Business Taxation (MBT) program is designed to develop the skills and expertise professionals need to assist individuals and firms trying to cope with myriad tax legislation and regulation at both the federal and local levels. The program offers students: 1) technical and conceptual knowledge; 2) professional development; 3) research and lifelong learning; 4) ethical and professional standards; and 5) globalization and diversity. For details on these student learning outcomes, see the program Website at *marshall.usc.edu/mbt/academics*.

Application

An undergraduate accounting or business major is not necessary, nor is work experience a requirement. The program enrolls students in the summer or fall based on their academic backgrounds. For application information visit *marshall.usc.edu/mbt/admissions*.

Program Requirements

The Master of Business Taxation degree requires 48 units, including fundamentals, core requirements and electives.

Academic Background Review and Waivers

The Leventhal School of Accounting Master's Program Office evaluates the academic background of each admitted student to determine the courses required to complete the program.

Students admitted for summer term start with ACCT 525x Intensive Accounting Principles and Practices -- an eight-week, 40 hours-per-week course for students who have not completed undergraduate degrees or other extensive course work in accounting. This course must be completed successfully prior to beginning the core in the fall.

Students admitted for fall term generally hold a bachelor's degree in Accounting and are waived from the 15 unit ACCT 525x class reducing the number of units required to earn the degree to 33.

USC BS in Accounting students may qualify for waiver of an additional 6 units reducing the number of units required to earn the degree to 27. (USC BS in Accounting students should meet with a graduate adviser during their junior year to determine if they qualify.)

Any of the groups listed above who have taken an equivalent of GSBA 548 Corporate Finance may petition to waive out of the requirement, reducing the number of units required to complete the degree by 3 units.

Degree Requirements

Fundamentals (18 units)

- ACCT 525x Intensive Accounting Principles and Practices Units: 15
- GSBA 548 Corporate Finance Units: 2, 3

Core Program (18 Units)

- ACCT 530L Ethics for Professional Accountants Units: 3
- ACCT 550T Tax Research and Professional Responsibilities Units: 3
- ACCT 551T Taxation of Partnerships and S-Corps Units: 3
- ACCT 560T Tax Theory and Ethics Units: 3
- ACCT 561T Income Tax of Corporations and Their Shareholders Units: 3

At least one from the following (to be determined by previous course work)

- BUCO 504T Writing for Accounting and Tax Professionals Units: 3 or
- GSBA 523T Communication for Accounting and Tax Professionals Units: 3 or
- BUCO 503 Advanced Managerial Communication Units: 1.5, 3

Elective Course Work (12 Units)

Select at least 9 units from the following list. Three additional units may be selected from this list or any 500-level elective from ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR.

- ACCT 533 Mergers and Acquisitions: Tax Planning and Strategy Units: 1.5
- ACCT 563T Federal Estate and Gift Taxes Units: 3
- ACCT 567T Taxation of Transactions in Property Units: 3
- ACCT 568T International Taxation Units: 3
- ACCT 569T Advanced Partnership Taxation Units: 3
- ACCT 570T State and Local Tax Concepts Units: 3
- ACCT 571T Taxation of Business Owners and High Net-Worth Individuals Units: 3
- ACCT 573T Federal Tax Procedure Units: 3
- ACCT 576T Tax Consolidations Units: 3
- ACCT 578T Advanced Corporate Taxation Units: 3
- ACCT 580T Tax Accounting Methods Units: 3
- ACCT 583 Income Tax Accounting and Auditing Units: 3
- ACCT 584 Family Wealth Preservation Units: 3

Business Taxation for Working Professionals (MBT)

The Master of Business Taxation — Working Professionals (MBT.WP) program is designed for students who wish to remain fully employed while pursuing their graduate studies. The program is very flexible, allowing students to complete classes either on ground at the University Park Campus or online. Entering students must have a minimum of one year of experience in tax.

The Master of Business Taxation (MBT.WP) program offers students: 1) technical and conceptual knowledge; 2) professional development; 3) research and lifelong learning; 4) ethical and professional standards; and 5) globalization and diversity. For details on these student learning outcomes, see the program Website at *marshall.usc.edu/mbt/academics*.

Application

An undergraduate accounting or business major is not necessary though one year of work experience in tax is required.

The program enrolls students in the summer or fall. For application information visit *marshall.usc.edu/mbtwp/admissions*.

Program Requirements

The program requires completion of 30 units. Degree requirements consist of five core courses and five elective courses. Applicants who hold a master's degree from an AACSB accredited institution may be able to waive out of the communication requirement and complete the MBT.WP in 27 units.

Degree Requirements

Core Program (12 Units)

- ACCT 550T Tax Research and Professional Responsibilities Units: 3
- ACCT 551T Taxation of Partnerships and S-Corps Units: 3
- ACCT 560T Tax Theory and Ethics Units: 3
- ACCT 561T Income Tax of Corporations and Their Shareholders Units: 3

At least one from the following

(to be determined by previous course work)

- GSBA 523T Communication for Accounting and Tax Professionals Units: 3 or
- BUCO 503 Advanced Managerial Communication Units: 1.5, 3 or
- BUCO 533 Managing Communication in Organizations Units: 1.5, 3

Elective Course Work (15 Units)

Select at least 9 units from the following list. Six additional units may be selected from this list or any 500-level elective from ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR.

- ACCT 533 Mergers and Acquisitions: Tax Planning and Strategy Units: 1.5
- ACCT 563T Federal Estate and Gift Taxes Units: 3
- ACCT 567T Taxation of Transactions in Property Units: 3
- ACCT 568T International Taxation Units: 3
- ACCT 569T Advanced Partnership Taxation Units: 3
- ACCT 570T State and Local Tax Concepts Units: 3
- ACCT 571T Taxation of Business Owners and High Net-Worth Individuals Units: 3
- ACCT 573T Federal Tax Procedure Units: 3
- ACCT 576T Tax Consolidations Units: 3
- ACCT 578T Advanced Corporate Taxation Units: 3
- ACCT 580T Tax Accounting Methods Units: 3
- ACCT 583 Income Tax Accounting and Auditing Units: 3
- ACCT 584 Family Wealth Preservation Units: 3

Dual Degree

Juris Doctor/Master of Business Taxation (JD/MBT)

Dual Degree Program

The Leventhal School of Accounting, in conjunction with the USC Gould School of Law, offers a dual degree program leading to the degrees of Juris Doctor and Master of Business Taxation (JD/MBT). This program permits a student to pursue a specialized program in taxation through courses in the Marshall School of Business, the Leventhal School of Accounting and the USC Gould School of Law.

The MBT portion of the program requires 42 units, including 9 units of law school courses that are recognized by the Leventhal School of Accounting toward the MBT degree. JD/MBT Students must complete 76 law units to satisfy the JD portion of the dual degree.

Unit Requirements

The total number of units required for the MBT portion of the JD/MBT program will vary, depending on the educational background of the individual student. Units are divided into four categories and students are required to maintain an overall graduate grade point average of 3.0.

The Leventhal School of Accounting Master's Program Office evaluates the academic background of each admitted student to determine if any of the 12 units of course work in Group I can be waived.

The courses in Groups II, III and IV are required of all JD/MBT students and total 30 units, including no more than 9 units of Law School courses.

First Year

Required USC Gould School of Law courses

Second, Third and Fourth Years

Law courses, including the law courses listed below, and 21-33 units of Marshall School of Business and Leventhal School of Accounting courses as follows:

Group I Courses (Up to 12 Units)

- ACCT 572 Corporate Accounting and Reporting Units: 3
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
- GSBA 511 Microeconomics for Management Units: 1.5, 3
- GSBA 548 Corporate Finance Units: 2, 3

Group II Courses* (A Minimum of 9 Units)

- ACCT 550T Tax Research and Professional Responsibilities Units: 3
- ACCT 561T Income Tax of Corporations and Their Shareholders Units: 3
- LAW 600 Taxation Units: 3 or 4

Group III Courses* (A Minimum of 6 Units)

- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 607 Gifts, Wills, and Trusts Units: 3 or 4
- LAW 717 Estate Planning Units: 3
- LAW 842 Partnership Taxation Units: 2, 3, 4

Note:

**Students should seek counseling at the Law School regarding all LAW courses.*

Group IV Courses (A Minimum of 15 Units)

Select at least 15 units from the following list. Three additional units may be selected from this list or any Marshall (ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR) 500-level elective.

- ACCT 533 Mergers and Acquisitions: Tax Planning and Strategy Units: 1.5
- ACCT 551T Taxation of Partnerships and S-Corps Units: 3
- ACCT 563T Federal Estate and Gift Taxes Units: 3
- ACCT 567T Taxation of Transactions in Property Units: 3
- ACCT 568T International Taxation Units: 3
- ACCT 569T Advanced Partnership Taxation Units: 3
- ACCT 570T State and Local Tax Concepts Units: 3
- ACCT 571T Taxation of Business Owners and High Net-Worth Individuals Units: 3
- ACCT 573T Federal Tax Procedure Units: 3
- ACCT 576T Tax Consolidations Units: 3
- ACCT 578T Advanced Corporate Taxation Units: 3
- ACCT 580T Tax Accounting Methods Units: 3
- ACCT 583 Income Tax Accounting and Auditing Units: 3
- ACCT 584 Family Wealth Preservation Units: 3

USC School of Architecture

The USC School of Architecture offers undergraduate, graduate and doctoral education in architecture and architectural studies, landscape architecture, heritage conservation and building science. Its faculty is active in professional practice, design research and in extended professional education.

Work in the school is conducted in an intellectual climate, which promotes inquiry, introduces principles and values, and teaches the disciplines necessary to work in collaboration with other professionals to develop design and research excellence.

The school is located in the center of Los Angeles, the second largest urban region in the country, which offers a unique understanding of 21st century growth and change. In such an environment the possibilities for teaching and learning are extraordinary.

The school is highly selective in its admissions and enjoys the strong support of alumni and the professions it serves. The opportunity exists for students to have close contact with faculty, other students and practicing architects.

An architecture curriculum was initiated at USC in 1914. In 1919, a Department of Architecture was created and a separate School of Architecture was organized in 1925. The school shares Watt and Harris Halls with the USC Roski School of Art and Design and the Fisher Museum of Art.

USC School of Architecture
Watt Hall 204
(213) 740-2723
FAX: (213) 740-8884
arch.usc.edu

Administration

Milton S. F. Curry, MArch, *Dean*
Douglas E. Noble, PhD, *Chair, PhD Program, Associate Dean for Academic Affairs*
Joon-Ho Choi, PhD, *Associate Dean of Research & Creative Work*
Esther Margulies, MLArch, *Diversity and Inclusion Liaison*
Kyle Konis, PhD, *Director, Chase L. Leavitt Graduate Program of Building Science*
Trudi Sandmeier, MA, *Director, Heritage Conservation Programs*
Alison Hirsch, PhD, *Director, Landscape Architecture and Urbanism Programs*
Alvin Huang, MArch, *Director, Graduate & Post-Professional Architecture Programs*
Doris Sung, MArch, *Director, Undergraduate Architecture Programs*

Faculty

Della and Harry MacDonald Dean's Chair in Architecture: Milton S. F. Curry, MArch
Judge Widney Professor of Architecture: Frank O. Gehry, FAIA, MArch
Professors: Diane Ghirardo, PhD; John V. Mutlow, MArch (UD); Victor Regnier, MArch*; Marc Schiler, MS, ArchSci; John Wilson, PhD
Associate Professors: Kenneth Breisch, PhD; Joon-Ho Choi, PhD; Vittoria Di Palma, PhD; Alison Hirsch, PhD; Alvin Huang, MArch; Kyle Konis, PhD; Charles Lagreco, MFA (Arch); Amy Murphy, PhD; Douglas E. Noble, PhD; Alexander Robinson, MLArch; Doris Sung, MArch
Assistant Professors: Sascha Delz, DSc; Aroussiak Gabrielian, PhD; Faiza Moatasim, PhD; Ginger Nolan, PhD; Bhavna Sharma, PhD
Professors of the Practice of Architecture: Wesley Jones, MArch; Karen M. Kensek, MArch; Gary Paige, BArch; Hadrian Predock, MArch
Associate Professors of the Practice of Architecture: Valery Augustin, MArch; Yo-ichiro Hakomori, PhD; Esther Margulies, MLArch; Lauren Matchison, MArch; Scott Mitchell, MArch; Lee Olvera, MArch; Trudi Sandmeier, MA; Selwyn Ting, MArch; Olivier Touraine, Dipl Ing (Arch)
Assistant Professor of the Practice of Architecture: Geoffrey von Oeyen, MArch
Adjunct Professors: Michael Arden, MA; T. Jeff Guh, PhD; Eric Haas, MArch; Peyton Hall, MED; Mia Lehrer, MLArch; Rob Ley, MArch; David C. Martin, MArch; Lorcan O'Herlihy, MArch; Lawrence Scarpa, MArch; Jennifer Siegal, MArch; Warren Techentin, MArch; Patrick Tighe, MArch; Roland Wahlroos-Ritter, Dipl Ing
Adjunct Associate Professors: Tigran Ayrapetyan, MS; Vinayak Bharne, MArch; Mina Mei-Szu Chow, MArch; Mario Cipresso, MArch; Victoria Coaloa, MArch; John Dutton, MArch; Miller Fong, BAArch; John Frane, MArch; Sophia Gruzdys, MArch; Jerry Hastings, BS; Michael Hricak, MArch; Andy Ku, MArch; Lisa Little, MArch; Aaron Neubert, MArch; Scott Uriu, BArch
Adjunct Assistant Professors: Iman Ansari, PhD; Rob Berry, MArch; Mary Casper, MArch; Lauren Dandridge Gaines, BS; Janek Dombrowa, BS (Arch); Kathryn Horak, MHP; Erin Kasimow, MArch; Eric Nulman, MArch; Jay Platt, MS; Susanna Seierup, MArch; Takako Tajima, MLArch; Brian Tichenor, MLArch
Lecturers: Myrna Ayoub, MArch; Victoria Turkel Behner, PhD; Isaac Brown, PhD; Yujuan Chen, PhD; Jerome Chou, MLArch/MUP; Erin Cuevas, MArch; Meredith Drake Reitan, PhD; Katy Foley, MLArch; David Gerber, DDes; Richard Gooding, MS; Katherine Harvey, MLA; Jessica Henson, MLArch; Christof Janzten, MArch; Alfie Koetter, MArch; Andrew Kovacs; John Lesak, MArch; Alexander Maymind, MArch; Emily Mohr, MArch; Michael Patterson, PhD; Farnoosh Rafaie, MArch; Mary Ringhoff, MA; Juan Salazar, MArch; Marcos Sánchez, MArch; Kris Sandheinrich, MFA; Lee Schneider; Daví Schoen, MLArch/MUP; Santosh Shahi, PhD; Melissa Shin, MArch; John Southern, MArch; Hyunch Sung, MLArch; Jennifer Toy, MLArch/MUP; Elizabeth Valmont, PhD; Yaohua Wang, MArch; Sandra Yum, MArch
Emeritus Professors: James Ambrose, MS; Frank Dimster, MArch; Robert S. Harris, MFA (Arch); Ralph Knowles, MArch*; Graeme M. Morland, DiplArch; Goetz Schierle, PhD; Roger Sherwood, MSArch, MCRP; James Steele, PhD
**Recipient of university-wide or school teaching award.*

Degree Programs

The School of Architecture offers curricula leading to the following degrees.

Bachelor of Architecture: a five-year undergraduate accredited professional degree program.

Bachelor of Science in Architectural Studies: a four-year undergraduate non-professional architectural studies degree program providing specialization in related fields and an alternative path to graduate studies in architecture and other design fields.

Minor in Architecture: provides the flexibility of complementing a student's major with an area of specialization. Not available for architecture majors.

Minor in Landscape Architecture: provides students with the ability to integrate the natural and cultural profession of landscape architecture into their course of study. Not available for architecture majors.

Master of Advanced Architectural Studies: a 48-unit, three-semester program for students who hold a first professional degree from an accredited school of architecture.

Master of Advanced Architectural Research Studies, City Design and Housing Emphasis: a 42-unit, three-semester program for students who hold a first professional degree from an accredited school of architecture.

Master of Advanced Architectural Research Studies, Performative Design and Technology Emphasis: a 42-unit, three-semester program for students who hold a first professional degree from an accredited school of architecture.

Master of Architecture: a 102-unit, three-year accredited degree for students who have completed a bachelor's degree with a major other than one of the design professions; a 64-unit,

two-year accredited degree for students holding a pre-professional degree with a major in architecture.

Master of Heritage Conservation: a 48-unit program designed to prepare individuals for work in heritage conservation and its allied disciplines, including architecture, urban planning, cultural resource management, real estate development, construction and materials conservation.

Master of Landscape Architecture: a 96-unit, six-semester curriculum for students with no prior degree in architecture, landscape architecture or environmental design; a 64-unit, four-semester curriculum for students who hold a first non-accredited degree in architecture, landscape architecture or environmental design.

Master of Building Science: a 48-unit, two-year program for applicants who hold an architecture, engineering or science-related degree (e.g., Bachelor of Architecture, Bachelor of Architectural Engineering, Bachelor of Science in Engineering, Environmental Studies, Physics or Mathematics). Students with five-year professional degrees in architecture and a minimum of five years of experience may be given advanced standing.

Dual Degree in Advanced Architectural Studies and Urban Planning: a 72-unit program leading to the post-professional Master of Architecture and the Master of Urban Planning degrees. Admission to both degree programs is required.

Dual Degree in Building Science and Heritage Conservation: a 72-unit program leading to the Master of Building Science and Master of Heritage Conservation degrees. Admission to both degree programs is required.

Dual Degree in Heritage Conservation and Urban Planning: a 60-unit program leading to the Master of Heritage Conservation and Master of Urban Planning degrees. Admission to both degree programs is required.

Dual Degree in Heritage Conservation and Landscape Architecture: a 87- or 111-unit program leading to the Master of Heritage Conservation and Master of Landscape Architecture degrees. Admission to both degree programs is required.

Dual Degree in Landscape Architecture and Urban Planning: a 84- or 110-unit program leading to the Master of Landscape Architecture and Master of Urban Planning degrees. Admission to both degree programs is required.

Doctor of Philosophy in Architecture: This program is designed to prepare individuals for university level teaching and professional research and for leadership positions in industry and professional architectural practice.

Certificate in Architecture: The focus of this program is on understanding the broad and complex role of architecture within the urban and cultural context. Studies focus on cities and architecture throughout the world where conditions of increasing density, environmental challenges and cultural complexity require design initiatives that support amenity, sustainability and cultural meaning. The certificate is open to graduate students not pursuing a Master of Architecture degree.

Certificate in Building Science: This program is intended as a supplementary credential for students enrolled in graduate course work in architecture, landscape architecture, historic preservation, urban planning or related disciplines, and also for practicing design and planning professionals with undergraduate or graduate degrees and related experience.

Certificate in Heritage Conservation: This program is for those who wish to augment their current work in heritage conservation, and for graduate students who wish to obtain a complementary specialization in conjunction with their degree.

Certificate in Landscape Architecture: This program provides an opportunity for professionals and graduate students to develop understandings and skills related to the basic subjects inherent in the field of landscape architecture.

Certificate in Sustainable Design: This certificate provides students with the tools necessary to understand and quantify sources of energy use in buildings and landscapes and to use design of natural and man-made systems to reduce their energy use. Environmental, economic and socially responsible solutions will be explored through the course work.

National Architecture Accrediting Board Statement

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture and the Doctor of Architecture. A program may be granted an eight-year, three-year or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a pre-professional undergraduate degree in architecture for admission. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Southern California School of Architecture offers the following NAAB-accredited degree programs:

Bachelor of Architecture (160 undergraduate credits)

Master of Architecture (pre-professional degree + 64 graduate credits)

Master of Architecture (non-professional degree + 102 graduate credits)

Next accreditation visit for all programs: 2023

Integrated Path to Architectural Licensure Initiative

The USC School of Architecture is one of the initial 14 accredited architecture schools in the United States accepted to participate in the National Council of Architectural Registration Board's (NCARB) Integrated Path to Architectural Licensure Initiative (IPAL). IPAL monitors and provides support for obtaining architectural registration in designated professional accredited programs with an integrated approach to Architectural Experience Programs (AXP) and Architectural Registration Exam requirements required for licensure.

Participation in the IPAL program does not change any of the existing professional degree requirements. With guidance and support, both BArch and MArch students at the USC School of Architecture will be encouraged to take advantage of the increased access to state and national licensure examinations concurrent with enrollment in their degree studies. The programs will provide support and encourage architectural experience in the professional community, which will allow the opportunity to significantly reduce the amount of time necessary to become a licensed architect while increasing the awareness and interaction between professional and academic experiences.

National Landscape Architecture Accreditation Board Statement

The USC Master of Landscape Architecture first professional curricula (three-year and two-year curricula) are accredited by the American Society of Landscape Architects Landscape Architecture Accreditation Board (LAAB). The LAAB conditions of accreditation (including the student performance criteria) are posted on the ASLA website, asla.org/AccreditationLAAB.aspx. The last review in November 2017 was completed successfully and we were granted the maximum renewal until December 2022.

Other Programs

Exploration of Architecture Summer Program for High School Students

The School of Architecture offers two- and four-week programs for high school students (must have completed ninth grade by the start of the program) who have no previous experience but are interested in architecture. The program, which began in 1983, is particularly rewarding for students who are contemplating a career in architecture. However, all students find the exposure to the unique problem-solving methodologies of architecture a benefit regardless of their final career choice. Living on campus in a USC

residence hall, high school students experience what it is like to be a university student. They participate in studio classes with professional critics and present their ideas in reviews attended by parents and friends.

The program also exposes them, through case studies, sketching exercises and field trips, to some of the most dramatic and impressive historical and modern architecture of Los Angeles. International students have especially appreciated the opportunity to pursue this summer program of study that is not highly dependent on English language skills.

Obtain program details by visiting the School of Architecture website or by calling (800) 281-8616.

The Building Science Program in Civil Engineering

The Sonny Astani Department of Civil Engineering offers an undergraduate program leading to the degree of Bachelor of Science in Civil Engineering, with an emphasis in building science. The curriculum includes most of the work that is required for the major in structures, plus 30 units in architectural studies offered by the School of Architecture. See the USC Viterbi School of Engineering, Civil Engineering section of this catalogue for further information.

Undergraduate Programs

Bachelor of Architecture

The NAAB-accredited professional undergraduate program is designed to provide an exceptional university education. Students study architecture as well as other basic disciplines throughout the five-year program. We encourage students to pursue minors or elective courses to combine their interest in architecture with fields such as entrepreneurship, construction management, real estate development or animation and digital arts.

Beginning in the first semester, students will be immersed in both architectural and general university studies. The first six semesters provides a foundation in understanding architecture through studies in design, technology, and history, concluding with integrative studies that help develop a deeper understanding of becoming an architect. The remaining four semesters provide the opportunity to explore many aspects of architecture and to develop individual strengths and interests. One of these semesters will include domestic or international off-campus instruction. Studies will conclude with a comprehensive project with a component of directed research defined by the student based on choice and initiative.

Bachelor of Science in Architectural Studies

This four-year, non-professional architectural studies degree program provides specialization in related fields and an alternative path to graduate studies in architecture or fields. Students accepted into the professional Bachelor of Architecture program are eligible to elect this degree option at the end of the second year of study.

The curriculum includes a core program in the first two years identical to the Bachelor of Architecture professional degree program. In the second two years, students explore many aspects of architecture and related fields and develop individual strengths and interests. Students take a specialization course in the second year, which introduces them to related fields and alternative degree options. Students who do not wish to pursue the five-year Bachelor of Architecture, can elect to move into the four-year, non-professional Bachelor of Science in Architectural Studies (BS in A.S.) program with a degree plan identifying electives that fulfill an area of concentration. The four-year program concludes with a capstone seminar, which allows all degree candidates to work collaboratively on areas of common interest.

Off-Campus Programs and Other Enrichment Opportunities

Each year, a set of different off-campus programs are offered to our fourth-year undergraduate students during their topic studio semesters. These may consist of semester-long programs with recent studies in Italy, Spain and Asia. Each of these semester-long offerings consists of a coordinated 17-unit, full semester program that includes a studio course in design and required seminars in history and theory; technology; and cultural studies. Students must be in good academic standing to be considered and to participate. Students may also participate in off-campus programs that require substantial travel outside of Los Angeles to a regional location within the continental United States.

Some examples of recent programs include:

Spring Program in Italy: Milan-Como

For many years, selected students have been able to participate in the Anthony A. Marnell II Italian Architecture Studies Program, located in Milan, a city at the forefront of Italian modern architecture and the center of Italian design. Students are housed and have classroom and studio space in Como, a small and pleasant lakeside town about 30 miles from Milan. The Milan-Como Program is one of only two U.S. school of architecture programs in this part of Italy. Strong relationships are fostered with the place, its people and its culture. Visits are planned within Italy and throughout Europe to expose the students to the full range of historical and contemporary architecture.

Fall Program in Spain: Barcelona

The School of Architecture's study abroad program in Barcelona provides a place for fourth year architecture students in a course of study in urbanism and architecture of the city. The goal is to provide a broad overview of that city's major urban and architectural sites, topography and systems of urban organization. Students will be immersed in the issues of urban design and architecture that have shaped the city, and will develop critical thinking and methodologies of analysis by designing in the urban context. The course of study will examine this fascinating culture that is committed to design and architectural practices that engage and challenge European traditional and modernist orthodoxies.

Barcelona is both a modern and historical site, beginning as a small Roman colony from the time of Augustus, and surviving Visigothic, Moorish and Frankish invasions. Its political and economic history has shaped the city, with the most forceful expression of its national aspiration occurring in the 19th century, the time most associated with the architect Antonio Gaudí. It is city committed to a culture of visual design that has realized many ambitious urban plans, growing from its commitment to representing national pride. It is a dynamic site for the study of ancient and contemporary urbanism as it has achieved word-class status among cities as a locus for new world architecture. The program will combine field work, precedent analysis and discussions with the broader design community in Barcelona.

Examples of public space and architecture from antiquity to the 21st century will be studied as part of the context of a city that has successfully projected its future without neglecting its past and present. Visits are planned within Spain and throughout Europe to expose students to the full range of historical and contemporary architecture.

Fall Program in Asia: Architecture and Landscape Urbanism

The Asian Architecture and Landscape Urbanism program provides participating students the opportunity to engage and comprehend the full depth and global ramifications of the rapid changes that are taking place in countries such as Japan, South Korea, China, Singapore, Malaysia and Hong Kong. The complex and multiple factors that inform urbanism and define the built environment will be explored and analyzed both in terms of historical cultural source and contemporary manifestation. Participants in these academic engagements will include regional as well as international professionals, academics, historians, economists and local inhabitants through direct engagements required of the course curriculum. Students will bring this knowledge and point of view back to the school after their

semester away to expand the discussion of urbanism to the larger community of students and faculty at the School of Architecture.

Exhibits of Student Work

Throughout the year, selected students are given the opportunity to show work in organized exhibitions, as well as to be included in our ongoing student work publication *INDEX*. The school seeks multiple formats and opportunities to have student work shown in the community at large and at cultural institutions throughout the city and the world, with recent exhibits in Shanghai, France, Italy and Washington, DC.

Field Trips

Field trips to locations in the larger California region as well as through the United States are organized each year in support of various aspects of the academic program. In addition, students regularly visit the many sites of significance in the local Los Angeles area on an almost weekly basis for their general course work and personal interest.

Lectures and Exhibitions

The school provides significant service to the community and profession through public programs, and the participation of faculty members in community and professional activities. With the support and cooperation of the Architectural Guild, the school generates a vigorous program of lectures, exhibitions and tours.

Some of the world's most distinguished and emerging architects, landscape architects and designers have lectured at USC. These include Frank Gehry, Zaha Hadid, Mario Botta, Yona Friedman, Peter Cook,Yung Ho Chang, Thom Mayne, Michael Maltzan, Hitoshi Abe, Mia Lehrer, Fumihiko Maki, Jean Nouvel, Will Bruder, Francois Roche, Enrique Norten, Adriaan Geuze, Kazuyo Sejima, Ai Wei Wei, Rem Koolhaas, Shigeru Ban, Hans Hollein, Charles Waldhem, Nader Tehrani, Cesar Pelli, Javier Sanchez, Laurie Olin, Eric Owen Moss and Pei Zhu.

The school also provides the Helen Lindhurst Architecture Gallery and the Verle Annis Gallery for major architectural exhibitions by visiting guests, USC faculty, students and alumni.

Graduate Programs

The school offers interrelated graduate programs in architecture, landscape architecture, building science and heritage conservation as well as three dual degree programs with the USC Price School of Public Policy.

Admission to Graduate Programs

Credentials for admission must include a complete record of all previous college or university work. The applicant must request the registrar of each college or university attended to forward official transcripts of record directly to the Office of Admission.

Following are the basic requirements for admission to the graduate programs: (1) the appropriate degree from an accredited college or university; (2) satisfactory scores on the verbal, analytical and quantitative portions of the aptitude test of the Graduate Record Examinations; (3) intellectual promise and clear study intentions that indicate an ability to do acceptable graduate work; (4) a portfolio of design work*; and (5) strong personal qualifications.

All students must speak and write English. Foreign students must demonstrate such ability by taking the TOEFL or IELTS test before leaving their home countries, and, if necessary, by further tests upon arrival on campus.

International students may be required to enroll in American Language Institute (ALI) English courses, based on scores on the English Placement Tests. The cost of these additional courses is the responsibility of the student. In addition, international students should be aware that they may have to defer enrollment in some major courses because of the ALI courses, extending the number of semesters required to complete the program and increasing the overall tuition expense. International students are urged to read with care all information sent to them about English requirements and to take as many English language courses as possible prior to coming to the United States.

**The Master of Building Science and Master of Heritage Conservation programs accept computer programs, papers and other work as portfolio work.*

Correspondence with the dean or individual faculty members does not constitute admission to the Graduate School or to the School of Architecture. Only a letter from the Director of Admissions grants official admission.

Graduate Program Policies

Graduate students are expected to complete between 12 and 16 units per semester, spring and fall, depending on the program in which they are enrolled.

A minimum grade of C (2.0) is required in a course to receive graduate credit. A grade point average of at least B (3.0) on all units attempted at USC toward a graduate degree is required for graduation. A total grade point average of at least a B (3.0) in all courses applied toward completion of a certificate is required prior to being awarded a particular certificate. Course work taken on a pass/no pass basis cannot be applied toward a graduate degree or a certificate. If a student does not meet these minimum grades the faculty member should meet with the student to provide timely advisory reviews.

Failure to complete program course work on schedule will result in the loss of financial awards from the School of Architecture and/or may result in suspension from the program upon recommendation from the program director and approval by the Dean of the School of Architecture and the Vice Provost for Academic Programs. Additional semesters may be taken to complete the thesis or directed design research when appropriate.

All appeals will be reviewed initially by the director(s) of the appropriate graduate program and then by a committee consisting of all graduate program directors (with the exception that design courses will be reviewed by the design review committee). Their recommendation(s) will be forwarded to the dean for consideration and action, and then forwarded to the Vice Provost for Academic Programs. All communications must be in writing.

Thesis Committees

In the School of Architecture's master's programs, thesis committees must include a minimum of three members. The chair will be a full-time faculty member in the student's discipline in architecture. The second member must be a full- or part-time USC faculty member, not necessarily from the School of Architecture. The third member may be either a USC faculty member or a practitioner with a special expertise in the field; she or he may be full-time or part-time, tenure track, non-tenure track, or a non-academic practitioner. Thesis committees are ultimately subject to approval by the school dean.

Summer Graduate Studies Abroad

The School of Architecture offers programs for summer graduate study abroad. The purpose of the programs is to offer graduate architecture students the opportunity to study the built fabric of another culture firsthand and engage in a focused urban studies problem in that culture. The programs also strive to expand appreciation of the importance of development in the current world market and show practitioners USC graduates' ability to engage in and contribute to international development.

Exhibits of Student Work

Throughout the year, selected students are given the opportunity to show work in organized exhibitions, as well as to be included in our ongoing student work publication *INDEX*. The school seeks multiple formats and opportunities to have student work shown in the community at large and at cultural institutions throughout the city and the world, with recent exhibits in Shanghai, France, Italy and Washington, DC.

Field Trips

Field trips to locations in the larger California region as well as through the United States are organized each year in support of

various aspects of the academic program. In addition, students regularly visit the many sites of significance in the local Los Angeles area on an almost weekly basis for their general course work and personal interest.

Lectures and Exhibitions

The school provides significant service to the community and profession through public programs, and the participation of faculty members in community and professional activities. With the support and cooperation of the Architectural Guild, the school generates a vigorous program of lectures, exhibitions and tours.

Some of the world's most distinguished and emerging architects, landscape architects and designers have lectured at USC. These include Frank Gehry, Zaha Hadid, Mario Botta, Yona Friedman, Peter Cook, Yung Ho Chang, Thom Mayne, Michael Maltzan, Hitoshi Abe, Mia Lehrer, Fumihiko Maki, Jean Nouvel, Will Bruder, Francois Roche, Enrique Norten, Adriaan Geuze, Kazuyo Sejima, Ai Wei Wei, Rem Koolhaas, Shigeru Ban, Hans Hollein, Charles Waldhem, Nader Tehrani, Cesar Pelli, Javier Sanchez, Laurie Olin, Eric Owen Moss and Pei Zhu.

The school also provides the Helen Lindhurst Architecture Gallery and the Verle Annis Gallery for major architectural exhibitions by visiting guests, USC faculty, students and alumni.

Summer Program in Heritage Conservation

This program offers three weeks of classes with noted experts from Southern California and the United States. Taken together the courses act as a general introduction to the field of heritage conservation. In addition to examining the history and philosophy of the conservation movement as it has evolved during the past century, lectures and field trips to historic sites throughout the Los Angeles area will introduce students to a broad range of legal, economic, aesthetic and technical issues associated with the documentation, conservation and interpretation of historic structures, landscapes and communities.

For more information, call (213) 821-2168.

Bachelor's Degree

Architectural Studies (BS)

Bachelor of Science, Architectural Studies

The Bachelor of Science in Architectural Studies program begins intensively with architectural studies in the first two years and provides a mix of architectural and general university studies throughout the program. The curriculum includes a core program in the first two years identical to the Bachelor of Architecture professional degree program. The last two years provide the opportunity to explore many aspects of architecture and related fields and to develop individual strengths and interests. Students take an introductory course in specialization in the second year, which provides an introduction to related fields and alternative degree options. Students can elect to move into the four-year non-professional BS in Architectural Studies program with a degree plan identifying electives fulfilling an area of concentration. The program is concluded with a seminar with all degree candidates, allowing for collaborative work on areas of common interest.

Admission as a First-year Student

All applicants to the School of Architecture must complete the Common Application and submit it to the USC Office of Admission along with Scholastic Aptitude Test (SAT) or other test scores. All applicants, including international students, must submit a portfolio.

Admission with Advanced Placement

It is possible, in selected instances, that a transfer student from an accredited community college or other university may be eligible for advanced placement at the second-year level if previous work includes a minimum of 32 semester units of acceptable academic credit in a pre-architecture program. The academic credit must include at least 8 semester units in architectural design or environmental design. Students accepted for advanced placement must still comply with all requirements for the degree.

Advanced placement applicants are required to submit a design portfolio to the School of Architecture at the time of application.

Summer Transfer Courses

A summer design studio allows highly qualified students transferring from community college or other university programs to be evaluated for advanced placement in the fall semester. Applicants must submit a university application and portfolio by February 1 for consideration. During the summer studio, transfer students must demonstrate significant design and drawing skill to justify advanced placement. Transfer students who are admitted with fewer than 32 units of college level work and who have only limited drawing or design skills may be considered for placement in the first year of the four-year program. Previous academic work may in part be applied toward required and elective courses for the four-year BS in Architectural Studies program. For more information about this program, contact the school at (213) 740-2420.

Advisement

The School of Architecture maintains student advisers for the benefit of all students in the school. All incoming students will participate in new student orientation and receive information about course requirements and planning. An individual appointment with an adviser may be scheduled at any time during the academic year to review course work in progress or to plan for future semesters.

Design Studio Grade Point Average Requirement

Less than average work in design studio is not considered sufficient for a continuation in the design studio sequence. Students must receive a grade of C (2.0) or above in each semester of design in order to continue in the design sequence. Students in the first two years of the program are required to repeat the course until such a grade is achieved.

Pass/No Pass Courses

Architecture students are permitted to take a maximum of 24 units of non-architecture electives, exclusive of the writing requirements, MATH 108 and the PHYS 125 requirement, on a pass/no pass option. No more than 4 units of pass/no pass courses may be applied to general education requirements; no more than 4 units may be taken in one semester. Students who have taken non-architecture courses pass/no pass in the past (i.e., before admission to architecture) may count such pass/no pass courses toward, but not in addition to, the maximum of 24 units.

Time Limits

While there are no specific time limits for completing the BS in Architectural Studies degree (except in the case of discontinued programs) the School of Architecture may require additional course work of students who remain in the degree program beyond six years.

Four-Year Curriculum for the Bachelor of Science in Architectural Studies Degree

First Year, First Semester

- ARCH 102a Architectural Design I Units: 4
- ARCH 105L Fundamentals of Design Communication Units: 2
- ARCH 114 Architecture: Culture and Community Units: 2
- General Education Seminar Units: 4
- MATH 108g Contemporary Precalculus Units: 4 or General Education Units: 4

Total units: 16

First Year, Second Semester

- ARCH 102bL Architectural Design I Units: 4
- ARCH 214ag World History of Architecture Units: 3 *
- PHYS 125Lg Physics for Architects Units: 4 **

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

Total units: 15

Second Year, First Semester

- ARCH 202aL Architectural Design II Units: 6
- ARCH 213a Building Structures and Seismic Design Units: 3 ***
- ARCH 214bg World History of Architecture Units: 3 *
- General Education Units: 4

Total units: 16

Second Year, Second Semester

- ARCH 202bL Architectural Design II Units: 6
- ARCH 211 Materials and Methods of Building Construction Units: 3
- ARCH 213b Building Structures and Seismic Design Units: 3 ***
- General Education

Total units: 16

Third Year, First Semester

- ARCH 215 Design for the Thermal and Atmospheric Environment Units: 3
- ARCH 313 Design of Building Structures Units: 3
- ARCH 314 History of Architecture: Contemporary Issues Units: 3
- ARCH 370 Architectural Studies — Expanding the Field Units: 2
- WRIT 340 Advanced Writing Units: 3, 4

Total units: 15

Third Year, Second Semester

- ARCH 315 Design for the Luminous and Sonic Environment Units: 3
- ARCH 411 Architectural Technology Units: 3
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- General Education Units: 4
- Professional Architecture Electives Units: 3

Total units: 16

Fourth Year, First Semester

- ARCH 470a Architectural Studies Capstone Units: 1
- Professional Architecture Electives Units: 13
- General Education Units: 4

Total units: 18

Fourth Year, Second Semester

- ARCH 470b Architectural Studies Capstone Units: 3
- Electives Units: 8
- Professional Architecture Electives Units: 5

Total units: 16

Total minimum units required: 128

*ARCH 214a, ARCH 214b fulfill the General Education requirement in Category A: The Arts.
**PHYS 125 fulfills the General Education requirement in Category E: Physical Sciences. The PHYS 125 requirement may also be fulfilled by PHYS 135a, PHYS 135b; 4 units will be applied toward the BArch and 4 will count as electives.
***ARCH 213a ARCH 213b fulfills the General Education requirement in Category F: Quantitative Reasoning.

Requirements for BS in Architectural Studies Degree

A total of 25 units of professional electives, including ARCH 470 Capstone Seminar, are required in an area of specialization, which must be selected from the accepted professional elective offerings in the School of Architecture or with consultation and approval of the program adviser. This is in addition to the core, elective and general education requirements of the Bachelor of Architecture degree, which are identical for the first two years of the Bachelor of Science in Architectural Studies.

In the third and fourth year of the program, the requirements for the Bachelor of Architecture design studios, ARCH 302a, ARCH 302b and ARCH 402a, ARCH 402b — 24 units — are changed to the professional electives requirement. The full degree requirements are described above.

Core Requirements

Students MUST complete the following core courses as a prelude to the upper-division professional electives and degree requirements: ARCH 102a, ARCH 102b, ARCH 105, ARCH 114, ARCH 202a, ARCH 202b, ARCH 211, ARCH 213a, ARCH 213b, ARCH 214a, ARCH 214b, ARCH 314, ARCH 370, MATH 108, PHYS 125 and WRIT 150.

General Education Requirements

All students who begin college in fall 2015 or later at USC (or who begin elsewhere in fall 2015 and then transfer to USC) must satisfy the 2015 General Education Program, which includes six Core Literacy and two Global Perspectives requirements. Together these provide training in the liberal arts — the critical skills necessary for a free person to function effectively, thoughtfully and productively in a complex world. This General Education program has been designed to nurture habits of thought essential for professional success and personal development, and to establish a background for lifelong learning.

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

To fulfill a minimum 128 units for the Bachelor of Science in Architectural Studies, courses in the Global Perspectives categories should be used to satisfy requirements in the Core Literacies as well. A single course can satisfy one Global Perspective and one Core Literacy requirement.

For more information about the general education requirements, see https://dornsife.usc.edu/2015ge/2015ge-requirements/.

Architecture (BArch)

Bachelor of Architecture

The bachelor's degree program begins intensively with architectural studies in the first year and provides for a mix of architectural and general university studies throughout the program. The curriculum includes two cycles of development. The first cycle of six semesters provides a foundation in understanding architecture, concluding with integrative studies after two years of introductory work. The second cycle, four semesters, provides the opportunity to explore many aspects of architecture and to develop individual strengths and interests. One of these semesters must include participation in our Off-Campus Program as a requirement towards graduation. During this period, a comprehensive design studio project is undertaken in the fall of the fifth year. The spring of the fifth (and final) year culminates in the development of that comprehensive building project in the context of a professional practice course, coupled with a research design studio taken along the lines of the students' own interests.

Admission as a First Year Student

All applicants to the School of Architecture must complete the Common Application and submit it to the USC Office of Admission along with Scholastic Aptitude Test (SAT) or other test scores. All applicants, including international students, must submit a portfolio.

Admission with Advanced Placement

It is possible, in selected instances, that a transfer student from an accredited community college or other university may be eligible for advanced placement at the second-year level if previous work includes a minimum of 32 semester units of acceptable academic credit in a pre-architecture program. The academic credit must include at least 8 semester units in architectural design or environmental design. Students accepted for advanced placement must still comply with all requirements for the degree.

Advanced placement applicants are required to submit a design portfolio to the School of Architecture at the time of application.

Summer Transfer Courses

A summer design studio and drawing course allows highly qualified students transferring from community college or other university programs to be evaluated for advanced placement in the fall semester. Applicants must submit a university application and portfolio by February 1 for consideration. During the summer transfer courses, students must demonstrate significant design and drawing skills to justify advanced placement. Successfully completing these summer transfer courses allows students to reduce the required 10-semester design sequence by two semesters, reducing USC residency to four years. This either provides for advanced placement into the second year or gives credit for ARCH 102a, ARCH 102b and ARCH 105 if these courses are passed with grades of B or above. For more information, contact the school at (213) 740-2420.

Transfer students who are admitted with fewer than 32 units of college-level work and who have only limited drawing or design skills may be considered for placement in the first year of the five-year design sequence. Previous academic work may in part be applied toward required and elective courses for the five-year Bachelor of Architecture program.

Advisement

The School of Architecture maintains academic advisers for the benefit of all students in the school. All incoming students will participate in new student orientation and receive information about course requirements and planning. An individual appointment with an adviser may be scheduled at any time during the academic year to review coursework in progress or to plan for future semesters.

Degree Requirements

Accredited degree programs awarding the BArch degree must require a minimum of 150 semester credit hours or the quarter-hour equivalent, in academic course work in general studies, professional studies and electives. The curriculum leading to the architecture degree must include at least 45 credit hours, or the quarter-hour equivalent, outside of architectural studies either as general studies or as electives with content other than architectural.

Design Studio and Degree Seminar Grade Point Average Requirement

Less than average work in design and design research is not considered sufficient for a professional degree. Students must receive a grade of C (2.0) or above in each semester of design and design research (ARCH 102a, ARCH 102b, ARCH 202a, ARCH 202b, ARCH 302a, ARCH 302b, ARCH 402a, ARCH 402b, ARCH 500a, ARCH 501, ARCH 502a) in order to continue in the design sequence and to graduate. Students will be required to repeat the course until such a grade is achieved.

Transfer Limit for Design Studio Credit

School of Architecture majors enrolling for a semester of study off campus are limited to the transfer of only one design studio course within the ARCH 402a, ARCH 402b sequence. Approval of transfer credit will be dependent upon portfolio review by an appointed faculty review committee.

Pass/No Pass Courses

Architecture students are permitted to take a maximum of 24 units of non-architecture electives, exclusive of the writing requirements, MATH 108 and the PHYS 125L requirement, on a pass/no pass basis. No more than 4 units of pass/no pass courses may be applied to general education requirements; no more than 4 units may be taken in one semester. Students who have taken non-architecture courses pass/no pass in the past (i.e., before admission to architecture) may count such pass/no pass courses toward, but not in addition to, the maximum of 24 units.

Schedule Choices

Students in upper division (ARCH 402a, ARCH 402b) may substitute any fall or spring semester by completing degree requirements, including design studio, by enrolling during summer session. This substitution does not provide for acceleration of the degree but does allow for make up so that students may get back on schedule for the five-year degree.

Time Limits

While there are no specific time limits for completing the bachelor's degree (except in the case of discontinued programs) the School of Architecture may require additional course work of students who remain in the degree program beyond six years.

Five-Year Curriculum for the Bachelor of Architecture Degree

First Year, First Semester

- ARCH 102a Architectural Design I Units: 4
- ARCH 105L Fundamentals of Design Communication Units: 2
- ARCH 114 Architecture: Culture and Community Units: 2
- General Education Seminar Units: 4
- MATH 108g Contemporary Precalculus Units: 4 or General Education Units: 4

Total units: 16

First Year, Second Semester

- ARCH 102bL Architectural Design I Units: 4
- ARCH 214ag World History of Architecture Units: 3 *
- PHYS 125Lg Physics for Architects Units: 4 **
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

Total units: 15

Second Year, First Semester

- ARCH 202aL Architectural Design II Units: 6
- ARCH 213a Building Structures and Seismic Design Units: 3 ***
- ARCH 214bg World History of Architecture Units: 3 *
- General Education Units: 4

Total units: 16

Second Year, Second Semester

- ARCH 202bL Architectural Design II Units: 6
- ARCH 211 Materials and Methods of Building Construction Units: 3
- ARCH 213b Building Structures and Seismic Design Units: 3 ***
  General Education Units: 4

Total units: 16

Third Year, First Semester

- ARCH 215 Design for the Thermal and Atmospheric Environment Units: 3
- ARCH 302aL Architectural Design III Units: 6
- ARCH 314 History of Architecture: Contemporary Issues Units: 3
- ARCH 313 Design of Building Structures Units: 3

Total units: 15

Third Year, Second Semester

- ARCH 302bL Architectural Design III Units: 6

- ARCH 315 Design for the Luminous and Sonic Environment Units: 3
- ARCH 411 Architectural Technology Units: 3
- General Education Units: 4

Total units: 16

Fourth Year, First Semester

- ARCH 402aL Architectural Design IV Units: 6
- WRIT 340 Advanced Writing Units: 3, 4
- General Education Units: 4
- Electives Units: 4

Total units: 18

Fourth Year, Second Semester

- ARCH 402bL Architectural Design IV Units: 6
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- Architecture History Elective Units: 2-4
- Electives Units: 3-5

Total units: 16

Fifth Year, First Semester

- ARCH 500aL Comprehensive Architectural Design Units: 6
- ARCH 501 Critical Topics in Architecture Units: 2
- Electives Units: 8

Total units: 16

Fifth Year, Second Semester

- ARCH 502aL Architectural Design V Units: 6
- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- Electives Units: 7

Total units: 16

Total minimum units required: 160

ARCH 214a, ARCH 214b *fulfill the General Education requirement in Category A: The Arts.*
***PHYS 125 *fulfills the General Education requirement in Category E: Physical Sciences. The* PHYS 125 *requirement may also be fulfilled by* PHYS 135a, PHYS 135b*; 4 units will be applied toward the BArch and 4 will count as electives.*
***ARCH 213a, ARCH 213b *fulfills the General Education requirement in Category F: Quantitative Reasoning.*

Core Requirements

In order to take advantage of elective opportunities at the upper division level, students MUST complete the following courses before the end of the integrative semester (third year, second semester): ARCH 102a, ARCH 102b, ARCH 105, ARCH 114, ARCH 202a, ARCH 202b, ARCH 211, ARCH 213a, ARCH 213b, ARCH 214a, ARCH 214b, ARCH 215, ARCH 314, MATH 108, PHYS 125 and WRIT 150.

Additional Requirements

Allocation of Elective Units

Professional Architecture Electives

A minimum of 12 units in architecture is required.

Architecture History Elective

A minimum of 2 units in architecture history is required.

Free Electives

A minimum of 8 units in any area of liberal arts or sciences excluding MATH 108, PHYS 125 or PHYS 135a, PHYS 135b).

General Education Requirements

All students who begin college in fall 2015 or later at USC (or who begin elsewhere in fall 2015 and then transfer to USC) must satisfy the 2015 General Education Program, which includes six Core Literacy and two Global Perspectives requirements. Together these provide training in the liberal arts — the critical skills necessary for a free person to function effectively, thoughtfully and productively in a complex world. This General Education program has been designed to nurture habits of thought essential for professional success and personal development, and to establish a background for lifelong learning.

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

To fulfill a minimum 160 units for the Bachelor of Architecture degree, courses in the Global Perspectives categories should be used to satisfy requirements in the Core Literacies as well. A single course can satisfy one Global Perspective and one Core Literacy requirement.

For more information about the general education requirements, see https://dornsife.usc.edu/2015ge/2015ge-requirements/.

Minor

Architecture Minor

The minor in architecture provides the flexibility of complementing a student's major with an area of specialization. Taking a minor in architecture is a unique opportunity for a student to stimulate his or her imagination and learn creative approaches to problem solving.

Admission Requirements

Students in good academic standing who have completed the freshman year are eligible.

Course Requirements

The requirements for the minor include three required courses (8 units) and a minimum of 12 units of upper division courses.

Required Courses

- ARCH 106x Workshop in Architecture Units: 2
- ARCH 114 Architecture: Culture and Community Units: 2
- ARCH 304x Intensive Survey: Prehistory to the Present Units: 4

Note:

Students may elect to take the upper division courses in an area of specialization, such as architectural history and theory, historic preservation, computers and design, visual communication, landscape architecture, public places — urban spaces, housing or practice management. This minor is not available to architecture majors.

Landscape Architecture Minor

The minor provides students with the ability to integrate the ecological and cultural dimensions of landscape architecture into their course of study. Studies are about repairing and sustaining natural systems in cities, about the history of human settlements, places, and gardens in urban landscapes, and about the cultural and aesthetic meanings of landscape architecture design. This is an excellent emphasis for students in environmental studies, civil engineering, planning and anthropology. This minor is not available to architecture majors.

Admission Requirements

Students in good academic standing who have completed the freshman year are eligible.

Course Requirements

The minor in landscape architecture consists of three required courses (10 units) and a minimum of 10 units of upper-division courses.

Required Courses

- ARCH 203 Visualizing and Experiencing the Built Environment Units: 4
- ARCH 531 Urban Ecology Units: 4
- ARCH 565 Global History of Designed Landscapes Units: 3

Upper Division Courses (10 Units)

- ARCH 303 Principles of Spatial Design I Units: 4
- ARCH 432 People, Places and Culture: Architecture of the Public Realm Units: 4
- ARCH 531 Urban Ecology Units: 4
- ARCH 536 The Landscape Planning Process Units: 3
- ARCH 544 Landscape as Urbanism: Case Studies Units: 3
- ARCH 545 Contemporary Theories of Landscape Architecture Units: 3
- ARCH 547 Advanced Topics in Urban Ecology Units: 3
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3 (max 6)

Note:

Non-architecture students must obtain written approval from their academic unit in order to take a 500-level course. For more information, contact an architecture adviser, archadvs@usc.edu.

Master's Degree

Advanced Architectural Research Studies (City Design and Housing) (MAARS)

The Master of Advanced Architectural Research Studies, City Design and Housing empahsis is a 42-unit multi-disciplinary graduate degree program at the USC School of Architecture that prepares participants to study, analyze and design within complex urban systems. Focusing on the 21st-century city the program will address specific urban challenges through a combination of explorative design studio and advanced topical research. Working across disciplines and at multiple scales, this degree concentration moves between real-world issues and innovative architectural approaches to explore ideas for radically re-thinking the ways in which we can design, build and inhabit our cities in more inclusive and equitable ways.

The program will leverage Los Angeles as a laboratory to examine the forces that shape local and global cities. Addressing a diverse set of factors that are linked to city design and housing – such as urban development and housing policies, real estate and housing finance, history and theory, technology and infrastructure, and ecology and climate change – the program will introduce students to broad methodological tools for critically analyzing contemporary challenges of urban systems and housing and will strengthen their skills to employ research and design to create more equitable, sustainable and resilient urban environments and housing schemes.

The CD+H program's design and research efforts will be framed by three topical trajectories: a) urban housing (low-cost, collective, affordable, informal, densification, etc.); b) urban inequalities (racial segregation, economic disparities, gentrification, homelessness, digital divide, migration, etc.); and c) urban infrastructures (street design, public transportation, walkability, public space, programmatic and zoning issues, etc.). In addition, the one-year course will switch between the local context of Los Angeles and a selected global city (Latin America, Asia, Africa). In order to more thoroughly study the international context – and potentially establish more sound collaborations with institutions and stakeholders abroad – the same international context will be part of the program in a two or three-year cycle.

Finally, to connect students with real-world contexts, challenges and experiences, the CD+H program seeks to include various travel components throughout the year, which could potentially be linked to the PD+T and SP+SJ cohorts. Semester 1 will incorporate field trips in the Los Angeles and Southern California region. In Semester 2, the program's focus on an international context will be supplemented by a week-long trip to the respective city. For semester 3, the program intends to provide students the option of an immersive trip in a foreign or domestic location for their final project. The USC School of Architecture is developing the Latin Americas Cities Initiative and Asia Cities Initiative, which will be expected to interface with the MAARS CD+H, PD+T and SP+SJ programs.

Completion of the degree requires 42 units, including 8 units of Architecture Directed Design Research.

Core Requirements (28 units)

This degree is intended for qualified students who have completed a professional degree in architecture (BArch/MArch) with interest in advanced non-professional graduate study pursuing careers in urban design, urban planning, community development, as well as adequate and affordable housing design.

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 529 Urban Housing: Programs, Precedents, and Recent Case Studies Units: 2
- ARCH 543 Research Methods Units: 1
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 702L Advanced Graduate Architecture Design – Themes Units: 6
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6
- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6

Electives (14 units)

The curriculum is designed to be flexible to allow students to customize elective courses to a specific topic of interest within the thematic framework of the degree program. A list of electives currently offered for all themes is summarized below. Additional electives outside of the School of Architecture are possible upon approval.

Architecture and Housing

- ARCH 414 Perspectives in History and Theory in Architecture Units: 2
- ARCH 527 Case Studies: The Development of Urban Housing Units: 2
- ARCH 528 Urban Housing: Types and Typologies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2

Sustainability and Systems

- ARCH 447 Ecological Factors in Design Units: 3
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4 or
- PPDE 640 Environmental Planning and Analysis Units: 4
- ARCH 531 Urban Ecology Units: 4

Urbanism and Landscape

- ARCH 544 Landscape as Urbanism: Case Studies Units: 3
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 565 Global History of Designed Landscapes Units: 3 or
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3 or
- PPDE 636 Urban Spatial Ethnography and Critical Cartography Units: 4

Advanced Architectural Research Studies (Performative Design and Technology) (MAARS)

The Master of Advanced Architectural Research Studies, Performative Design And Technology Emphasis is a 42-unit graduate design program at the USC School of Architecture that focuses on the integration of architectural design, building performance and technology, within the context of digital design and fabrication. As a design-centric approach to building science concepts in the spirit of Ralph Knowles and the legacy of the Natural Forces Laboratory at the USC School of Architecture,

issues of sustainability, structure, daylighting and thermal comfort will be explored in the context of architectural design. In this program, students will explore digital and analog techniques for discovering form through variable material and geometric organizations and force simulations, while simultaneously considering the design opportunities being afforded by advances in computation and fabrication technologies. The proposed curriculum will respond to emerging shifts in the architecture, engineering and construction (AEC) industry towards integrated technologies, increased efficiency, and productivity, and a digital workforce driven by digital, sensing and intelligent technologies. An integrated design curriculum that incorporates these concepts will support students in developing the skill necessary to foster innovation in practice with a focus on: data, technology, integration, performance, ecology and sustainability.

A travel component will be included in Semester 1 through field trips in the Los Angeles and Southern California region to connect students with the real-world context and challenges faced in urban cities. In Semester 2, a week-long trip to a foreign or domestic location will provide students with a global context and interface and connect with the CD+H program. Students will have an option in Semester 3 to participate in an extended and immersive trip in a foreign or domestic location that will support completion of the final project. The USC School of Architecture is developing the Latin Americas Cities Initiative and Asia Cities Initiative, which will be expected to interface with the MAARS CD+H and PD+T programs.

Completion of the degree requires 42 units, including 8 units of Architecture Directed Design Research.

Core Requirements (28 units)

This degree is intended for qualified students who have completed a professional degree in architecture (BArch/MArch) with interest in advanced non-professional graduate study who are pursuing careers in architectural design, structural design, parametric design, design optimization, environmental design and performative architecture.

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 543 Research Methods Units: 1
- ARCH 607 Advanced Computation Units: 2
- ARCH 609 Advanced Fabrication Units: 2
- ARCH 702L Advanced Graduate Architecture Design – Themes Units: 6
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6
- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6

Electives (14 units)

The curriculum is designed to be flexible to allow students to customize elective courses to a specific topic of interest within the thematic framework of the degree program. A list of electives currently offered for all themes is summarized below. Additional electives outside of the School of Architecture are possible upon approval.

Design

- ARCH 581 Techniques in Digital Fabrication Units: 3

Integration

- ARCH 418 Designing with Natural Forces Units: 3
- ARCH 513L Seminar: Advanced Structures Units: 4
- ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure Units: 2
- ARCH 611 Advanced Building Systems Integration Units: 4

Materials

- ARCH 511L Building Systems: Materials and Construction Units: 4
- ARCH 512 Material + Process: Material Systems Units: 2

Systems

- ARCH 447 Ecological Factors in Design Units: 3
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4
- ARCH 576 Sustainable Design for Healthy Indoor Environments Units: 3
- ARCH 588 Physical Computing: Linking Architectural Computing with the Physical World Units: 3

Advanced Architectural Studies (MAAS)

This program is dedicated to cutting edge research and experimentation, and seeks to explore in a highly innovative fashion the cultural and technological landscapes of Los Angeles. Through its range of experimental 'Labs', the program is structured under three distinct veins of inquiry [1] architectural urban studies using Los Angeles as a laboratory to engage global issues; [2] advanced computation/fabrication technologies and material processes; and [3] performative architecture with an emphasis on sustainable systems. These specific design and research directions are diversely initiated by our faculty and fully supported by additional resources from the University of Southern California and the city of Los Angeles.

The Master of Advanced Architectural Studies is a three-semester advanced degree program. Consisting of two option-based topic studios followed by an in-depth Directed Design Research project [DDR], and coordinated seminar courses each for the first two semesters, the degree is focused on advanced and emerging topics in architecture. The design and research directions are diversely initiated by our faculty and fully supported by additional resources from the University at-large and the city of Los Angeles.

Candidates for admission must have a five-year Bachelor of Architecture degree or its equivalent. Completion of the degree requires 48 units, including 28 units of required studio and seminar courses, [including 8 units Directed Design Research or Thesis], and 20 units of approved electives, over three semesters of residency.

Required Courses

- ARCH 606 Advanced Architectural Theory Units: 2
- ARCH 607 Advanced Computation Units: 2
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2
- ARCH 609 Advanced Fabrication Units: 2
- ARCH 702L Advanced Graduate Architecture Design – Themes Units: 6
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6
- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6

  or
- ARCH 795aL Architecture Thesis Option II Units: 2
- ARCH 795bL Architecture Thesis Option II Units: 6

48-Unit Sample Curriculum – Master of Advanced Architectural Studies (MAAS) Post-Professional Degree

First Semester

- ARCH 606 Advanced Architectural Theory Units: 2 *
- ARCH 607 Advanced Computation Units: 2 *
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2 *
- ARCH 609 Advanced Fabrication Units: 2 *
- ARCH 702L Advanced Graduate Architecture Design – Themes Units: 6

Total units: 14

Second Semester

- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6 (max 12)
- ARCH 793aL Architecture Directed Design Research Option I Units: 2 or

- ARCH 795aL Architecture Thesis Option II Units: 2
- Elective Units: 8

Total units: 16

Third Semester

- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795bL Architecture Thesis Option II Units: 6
- Electives Units: 12

Total units: 18

Note:

**ARCH 606 and ARCH 607 will be taken the first half of the semester and ARCH 608 and ARCH 609 in the latter half of the semester.*

Architecture (MArch)

Programs

The USC School of Architecture offers two distinct master's programs related to the study of architecture: the Master of Architecture professional degree (MArch) and the Master of Advanced Architectural Studies postprofessional degree (MAAS) for students who already hold a professional degree in architecture or its equivalent.

Master of Architecture (MArch), Professional Degree

The school's Master of Architecture is a NAAB accredited professional degree program in the area of architectural design. It is intended for individuals who have completed a bachelor's degree with a major other than one of the design professions, (typically requiring three years of residency); or, with advanced standing, for those individuals with a pre-professional undergraduate degree in architectural studies (typically requiring two years of residency).

This degree fully prepares graduates for the present and future professional activities in the ever-evolving field of architecture. As an accredited professional degree, it provides a solid intellectual base of knowledge in history, technology, professional practice and theory. Particular emphasis is put on each of the six-semester design studio sequences, where students learn to synthesize the social, environmental and tectonic thinking through informed design practice. The studios culminate in an option-based studio and directed design research sequence, pursuing exploration of advanced and emerging topics. Exploring the many elective opportunities within the school, students are encouraged to develop a tailored curriculum, and if possible, to complete one of the several graduate certificates offered by the school or within the university.

Degree Requirements

A minimum one-semester college-level course in physics or calculus is required.

In order for the MArch degree to be conferred, students must complete 102 credit units of both required professional and elective course work during three years of residency, or for students admitted with advanced standing, a minimum of 64 units of both required professional and elective course work during two years of residency. Students must also continually meet the established standards for graduate study at USC.

To meet NAAB accreditation requirements, all students must complete (before graduation) a combined total of 168 credit hours of study at the undergraduate and graduate level, of which at least 30 semester credit hours must be at the graduate level as well as a minimum of 45 units of non-architectural content.

Advanced Standing

Students seeking advanced standing must have a four-year architectural studies degree from: a U.S. school with an accredited professional architecture program; a U.S. school that is accredited by a regional accrediting body, without an accredited professional architecture program; or an international program that is deemed equivalent.

All students who meet the pre-professional undergraduate degree requirement and wish to be considered for advanced standing must undergo a course-by-course review. Students must provide significant evidence from the course work completed at the undergraduate level in order for waivers to be considered or granted for USC MArch required Basic Studies courses. This review is conducted after admission to the program, during the summer prior to starting course work.

Basic Studies courses include: ARCH 511L Building Systems: Materials and Construction, ARCH 514a Global History of Architecture, ARCH 514b Global History of Architecture, ARCH 523aL Structural Design and Analysis, ARCH 523bL Structural Design and Analysis, ARCH 575a Systems, ARCH 575b Systems, ARCH 611 Advanced Building Systems Integration.

MArch students with advanced standing are required to complete a minimum two year residency, or 4 semester units of study at USC.

Summer Semester

A robust curriculum is available during the summer semester between the fourth and fifth semesters [of the full sequence; between the second and third of the advanced standing]. A combination of internationally based studios, field studies and the full first semester sequence of the MAAS is available to provide students diverse and advanced opportunities that can expand their degree offerings.

Admission with No Previous Professional Education (+3)

Students admitted with no previous professional education must complete 102 units, including 74 units of specified courses, 20 units of electives and 8 units of Directed Design Research or Thesis. Electives must be part of a curricular plan approved by the program director.

Required Courses for the 102 unit M.Arch +3 Curriculum

- ARCH 409L Design Foundation Units: 2
- ARCH 410 Computer Transformations Units: 2
- ARCH 505aL Graduate Architecture Design I Units: 6
- ARCH 505bL Graduate Architecture Design I Units: 6
- ARCH 511L Building Systems: Materials and Construction Units: 4
- ARCH 514a Global History of Architecture Units: 3
- ARCH 514b Global History of Architecture Units: 3
- ARCH 523aL Structural Design and Analysis Units: 3
- ARCH 523bL Structural Design and Analysis Units: 3
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 563 Contemporary Architectural Theory Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 575a Systems Units: 3
- ARCH 575b Systems Units: 3
- ARCH 605aL Graduate Architecture Design II Units: 6
- ARCH 605bL Graduate Architecture Design II Units: 6
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6
- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6
  or
- ARCH 795aL Architecture Thesis Option II Units: 2
- ARCH 795bL Architecture Thesis Option II Units: 6

102-unit Sample Curriculum – M.Arch. Professional Degree

First Semester

- ARCH 409L Design Foundation Units: 2 *
- ARCH 410 Computer Transformations Units: 2 *
- ARCH 505aL Graduate Architecture Design I Units: 6
- ARCH 511L Building Systems: Materials and Construction Units: 4
- ARCH 514a Global History of Architecture Units: 3

Total units: 17

Second Semester

- ARCH 505bL Graduate Architecture Design I Units: 6
- ARCH 514b Global History of Architecture Units: 3
- ARCH 523aL Structural Design and Analysis Units: 3
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- ARCH 575a Systems Units: 3

Total units: 18

Third Semester

- ARCH 523bL Structural Design and Analysis Units: 3
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 605aL Graduate Architecture Design II Units: 6
- ARCH 611 Advanced Building Systems Integration Units: 4

Total units: 17

Fourth Semester

- ARCH 563 Contemporary Architectural Theory Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 575b Systems Units: 3
- ARCH 605bL Graduate Architecture Design II Units: 6
- Electives Units: 4

Total units: 17

Fifth Semester

- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6
- ARCH 793aL Architecture Directed Design Research Option I Units: 2 or
- ARCH 795aL Architecture Thesis Option II Units: 2
- Electives Units: 6

Total units: 17

Sixth Semester

- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795bL Architecture Thesis Option II Units: 6
- Electives Units: 10

Total units: 16

Note:

**ARCH 409 and ARCH 410 will be taken as a fall semester special session prior to the first day of classes.*

Admission with Advanced Standing (+2)

Advanced standing students must complete 64 units, including 34 units of specified courses, 22 units of electives or basic studies requirements and 8 units of Directed Design Research or Thesis. Electives and basic studies courses must be part of a curricular plan approved by the program director.

Required Courses for the 64-unit +2 Curriculum

- ARCH 410 Computer Transformations Units: 2
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 563 Contemporary Architectural Theory Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 605aL Graduate Architecture Design II Units: 6
- ARCH 605bL Graduate Architecture Design II Units: 6
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6
- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795aL Architecture Thesis Option II Units: 2
- ARCH 795bL Architecture Thesis Option II Units: 6

64-unit Sample Curriculum

Year One, Semester One

- ARCH 410 Computer Transformations Units: 2
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 605aL Graduate Architecture Design II Units: 6
- Elective or Basic Studies Units: 4

Total units: 16

Year One, Semester Two

- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- ARCH 563 Contemporary Architectural Theory Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 605bL Graduate Architecture Design II Units: 6
- ARCH 611 Advanced Building Systems Integration Units: 4

Total units: 17

Year Two, Semester One

- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6
- ARCH 793aL Architecture Directed Design Research Option I Units: 2 or
- ARCH 795aL Architecture Thesis Option II Units: 2
- Elective or Basic Studies Units: 5

Total units: 16

Year Two, Semester Two

- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795bL Architecture Thesis Option II Units: 6
  Elective or Basic Studies Units: 9

Total units: 15

Building Science (MBS)

The Chase L. Leavitt Graduate Building Science program in the USC School of Architecture is a global leader in architectural technology education - the intricacies of structure, environmental controls, sustainability, materials and methods, and computing, with a special strength in façade research. The Master of Building Science curriculum encourages "breadth with depth," providing students with a solid platform of core knowledge that they can then amplify through their individual research projects. Electives allow students to stretch in a variety of directions, both within the field and beyond into the related disciplines of heritage conservation, landscape architecture, and architecture.

Graduate building science degree programs at USC are a half-century old, although the pedagogy has been an integral part of the School of Architecture for more than a century. Some of the great innovators of our field are either graduates or faculty associated with our program. The confluence of an outstanding faculty, dedicated students, an exceptional curricular structure, good facilities and a long history of collaborative scholarly achievement creates an unparalleled academic home for those interested in cutting-edge research and technological innovation.

Degree Requirements

The **Thesis Track** consists of 18 units of specified courses to include three core seminars and one research seminar; 17 units of elective courses; and 13 units of thesis and thesis preparation. Completion of this track requires 48 units.

The **Non-Thesis Track** consists of 18 units of specified courses to include three core seminars and one research seminar, 1 unit of thesis preparation, 17 units of electives and 12 units from a specified list of courses. Students are required to declare their intention for the Non-Thesis Track by the end of their first year of studies and must receive admission approval from the Director of the Master of Building Science program. Completion of this degree requires 48 units.

Core seminars are:

- ARCH 511L Building Systems: Materials and Construction Units: 4 or
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 513L Seminar: Advanced Structures Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4

Research seminars are:

- ARCH 613L Seminar: Structures Research Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4

48-Unit Sample Curriculum For Thesis Track

First Year, First Semester

- Core seminar(s) and/or research seminar(s) Units: 12
- ARCH 596 Building Science Thesis Preparation Units: 1

Total units: 13

First Year, Second Semester

- Core seminar and/or research seminar Units: 4
- Electives Units: 7

Total units: 11

Second Year, First Semester

- ARCH 692aL Building Science Thesis Units: 6
  Electives

Total units: 12

Second Year, Second Semester

- ARCH 692bL Building Science Thesis Units: 6
- ARCH 694 Research Publication Methods for Building Science Units: 2
  Electives

Total units: 12

48-Unit Sample Curriculum for Non-Thesis Track

Non-Thesis Track Building Science Elective Options (must choose 12 units)

- ARCH 418 Designing with Natural Forces
- ARCH 419 Architectural Sustainability Tools and Methods
- ARCH 507 Theories of Computer Technology
- ARCH 512 Material + Process: Material Systems
- ARCH 513L Seminar: Advanced Structures
- ARCH 515L Seminar: Advanced Environmental Systems
- ARCH 517 Current Topics in Building Science
- ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings
- ARCH 543 Research Methods
- ARCH 551 Conservation Methods and Materials
- ARCH 557 Sustainable Conservation of the Historic Built Environment
- ARCH 564 Descriptive and Computational Architectural Geometry
- ARCH 573 Seismic Design
- ARCH 574 Parametric Design
- ARCH 576 Sustainable Design for Healthy Indoor Environments
- ARCH 577L Lighting Design
- ARCH 579 Sustainable Building and Environment using LEED Metrics
- ARCH 581 Techniques in Digital Fabrication
- ARCH 609 Advanced Fabrication
- ARCH 611 Advanced Building Systems Integration
- ARCH 613L Seminar: Structures Research
- ARCH 615L Seminar: Environmental Systems Research

(*Note: Students may obtain credit for* either *ARCH 613L or ARCH 615L in the non-thesis option, but not both. They must select one of these two courses as part of their regular core).*

First Year, First Semester

- Core seminar(s) and/or research seminar(s) Units: 12
- ARCH 596 Building Science Thesis Preparation Units: 1

Total units: 13

First Year, Second Semester

- Core seminar and/or research seminar Units: 4
- Electives Units: 7

Total units: 11

Second Year, First Semester

- Elective Units: 10
- Select 2 units of Building Science elective course work from above list

Total units: 12

Second Year, Second Semester

- Select 10 units of Building Science elective course work from above list
- ARCH 694 Research Publication Methods for Building Science Units: 2

Total units: 12

Advanced Standing for Students with a Five-Year Professional Degree in Architecture

Applicants who have completed a five-year Bachelor of Architecture degree and at least five years of teaching or practice (may be combined), may be qualified for advanced standing. Each student will be considered individually. In such cases, the degree requirements are 36 units, including 16 units of specified courses, 13 units of thesis and thesis preparation and 7 units of electives. Students with advanced standing will typically be able to complete the degree program in three regular semesters. Admission with advanced standing is determined at the time of review for admission to the program.

36-Unit Advanced Standing Sample Curriculum

First Year, First Semester

- ARCH 511L Building Systems: Materials and Construction Units: 4 or
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 513L Seminar: Advanced Structures Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4
- ARCH 596 Building Science Thesis Preparation Units: 1

Total units: 13

First Year, Second Semester

- ARCH 613L Seminar: Structures Research Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4
- ARCH 692aL Building Science Thesis Units: 6
  Electives

Total units: 12

Second Year, First Semester

- ARCH 692bL Building Science Thesis Units: 6
  Electives

Total units: 11

Heritage Conservation (MHC)

Completion of this degree requires 48 units and includes 26 units of specified courses, 5 units of thesis preparation and thesis, and 17 units of elective courses as approved by the program director.

Master of Heritage Conservation

Los Angeles provides a unique laboratory in which to learn and challenge conservation issues. As a relatively young and diverse global city, it is the ideal place to explore a relatively young and diverse global discipline. Our wealth of recent past resources raise a new set of research challenges and the city's richly diverse communities woven throughout the tapestry of the built environment push us to acknowledge the many layers of history and meaning revealed in the city. It is also a place forever seeking the new, providing opportunities to protect the best of the past while embracing the landmarks of the future.

Embedded in the School of Architecture at USC, heritage conservation students are instantly part of a multidisciplinary environment, linking landscape architecture, building science, architecture, and conservation. As such, the program curriculum is designed to expose students to a broad range of topics including materials conservation, policy and planning, conservation theory, global conservation efforts, architectural and landscape history, best-practices in resource documentation and evaluation, sustainability, and historic site management. Students are also encouraged to take advantage of the many academic resources in the broader university, including taking courses in real estate, regional history, urban planning, and spatial sciences. Program faculty are leaders in the field, a blend of academics and practitioners that grapple with conservation in real time, seeking creative solutions that balance the integrity of the past with a sustainable future. Through this broad exposure, students begin to formulate their professional path within the discipline.

Required Courses

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- ARCH 691z Heritage Conservation Thesis Preparation and Thesis Units: 0

48-Unit Sample Curriculum

First Year, First Semester

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 558 Fundamentals of Place-Making Units: 2
- Electives Units: 2

Total units: 12

First Year, Second Semester

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1

Total units: 12

Second Year, First Semester

- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- Elective Units: 7

Total units: 12

Second Year, Second Semester

- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- Electives Units: 8

Total units: 12

Requirements for Advanced Standing

Students must have one of the following: an accredited graduate certificate in historic preservation or heritage conservation; professional degree or professional registration in architecture or engineering; graduate degree in a related field, such as architectural history, planning or history; and at least five years of teaching or practice (may be combined). Each student will be considered individually. Qualified students will be admitted to a three-semester program at the time of review of admission. Students with advanced standing must complete 36 units.

Required Courses

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- ARCH 691z Heritage Conservation Thesis Preparation and Thesis Units: 0

36-Unit Sample Curriculum

First Year, First Semester

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 558 Fundamentals of Place-Making Units: 2
- Electives Units: 2

Total units: 12

First Year, Second Semester

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1

Total units: 12

Second Year, First Semester

- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- Electives Units: 3

Total units: 12

Landscape Architecture (MLArch)

Landscapes are the dynamic synthesis of natural systems, sociocultural forces and the physical material of the constructed world. The Graduate Program of Landscape Architecture + Urbanism uses the complex regional geography of Southern California as its primary laboratory to generate and test responses to the planet's most pressing environmental challenges, including resounding impacts of climate change, rapid urbanization, social and environmental injustice, and the interface of nature and technology. Looking regionally and globally, we conduct rigorous design-research to develop multi-scalar innovations in performative regional infrastructures, equitable urban frameworks and public spaces, and healthful biophysical systems. We focus on pressures of urbanization and how to utilize landscape strategies to shape those systems, spaces, cities and infrastructures to imagine more resilient futures – socially and ecologically.

We are fortunate to inhabit one of the most culturally and environmentally diverse geographies in the world - within an hour's drive from the Pacific Ocean, the San Gabriel Mountains and the western edge of the Sonoran Desert. Clearly Southern California offers a wide range of landscape challenges to which we apply design exploration, strategic thinking, technical resolution and creative expression. Those challenges include increasing water scarcity impacting urban and agricultural territories, warming temperatures, rising sea levels, reduced biodiversity, wildfire-flood-debris flow cycles, as well as deeply institutionalized practices of discrimination that have marginalized and burdened communities of color, and rapid urban development that is leaving many populations behind or displaced. More optimistically, there is an increasing investment in public space, urban nature and environmental resilience in our region, which is characteristically experimental and creative.

Our program curriculum is focused on a balanced core of design studios, media and fabrication, history and theory, performance technologies, plant materials and ecology, construction and practice, and urbanism. It is field-based and hands-on. The studio sequence begins with local urban sites where intensive field work is critical to site understanding and builds up to territorial-scale design-research studios. Students synthesize their courses in media, history, plant materials, ecology, construction and urbanism with their studio work. Second-year studios provide opportunities to investigate design responses to urban development, as well as climate change causes and impacts, and have options both to travel outside the region and to collaborate with architecture students in an integrated setting. Elective courses in our curriculum come from a wide range of offerings in the School of Architecture and other courses including those in urban planning, spatial sciences, art and cinema. We have a number of international opportunities to study other geographies – both during the summer global studies programs and studios within the curriculum.

Our curriculum is increasingly focused on opportunities for applied research that has real impact on the ground or in shaping policy. The aim of the program is to develop critical thinkers and design leaders unafraid to tackle some of the most contested landscapes and environmental questions of our day.

Master of Landscape Architecture

Individuals who have completed a four-year Bachelor of Arts or Bachelor of Science degree, or its equivalent, with no prior accredited degree in landscape architecture, are eligible for admission to the program. Preference for admission is given to those who have completed a balanced undergraduate education that includes study in the arts, sciences and humanities. Applicants must document successful completion of a college-level course in the natural sciences. Preparation in the visual arts is strongly encouraged. Courses in the humanities, ecology, history of art, landscape architecture and architecture are strongly encouraged, although not required.

96-Unit Curriculum

Students admitted with no previous professional education must complete 96 units (during three years of residency), including 77 units of specified courses, 10 units of electives, and 9 units of Advanced Design Research. Electives must be part of a curricular plan approved by the program director.

96-Unit Sample Curriculum

Year One, Semester One

- ARCH 439 Landscape Architecture Foundations Workshop Units: 2
- ARCH 531 Urban Ecology Units: 4
- ARCH 539L Media for Landscape Architecture Units: 3
- ARCH 541aL Landscape Architecture Design Units: 6
- ARCH 565 Global History of Designed Landscapes Units: 3

Total units: 18

Year One, Semester Two

- ARCH 534 Landscape Construction: Topographic Design Units: 3
- ARCH 537 Plant Ecology + Identification Units: 2
- ARCH 541bL Landscape Architecture Design Units: 6
- ARCH 545 Contemporary Theories of Landscape Architecture Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3

Total units: 17

Year Two, Semester One

- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 538L Planting Design Units: 2
- ARCH 544 Landscape as Urbanism: Case Studies Units: 3
- ARCH 639 Media for Landscape Architecture: Dynamic Systems Units: 3
- SSCI 572 GIS and Landscape Architecture Units: 2

Total units: 16

Year Two, Semester Two

- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 547 Advanced Topics in Urban Ecology Units: 3
- ARCH 635 Landscape Construction: Assembly and Documentation Units: 3

Total units: 15

Year Three, Semester One

- ARCH 571 Community-Based Design, Conservation and Planning Units: 2
- ARCH 642L Landscape Architecture Design Units: 6

- ARCH 698aL Advanced Design-Research Units: 3
- Elective Units: 4

Total units: 15

Year Three, Semester Two

- ARCH 530 Landscape Architecture Practice Units: 3
- ARCH 698bL Advanced Design-Research Units: 6
- Elective Units: 6

Total units: 15

Requirements for Advanced Placement

Applicants who have completed a LAAB (Landscape Architectural Accreditation Board), or equivalent, degree in landscape architecture may be granted advanced placement of two semesters, subject to the review of the admission committee. Applicants granted advanced placement may be able to waive certain course requirements for the MLA program by demonstrating equivalencies in any of the required courses. The program director and faculty in charge of the specific curriculum areas will determine the studio and professional course requirements for each MLA student admitted with advanced placement. The following courses are prerequisites to be completed prior to matriculation or, on specific notice, in the first year of the program: history of landscape architecture (ARCH 565 or equivalent), landscape architecture construction (ARCH 534, ARCH 635 or equivalent), plant materials (ARCH 537, ARCH 538 or equivalent), media (ARCH 539 or equivalent), GIS and landscape architecture (SSCI 572 or equivalent).

64-Unit Sample Curriculum

Advanced placement students must complete 64 units, including 50 units of specified courses, 5 units of electives, and 9 units of Advanced Design Research. Electives must be part of a curricular plan approved by the program director.

Year One, Semester One

- ARCH 439 Landscape Architecture Foundations Workshop Units: 2
- ARCH 531 Urban Ecology Units: 4
- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 565 Global History of Designed Landscapes Units: 3
- SSCI 572 GIS and Landscape Architecture Units: 2

Total units: 17

Year One, Semester Two

- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 545 Contemporary Theories of Landscape Architecture Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- Elective Units: 2

Total units: 17

Year Two, Semester One

- ARCH 544 Landscape as Urbanism: Case Studies Units: 3
- ARCH 571 Community-Based Design, Conservation and Planning Units: 2
- ARCH 639 Media for Landscape Architecture: Dynamic Systems Units: 3
- ARCH 642L Landscape Architecture Design Units: 6
- ARCH 698aL Advanced Design-Research Units: 3

Total units: 17

Year Two, Semester Two

- ARCH 530 Landscape Architecture Practice Units: 3
- ARCH 547 Advanced Topics in Urban Ecology Units: 3
- ARCH 698bL Advanced Design-Research Units: 6
- Elective Units: 3

Total units: 15

Requirement for Advanced Placement with a B.Arch

This curricular track would be for students with the Bachelor of Architecture (B.Arch) to receive advanced standing to the Master of Landscape Architecture degree. Incoming students will start the 3-year track requirements and then accelerate in the second year with compressed requirements from those three years while reducing the number of studio requirements (from 6 to 4). This curriculum ensures that students receive appropriate training in design, ecology, plants, media, history and construction required of this accredited degree as well as professional expectations. Due to the compressed timeframe for this advanced standing track, electives units are not required.

NOTE: Acceptance into this accelerated curriculum is at the discretion of the Admissions Committee and the MLA+U Program Director.

66-Unit Sample Curriculum

Advanced placement students must complete 66 units, including 57 units of specified courses and 9 units of Advanced Design Research.

Year One, Semester One

- ARCH 531 Urban Ecology Units: 4
- ARCH 539L Media for Landscape Architecture Units: 3
- ARCH 541aL Landscape Architecture Design Units: 6
- ARCH 565 Global History of Designed Landscapes Units: 3
- SSCI 572 GIS and Landscape Architecture Units: 2

Total units: 18

Year One, Semester Two

- ARCH 534 Landscape Construction: Topographic Design Units: 3
- ARCH 537 Plant Ecology + Identification Units: 2
- ARCH 541bL Landscape Architecture Design Units: 6
- ARCH 545 Contemporary Theories of Landscape Architecture Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3

Total units: 17

Year Two, Semester One

- ARCH 538L Planting Design Units: 2
- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 544 Landscape as Urbanism: Case Studies Units: 3
- ARCH 571 Community-Based Design, Conservation and Planning Units: 2
- ARCH 639 Media for Landscape Architecture: Dynamic Systems Units: 3
- ARCH 698aL Advanced Design-Research Units: 3

Total units: 19

Year Two, Semester Two

- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 547 Advanced Topics in Urban Ecology Units: 3
- ARCH 698bL Advanced Design-Research Units: 6

Total units: 12

Electives

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 407 Advanced Computer Applications Units: 4
- ARCH 440m Literature and the Urban Experience Units: 4
- ARCH 447 Ecological Factors in Design Units: 3
- ARCH 507 Theories of Computer Technology Units: 3
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 524 Professional Practicum Units: 1 (max 2)
- ARCH 536 The Landscape Planning Process Units: 3
- ARCH 540 Topics in Media for Landscape Architecture Units: 2 (max 6)

- ARCH 546 Topics in Landscape Architecture: Issues and Practices Units: 2
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3 (max 6)
- ARCH 606 Advanced Architectural Theory Units: 2
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2
- ARCH 635 Landscape Construction: Assembly and Documentation Units: 3
- PPD 527 The Social Context of Planning Units: 2
- PPD 530 Historical Analysis of Urban Form and Planning Practice Units: 2
- PPD 533 Planning History and Urban Form Units: 2
- PPDE 632 Sustainable Cities Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4

Dual Degree

Master of Advanced Architectural Studies/ Master of Urban Planning (MAAS/MUP)

The Master of Urban Planning/Master of Advanced Architectural Studies dual degree program facilitates highly related cross-disciplinary studies in architecture and in planning at the master's level. This program offers students interested in developing a career in urban design an opportunity to make more substantial commitments in both disciplines and to achieve a more coherent and extensive knowledge in the design of built environments and public policy. This dual degree program normally requires five semesters in residence.

Qualified students who are admitted to the graduate programs in both the School of Architecture and the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program. Such students must already possess a five-year professional degree in architecture.

Requirements

Requirements for completion of the dual degree program are 72 units, including 36 units in architecture and 36 units in urban planning, as follows:

Architecture

- ARCH 606 Advanced Architectural Theory Units: 2
- ARCH 607 Advanced Computation Units: 2
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2
- ARCH 609 Advanced Fabrication Units: 2
- ARCH 702L Advanced Graduate Architecture Design – Themes Units: 6
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6
- ARCH 793aL Architecture Directed Design Research Option I Units: 2 and
- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795aL Architecture Thesis Option II Units: 2 and
- ARCH 795bL Architecture Thesis Option II Units: 6
- Elective* Units: 8

Note:

**5 units of electives taken within the School of Architecture.*

Urban Planning

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12 (4 units required)
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 629 Capstone in Urban Planning Units: 4

Concentrations

There are six concentrations available in the Master of Urban Planning program: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Please see the Master of Urban Planning section of the catalogue for the concentration descriptions and course lists.

Electives

Students select 6 units of electives in urban planning.

Note:

Students in this dual degree will be waived out of PPD 528 in the MUP core as the design skills will be covered in the ARCH design classes.

Master of Building Science/Master of Heritage Conservation (MBS/MHC)

The Master of Heritage Conservation/Master of Building Science dual degree program facilitates highly related cross-disciplinary studies in heritage conservationand in building science at the master's level. The primary objective of the dual degree curriculum is to impart to students a basic familiarity with the origins anddevelopment of the philosophies, theories, and practices of building science and heritage conservation. This curriculum has been developed so that students willgraduate from this program with a broad practical knowledge of the techniques and strategies for conserving the existing built environment through the lens ofscience and technology. Students will be expected to understand the critical methodological tools necessary for a professional engaged in the investigation, interpretation, and evaluation of the urban built environment.

Requirements

Requirements for completion of the dual degree program are 72 units, including 36 units in Heritage Conservation and 36 units of Building Science. As a full-time program of study, students are expected to take 18 units each semester during two years of residency.

Thesis

The thesis topic chosen must be relevant to both degrees. There must be one thesis committee member from each degree program; the third committee membershould be selected relative to the topic selected.

Heritage Conservation Requirements

The Heritage Conservation requirements of the dual degree are 36 units, including 28 required units and 8 units of general electives from the School of Architecture.

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2

Building Science Requirements

The Building Science requirements of the dual degree are 36 units, including 19 required units, 12 units of Building Science Thesis and 5 units of electives from a specific list.

- ARCH 511L Building Systems: Materials and Construction Units: 4
- ARCH 513L Seminar: Advanced Structures Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4
- ARCH 596 Building Science Thesis Preparation Units: 1
- ARCH 613L Seminar: Structures Research Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4
- ARCH 692aL Building Science Thesis Units: 6
- ARCH 692bL Building Science Thesis Units: 6
- ARCH 694 Research Publication Methods for Building Science Units: 2

Building Science Electives

Select a minimum of 5 units from this list or with approval by the Director of the Graduate Building Science program.

- ARCH 418 Designing with Natural Forces Units: 3
- ARCH 419 Architectural Sustainability Tools and Methods Units: 3
- ARCH 472 Building Skins: Materials and Methods for Facades and Enclosures Units: 2
- ARCH 507 Theories of Computer Technology Units: 3
- ARCH 512 Material + Process: Material Systems Units: 2
- ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure Units: 2
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 572 Advanced Building Skins: Designing High-Performance Facade Systems Units: 3
- ARCH 573 Seismic Design Units: 2
- ARCH 574 Parametric Design Units: 3
- ARCH 576 Sustainable Design for Healthy Indoor Environments Units: 3
- ARCH 577L Lighting Design Units: 4
- ARCH 579 Sustainable Building and Environment using LEED Metrics Units: 3
- ARCH 588 Physical Computing: Linking Architectural Computing with the Physical World Units: 3
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 613L Seminar: Structures Research Units: 4
- ARCH 615L Seminar: Environmental Systems Research Units: 4
- ARCH 672 Future Building Skins: Advanced Applications in Architecture Units: 3

Master of Heritage Conservation/Master of Landscape Architecture (MHC/MLArch)

The Master of Heritage Conservation/Master of Landscape Architecture + Urbanism dual degree program facilitates highly related cross-disciplinary studies in heritage conservation and in landscape architecture at the master's level. The primary objective of the dual degree curriculum is to impart to students a basic familiarity with the origins and development of the philosophies, theories, and practices of landscape architecture and heritage conservation. This curriculum has been developed so that students will graduate from this program with a broad practical knowledge of the techniques and strategies for conserving the existing built environment through the lens of cultural landscape studies and landscape architecture. Students will be expected to understand the critical methodological tools necessary for a professional engaged in the investigation, interpretation, and evaluation of the cultural landscapes that surround us.

Qualified students who are admitted to the Master of Heritage Conservation and the Master of Landscape Architecture + Urbanism program in the School of Architecture may complete both degrees in a highly integrated five- to seven-semester program.

Completion of the dual degree requires 37 units of courses in heritage conservation (including 5 units of thesis) and either 50 units of landscape architecture (for those students admitted with advanced placement); or 74 units of landscape architecture (for those students admitted to the three-year curriculum).

Master of Heritage Conservation/Master of Landscape Architecture (Advanced Placement)

Qualified students who have completed a pre-professional undergraduate degree in landscape architecture or environmental design, or a professional degree in architecture and are admitted to the graduate landscape architecture + urbanism program in the School of Architecture with advanced placement may complete both degrees in a highly integrated five-semester program.

Completion of the dual degree with MLArch advanced placement requires 87 units, including 37 units of courses in heritage conservation (including 5 units of thesis) and 50 units of courses in landscape architecture + urbanism.

Heritage Conservation

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2
- ARCH 559 Cultural Resource Management Units: 3
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3
- ARCH 570 Cultural Landscape Practicum Units: 3

Thesis:

Thesis requirements:

- The topic chosen must be relevant to both degrees.
- There must be one committee member from each degree program – the third committee member should be selected relative to the topic selected.
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4

Total units for MHC: 37

Landscape Architecture

- ARCH 530 Landscape Architecture Practice Units: 3
- ARCH 531 Urban Ecology Units: 4
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 545 Contemporary Theories of Landscape Architecture Units: 3
- ARCH 547 Advanced Topics in Urban Ecology Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 565 Global History of Designed Landscapes Units: 3
- ARCH 569 The Invented Landscape of Southern California Units: 3
- ARCH 571 Community-Based Design, Conservation and Planning Units: 2
- SSCI 572 GIS and Landscape Architecture Units: 2

Electives:

3 units of elective courses taken in the School of Architecture.
**Electives must be 400-level and above.*

Studios:

- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 642L Landscape Architecture Design Units: 6

Total units for MLArch: 50

Note:

Students in this dual degree will be waived out of ARCH 558 in the MHC core as design knowledge is obtained in the landscape architecture + urbanism courses. Students in this dual degree will also be waived out of the ARCH 554 practicum requirement as students will instead be required to take ARCH 559, Cultural Resource Management and ARCH 570, the Cultural Landscape Practicum.

Total units for dual degree: 87

Master of Heritage Conservation/Master of Landscape Architecture (Three-Year Curriculum)

Qualified students admitted to the Master of Landscape Architecture + Urbanism three-year curriculum in the School of Architecture may complete both degrees in a highly integrated seven-semester program.

Completion of the dual degree with the MLArch three-year curriculum requires 111 units, including 37 units of courses in heritage conservation (including 5 units of thesis) and 74 units of courses in landscape architecture + urbanism.

Heritage Conservation

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2
- ARCH 559 Cultural Resource Management Units: 3
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3
- ARCH 570 Cultural Landscape Practicum Units: 3

Thesis:

Thesis requirements:

- The topic chosen must be relevant to both degrees.
- There must be one committee member from each degree program – the third committee member should be selected relative to the topic selected.
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4

Total units for MHC: 37

Landscape Architecture

- ARCH 439 Landscape Architecture Foundations Workshop Units: 2
- ARCH 530 Landscape Architecture Practice Units: 3
- ARCH 531 Urban Ecology Units: 4
- ARCH 534 Landscape Construction: Topographic Design Units: 3
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 537 Plant Ecology + Identification Units: 2
- ARCH 538L Planting Design Units: 2
- ARCH 539L Media for Landscape Architecture Units: 3
- ARCH 544 Landscape as Urbanism: Case Studies Units: 3
- ARCH 545 Contemporary Theories of Landscape Architecture Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 565 Global History of Designed Landscapes Units: 3
- ARCH 569 The Invented Landscape of Southern California Units: 3
- ARCH 571 Community-Based Design, Conservation and Planning Units: 2
- ARCH 635 Landscape Construction: Assembly and Documentation Units: 3
- SSCI 572 GIS and Landscape Architecture Units: 2

Studios:

- ARCH 541aL Landscape Architecture Design Units: 6
- ARCH 541bL Landscape Architecture Design Units: 6
- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 642L Landscape Architecture Design Units: 6

Note:

Students in this dual degree will be waived out of ARCH 558 in the MHC core as design knowledge is obtained in the landscape architecture + urbanism courses. Students in this dual degree will also be waived out of the ARCH 554 practicum requirement as students will instead be required to take ARCH 559, Cultural Resource Management and ARCH 570, the Cultural Landscape Practicum.

Total units for MLArch: 74

Total units for dual degree: 111

Master of Heritage Conservation/Master of Urban Planning (MHC/MUP)

The Master of Heritage Conservation/Master of Urban Planning dual degree program facilitates highly related cross-disciplinary studies in heritage conservation and in urban planning at the master's level. The primary objective of the dual degree curriculum is to impart to students a basic familiarity with the origins and development of the philosophies, theories, and practices of planning and heritage conservation. This curriculum has been developed so that students will graduate from this program with a broad practical knowledge of the laws, regulations, and policies that apply to planning and conservation practice in the United States and internationally. This expertise will include knowledge of urban design, public policy, and architectural and planning history and theory. Students will be expected to understand the critical methodological tools necessary for a professional engaged in the investigation, interpretation, and evaluation of the urban built environment.

Qualified students who are admitted to the graduate programs in both the School of Architecture and the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program.

Requirements

Requirements for completion of the dual degree program are 60 units, including 30 units in heritage conservation and 30 units in urban planning, as follows:

Architecture

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3

- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- ARCH 691z Heritage Conservation Thesis Preparation and Thesis Units: 0
- ARCH Electives Units: 2

Total units: 30

Urban Planning

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12 (4 units required)
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 629 Capstone in Urban Planning Units: 4

Concentrations

There are six concentrations available in the Master of Urban Planning program: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Please see the Master of Urban Planning section of the catalogue for the concentration descriptions and course lists.

Note:

Students in this dual degree will be waived out of PPD 528 in the MUP core as they take ARCH 558 Fundamentals of Place-Making.

Total units: 30

Master of Landscape Architecture/Master of Urban Planning (MLArch/MUP)

Qualified students who are admitted to the Master of Landscape Architecture program in the School of Architecture and to the graduate program in the USC Price School of Public Policy may complete both degrees in a highly integrated five-seven semester program.

Completion of the dual degree requires 26 units of courses in urban planning, 9 units of Advanced Design Research and either 49 units of landscape architecture (for those students admitted with advanced placement); or 71 units of landscape architecture (for those students admitted to the three-year curriculum).

Master of Landscape Architecture (Advanced Placement)/Master of Urban Planning

Qualified students who have completed a pre-professional undergraduate degree in landscape architecture or environmental design, or a professional degree in architecture and are admitted to the graduate program in the School of Architecture with advanced placement and to the USC Price School of Public Policy may complete both degrees in a highly integrated six-semester program.

Completion of the dual degree requires 84 units, including 49 units of courses in landscape architecture, 26 units of courses in urban planning, and 9 units of Advanced Design Research.

Landscape Architecture

- ARCH 439 Landscape Architecture Foundations Workshop Units: 2
- ARCH 531 Urban Ecology Units: 4
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 544 Landscape as Urbanism: Case Studies Units: 3
- ARCH 545 Contemporary Theories of Landscape Architecture Units: 3
- ARCH 547 Advanced Topics in Urban Ecology Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 565 Global History of Designed Landscapes Units: 3
- ARCH 571 Community-Based Design, Conservation and Planning Units: 2
- SSCI 572 GIS and Landscape Architecture Units: 2
- ARCH 698aL Advanced Design-Research Units: 3
- ARCH 698bL Advanced Design-Research Units: 6
- ARCH 698zL Advanced Design-Research Units: 0

Electives:

3 units of elective courses taken in the School of Architecture.
**Electives must be 400-level and above.*

Note:

Students in this dual degree will be waived out of ARCH 530 in the MLA core as professional practice is obtained in the PPD courses. Students in this dual degree will also be waived out of ARCH 639 as parametric design is not a required skill for planning-oriented landscape architects.

Studios

- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 642L Landscape Architecture Design Units: 6

Total units for MLArch: 58

Urban Planning

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 629 Capstone in Urban Planning Units: 4

Concentrations

There are six concentrations available in the Master of Urban Planning program. They are as follows: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Dual degree students do not need to take concentration electives as they will complete elective units in Economics. Please see the Master of Urban Planning section of the catalogue for the concentration descriptions and course lists.

Note:

Students in this dual degree will be waived out of PPD 528 in the MUP core as design knowledge is obtained in the ARCH urban landscape courses. Students in this dual degree will also be waived out of the planning studio requirement in the MUP as students take 12 units of ARCH studios in Landscape Architecture.

Total units for MUP: 26

Dual degree students, like all other MUP students, must fulfill the internship requirement.

Total units for dual degree: 84

Master of Landscape Architecture (Three-Year Curriculum)/Master of Urban Planning

Qualified students admitted to the Master of Landscape Architecture three-year curriculum in the School of Architecture and to the USC Price School of Public Policy may complete both degrees in a highly integrated seven-semester program.

Completion of the dual degree requires 106 units, including 71 units of courses in landscape architecture, 26 units of courses in urban planning, and 9 units of Advanced Design Research.

Landscape Architecture

- ARCH 439 Landscape Architecture Foundations Workshop Units: 2
- ARCH 531 Urban Ecology Units: 4
- ARCH 534 Landscape Construction: Topographic Design Units: 3
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 537 Plant Ecology + Identification Units: 2
- ARCH 538L Planting Design Units: 2
- ARCH 539L Media for Landscape Architecture Units: 3
- ARCH 544 Landscape as Urbanism: Case Studies Units: 3
- ARCH 545 Contemporary Theories of Landscape Architecture Units: 3
- ARCH 547 Advanced Topics in Urban Ecology Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 565 Global History of Designed Landscapes Units: 3
- ARCH 571 Community-Based Design, Conservation and Planning Units: 2
- ARCH 635 Landscape Construction: Assembly and Documentation Units: 3
- SSCI 572 GIS and Landscape Architecture Units: 2
- ARCH 698aL Advanced Design-Research Units: 3
- ARCH 698bL Advanced Design-Research Units: 6
- ARCH 698zL Advanced Design-Research Units: 0

Studios

- ARCH 541aL Landscape Architecture Design Units: 6
- ARCH 541bL Landscape Architecture Design Units: 6
- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 642L Landscape Architecture Design Units: 6

Note:

Students in this dual degree will be waived out of ARCH 530 in the MLA core as professional practice is obtained in the PPD courses. Students in this dual degree will also be waived out of ARCH 639 as parametric design is not a required skill for planning-oriented landscape architects

Total units for MLArch: 80

Urban Planning

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 629 Capstone in Urban Planning Units: 4

Concentrations

There are six concentrations available in the Master of Urban Planning program: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Dual degree students do not need to take concentration electives as they will complete elective units in Economics. Please see the Master of Urban Planning section of the catalogue for the concentration descriptions and course lists.

Note:

Students in this dual degree will be waived out of PPD 528 in the MUP core as design knowledge is obtained in the ARCH urban landscape courses. Students in this dual degree will also be waived out of the planning studio requirement in the MUP as students take 12 units of ARCH studios in Landscape Architecture.

Total units for MUP: 26

Dual degree students, like all other MUP students, must fulfill the internship requirement.

Total units for dual degree: 106

Graduate Certificate

Architecture Certificate

The focus of this program is on understanding the broad and complex role of architecture within the urban context. Studies focus on cities throughout the world where conditions of increasing density, environmental challenges and cultural complexity require design initiatives that support amenity, sustainability and cultural meaning. The certificate is open to graduate students not pursuing a Master of Architecture or Master of Advanced Architectural Studies degree.

Course Requirements

Completion of the certificate program requires a minimum of 14 units.

Core Courses

- ARCH 514a Global History of Architecture Units: 3
- ARCH 514b Global History of Architecture Units: 3
- ARCH 558 Fundamentals of Place-Making Units: 2 *
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 563 Contemporary Architectural Theory Units: 2
- Electives Units: 2

Sample Electives

(or as approved by the program faculty adviser or director)

- ARCH 511L Building Systems: Materials and Construction Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 606 Advanced Architectural Theory Units: 2
- ARCH 607 Advanced Computation Units: 2
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2
- ARCH 609 Advanced Fabrication Units: 2
- ARCH 614 Contemporary Issues in Architecture: A Critical Dialectic Units: 3

Note:

**Students in the Master of Heritage Conservation Program should substitute core class ARCH 558 with another elective. Students with a previous design based degree (or are currently enrolled in one), may be able to substitute ARCH 558 for an elective.*

Building Science Certificate

Building science at USC recognizes that exemplary architecture requires a creative response to natural forces, based on informed good judgment in the areas of architectural technology. The Certificate in Building Science is intended as a supplement for students enrolled in graduate course work in architecture, landscape architecture, historic preservation, urban planning or related disciplines.

Course Requirements

Completion of the certificate requires a minimum of 14 units. Students must take three core courses. Electives in building science may be taken to complete the program requirements.

Required Courses

Choose three of the following six courses:

- ARCH 511L Building Systems: Materials and Construction Units: 4 or
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 513L Seminar: Advanced Structures Units: 4 or
- ARCH 613L Seminar: Structures Research Units: 4

- ARCH 515L Seminar: Advanced Environmental Systems Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4
- Elective(s) in Buliding Science Units: 2

Sample Electives

(or as approved by the program faculty adviser or director)

- ARCH 507 Theories of Computer Technology Units: 3
- ARCH 517 Current Topics in Building Science Units: 1 (max 6)
- ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure Units: 2
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 573 Seismic Design Units: 2
- ARCH 577L Lighting Design Units: 4
- One from the list of required courses that was not yet selected Units: 4

Note:

Courses for this certificate cannot also be required courses in the student's major in the School of Architecture.

Heritage Conservation Certificate

This program is directed at professionals who wish to augment their academic credential for their involvement in heritage conservation projects and at graduate students who wish to complement a degree in architecture, landscape architecture, planning, public art administration, geography, anthropology, or other related disciplines.

Required Courses

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 553 History of American Architecture and Urbanism Units: 3
- Electives Units: 2

Sample Electives

(or as approved by the program faculty adviser or director)

- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2

Landscape Architecture Certificate

This program is intended to introduce at the graduate level the basic subjects inherent to the field of landscape architecture: plant materials suitable to urban conditions; urban utility and transportation systems in relation to topography, natural drainage and pathways; plant and wildlife communities; as well as inquiries about landscape infrastructure and ecology, and the history of human settlement in the evolution of urban landscapes. Southern California and Los Angeles provide an exceptionally valuable natural and socio-cultural laboratory for landscape architecture studies.

Course Requirements

Completion of the certificate program requires a minimum of 12 units.

Required Courses

- ARCH 531 Urban Ecology Units: 4
- ARCH 537 Plant Ecology + Identification Units: 2
- ARCH 565 Global History of Designed Landscapes Units: 3
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3

Sustainable Design Graduate Certificate

The Sustainable Design Graduate Certificate is a multidisciplinary program open to USC students pursuing graduate degrees in many disciplines that may be interested in the sustainability of the built environment.

Sustainability is an imperative for our planet as climate change, population growth and dwindling oil supplies are all reminders that our resources are finite and we need a new paradigm to adjust to these global changes. The built environment represents the majority of our energy use and design can help reduce both the embodied and operational energy of our buildings and urban landscape.

This certificate provides students with the tools necessary to understand and quantify sources of energy use in buildings and landscapes and to use design of natural and man-made systems to reduce their energy use. This certificate will give students the background to help them make sustainable design choices through informed decision-making that considers the performance of the built environment related to the energy required to make it, the energy it absorbs or releases, the energy required to maintain it, and the energy required to replace it. Environmental, economic and socially responsible solutions will be explored through the course work.

Applicants for the Certificate in Sustainable Design who are currently enrolled in a program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the student services adviser.

Applicants for the Certificate in Sustainable Design who are not matriculated in a master's-level program at USC must submit a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

Course Requirements

Completion of the certificate program requires a minimum of 14 units.

Core Courses

- ARCH 515L Seminar: Advanced Environmental Systems Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 579 Sustainable Building and Environment using LEED Metrics Units: 3
- Electives Units: 4 *

Sample Electives **

(or as approved by the program faculty adviser or director)

- ARCH 515L Seminar: Advanced Environmental Systems Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4 (whichever one not used above)
- ARCH 517 Current Topics in Building Science Units: 1 ***
- ARCH 531 Urban Ecology Units: 4
- ARCH 537 Plant Ecology + Identification Units: 2
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2
- ARCH 511L Building Systems: Materials and Construction Units: 4 or
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 599 Special Topics Units: 2, 3, 4 ***
- ENE 505 Energy and the Environment Units: 4
- PPD 644 Shaping the Built Environment Units: 4
- PPDE 632 Sustainable Cities Units: 4

Notes:

*** Electives for the certificate may not include courses required by the student's other degree programs.*

**** When approved by the director of the Chase L. Leavitt Graduate Program of Building Science*

For current USC students enrolled in the Master of Building Science program

Core Courses

- ARCH 511L Building Systems: Materials and Construction Units: 4 * or
- ARCH 611 Advanced Building Systems Integration Units: 4 * or
- ARCH 615L Seminar: Environmental Systems Research Units: 4 *
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 579 Sustainable Building and Environment using LEED Metrics Units: 3
- Electives Units: 4

Sample Electives

(or as approved by the program faculty adviser or director)

- ARCH 511L Building Systems: Materials and Construction Units: 4 ** or
- ARCH 611 Advanced Building Systems Integration Units: 4 ** or
- ARCH 615L Seminar: Environmental Systems Research Units: 4 **
- ARCH 517 Current Topics in Building Science Units: 1 ***
- ARCH 531 Urban Ecology Units: 4
- ARCH 537 Plant Ecology + Identification Units: 2
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2
- ARCH 599 Special Topics Units: 2, 3, 4 ***
- ENE 505 Energy and the Environment Units: 4
- PPD 644 Shaping the Built Environment Units: 4
- PPDE 632 Sustainable Cities Units: 4

Notes:

**If not used as a required course for MBS degree*
***If not used as a required course for MBS degree and not used as a core course above*
**** When approved by the director of the Chase L. Leavitt Graduate Program of Building Science*
Each academic unit, department or program will determine the number of units completed that may be applied to the student's master or doctoral degree.

Doctoral Degree

Architecture (PhD)

The School of Architecture offers the PhD in Architecture, designed to prepare individuals for university level teaching and professional research and for leadership positions in industry and professional architectural practice. Doctoral students must consult the Graduate School section for regulations and requirements pertaining to its degrees. Students should also consult the Academic Policies section for additional information.

Completion of degree requirements is assumed to take a minimum of three years of approved graduate study and research beyond the bachelor's degree in a related field or a bachelor's degree and related practical experience. For the PhD student without Advanced Standing, a minimum of 48 graduate units completed in residence on the University Park Campus in Los Angeles is required. Full-time study is represented by enrollment in six units during the semester. Usually, the school and the student's qualifying exam committee insist on a clear and mutually understood commitment of time and energy by the student to ensure significant involvement in the doctoral learning experience.

Application and Admission

Admission to the PhD is granted by the Dean of the School of Architecture. However, only a letter from the Office of Graduate Admission constitutes an official offer of admission; correspondence with department chairs or individual faculty members does not constitute admission.

Priority consideration for PhD student funding will be given to those applicants who submit all application materials by December 1. The university will continue to accept and consider applications submitted after December 1. Those who wish to submit applications after the deadline should check with the School of Architecture. Applications for admission to the PhD program are made once each year for fall semester admission.

The admission decision is made using criteria which include verification that the applicant has a bachelor's degree from an accredited college or university, has maintained a high grade point average in the last 60 units of undergraduate work and has earned a competitive score on the verbal and quantitative portions of the Graduate Record Examinations (GRE). Other elements of the applicant's educational and experiential background are also evaluated, including performance in other advanced degrees.

Each applicant should submit the following: (1) one copy of official transcripts of all previous college and university work (be sure that these official transcripts show an awarded degree where appropriate); (2) one copy of GRE scores; (3) copy of TOEFL or IELTS scores for international students whose first language is not English; (4) a 1000-word essay discussing the applicant's background; reasons for wanting to pursue a doctoral degree; and identifying his or her personal, educational and professional goals; (5) an up-to-date resume, including academic and professional accomplishments; (6) three letters of recommendation, at least two from previous instructors, others from instructors or from professional supervisors or colleagues (the letters should indicate the applicant's academic and professional accomplishments and potential); (7) a completed USC Graduate Admission Application, along with the nonrefundable application fee; and (8) samples of work such as a portfolio, publications, software programs, etc. The program is intended for people with considerable intellectual interests. Additional requirements for international students are listed under Admission of International Students.

Upon admission to the program, each student will be assigned a faculty adviser who will oversee his or her program.

Doctoral Admission with Advanced Standing

Students entering with a Master of Architecture degree or Master of Building Science degree (or their equivalent) from USC or another university may be admitted with Advanced Standing. A minimum of 36 units of course work beyond the first graduate degree, exclusive of 794 Doctoral Dissertation preparation, is required for doctoral degree students with a USC Master of Building Science degree admitted with Advanced Standing. For those students entering with a Master of Architecture degree or Master of Building Science degree (or their equivalent) from another university and admitted with Advanced Standing, a minimum of 40 units of course work beyond the first graduate degree is required. Additional course work may be required if deemed necessary by the student's faculty. See Doctoral Admission with Advanced Standing in the The Graduate School section.

Transfer Credits

The application of any available transfer credits toward a graduate degree at USC will be determined by the School of Architecture, based on the semester units available for transfer as shown in the Transfer Credit Statement. Work experience in architecture or closely related activities should be of benefit to the students involved, but will not be considered equivalent to academic education. A maximum of 6 units of transfer credit may be applied toward a doctoral degree for those admitted with Advanced Standing. Admission with Advanced Standing is based upon a completed master's degree. The only course work available for transfer credit is course work taken after completion of that degree. No exceptions are allowed.

Students entering the doctoral program with a master's degree or graduate course work in a field other than architecture work may receive up to 12 units of transfer credit toward the PhD

Deferral of Enrollment

Admission to the university is granted for a specified semester, and it is expected that students will begin their programs during that semester. The school will normally allow students to defer their enrollment up to one year from the admission semester. Students who wish to defer enrollment should notify the school in writing no more than 60 days before the beginning of the semester of admission or they may be required to reapply for admission. Please note that more stringent regulations apply to international students. See the Graduate Admission section for further information.

Admission to Candidacy

Acceptance to graduate standing does not in itself imply that the student is admitted or will be admitted to candidacy for an advanced degree. Application for admission as a candidate for an advanced degree is a separate and subsequent step. See the The Graduate School section for further information.

General Requirements for the PhD Degree

Screening Procedures

PhD students are required to pass a screening procedure before the student has taken more than 24 units (including research courses). Passing this procedure is prerequisite to continuation in the doctoral program. This is designed to ensure that only those students who have demonstrated intellectual and scholarly potential continue in the program. Students who fail the screening procedure will be advised that they have not been recommended to continue in the PhD program and that any additional work may not be counted toward the degree.

Prior to screening, each student prepares a résumé and a preliminary statement describing the fields of specialization. After passing the written screening examination, the student meets with the committee to discuss the proposal for course work, fields of specialization and research interests. The committee chair serves as the student's principal adviser in preparing for the qualifying examination.

Qualifying Exam Committee

Each student selects a qualifying exam committee, which officially oversees the student's academic program through the qualifying examination. The qualifying exam committee should be established at least one semester prior to taking the qualifying examination. This should be accomplished by the beginning of the second year, following successful screening. An appointment of committee form, which can be obtained from the Graduate School Website, should be used to establish the qualifying exam committee. Students initiate the paperwork and submit the signed form to the dean's office.

Five committee members are designated to provide guidance in the field developed by the student. A minimum of three members, including at least one tenured member, must be from among the faculty participating in the PhD in Architecture degree program, and at least one member must be from outside the School of Architecture. This committee bears responsibility for recommending the student for admission to candidacy. After approval of the student's program and time schedule, the program is submitted in writing to the doctoral director. Students will formalize their relationship with their committees through the development of a study plan which specifies all courses completed, date of screening decision, the area of concentration, and which courses will be taken and when, in order to prepare for the qualifying examination. This study plan will be signed by the student, the members of the qualifying exam committee and the faculty doctoral director. It will be filed in the doctoral office.

Qualifying Examination

Students must complete at least 24 units of course work in the doctoral program with a GPA of at least 3.0 before attempting the qualifying exam.

The qualifying exam committee prepares a comprehensive written examination covering the field of study. The exact format for the written portion is determined by each committee in advance. Answers to the questions in the written portion are graded by all committee members. Following completion of the written portion, the entire committee conducts an oral examination of the student, focusing on material both complementary and supplementary to the written examination but relevant to the field and overall program selected by the student. Upon passing both portions of the qualifying examination, the student becomes a candidate for the PhD degree.

The objective of the qualifying examination is to evaluate the student's knowledge and to serve as an instrument to demonstrate competence in the student's chosen field of concentration in preparation for candidacy. Qualifying examinations are scheduled once each year during August. The oral phase of the examination must be completed within 60 days following the written segment. Both parts of the examination must be passed in order to qualify. Failure on one of the two parts of the examination does not require retaking both parts. Only the part failed must be redone.

The examination will be collaboratively designed by the instructors of the core courses and oriented toward testing students' ability to integrate material from these courses. A portion of this examination will focus on methodological issues. The written portion of the examination will be administered during a full-day session.

The process of grading examinations will be accomplished in two ways. For the written examination, the grading will be done by a committee comprising the core course instructors and the doctoral director. For the oral examination, grading will stay with the qualifying exam committee. Upon passing both the core and oral portions of the examination, the student will be expected to reduce the qualifying exam committee to a dissertation committee. See General Requirements for the Doctor of Philosophy degree.

Dissertation Committee

Once students pass the qualifying examination, the qualifying exam committee recommends the student for candidacy and a dissertation topic is approved, a dissertation committee must be formed as soon as possible. The size may range from three to five members, one member of which must be from outside the school.

Dissertation Proposal

After the successful completion of the qualifying examination, the doctoral student will be required to present a complete research proposal for the dissertation. The proposal will be circulated for review and evaluation by the dissertation committee. This proposal should include the methodology, research design, literature review and instrumentation (if applicable). After this step has been completed, further work leading to the completion of the dissertation is authorized.

Defense of the Dissertation

Oral defense of the dissertation before the dissertation committee is usually made on a preliminary draft. After the dissertation committee has approved the dissertation in substance, the candidate must defend it before the committee and other interested doctoral program faculty and colleagues. Successful completion of the oral defense marks the ultimate step for the candidate within the School of Architecture. The candidate must be certain that the dissertation also meets specific university requirements before acceptance by the Graduate School. See the The Graduate School section for further information.

All theses and dissertations submitted in fulfillment of requirements for graduate degrees must conform to university regulations with regard to format and method of preparation.

Unit Requirement and Time Limit

The PhD degree in Architecture requires a minimum of 72 units (including a minimum of 4 units of ARCH 794a, ARCH 794b, or ARCH 794z) of graduate level course work, and has a minimum residency requirement of three years. Students must maintain a 3.0 average GPA and complete all required course work within five years. The maximum time for the completion of all requirements for the doctoral degree is eight years.

A leave of absence can be granted upon approval of the guidance or dissertation committees. There is no automatic readmission if the student fails to maintain continuous registration or fails to meet academic standards.

Core Curriculum

Year 1: Basic and professional studies

Acquire at a minimum the knowledge that is characteristic of the master's degree students or equivalent and define the research program.

Year 2: Advanced studies

Year 3: Research and dissertation

While a Master of Architecture or related degree is not a prerequisite for admission, those students entering the doctoral program without a master's degree in architecture or related field will be required to complete a core curriculum.

Required Courses

- ARCH 419 Architectural Sustainability Tools and Methods Units: 3
- ARCH 513L Seminar: Advanced Structures Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 613L Seminar: Structures Research Units: 4
- ARCH 615L Seminar: Environmental Systems Research Units: 4
- ARCH 790 Doctoral Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- ARCH 791 Proposal for Doctoral Dissertation Units: 1

A minimum of 4 units of:

- ARCH 794a Doctoral Dissertation Units: 2
- ARCH 794b Doctoral Dissertation Units: 2
- ARCH 794z Doctoral Dissertation Units: 0
- GRSC 850a The Professoriate: Preparing for the Future Units: 2
- GRSC 850b The Professoriate: Preparing for the Future Units: 2
- Electives Units: 17

USC Roski School of Art and Design

With a faculty of international distinction, the USC Gayle Garner Roski School of Art and Design offers emerging artists, designers, curators and critics a creative and intellectual atmosphere in which to study. Located at one of the world's leading research institutions, Roski encourages interdisciplinary exploration throughout USC's 19 professional schools — including six devoted to the arts. And by studying in Los Angeles, students can enhance their education with access to numerous museums as well as an extensive number of galleries, design firms, artist studios and music and film industries, providing a wealth of internship and employment opportunities for a successful future.

Roski's BA program is a liberal arts degree, ideal for students who want to combine art with a study in a related field — or a completely different one. Though the emphasis remains on a studio practice, the flexibility of the BA allows students to pursue electives, a minor or a second major to develop a diverse academic career. For a more intensive undergraduate arts degree, the BFA in Fine Arts program allows students to immerse themselves fully in the creative process, spending the vast majority of their class time in studio courses developing high levels of proficiency. A distinguished and dedicated faculty mentors art students in painting, drawing, printmaking, sculpture, ceramics, photography, digital media and critical studies. And the BFA in Design is a four-year, pre-professional degree leading to a variety of careers in advertising, publication, fashion, sports, entertainment and film design, among others.

At the graduate level, the MFA in Fine Arts program is recognized nationally for its breadth and intensity, as well as for a faculty of renowned practicing artists. The two-year, studio-based program offers a multi-disciplinary platform for diverse and experimental practices. The MFA in Design is a five-term, studio-based program that encourages a unique and relevant contemporary design practice for a rapidly changing world. The third graduate degree offered at USC Roski is the MA in Curatorial Practices and the Public Sphere, a platform for scholarship in contemporary art. The program aims to bring students to a high level of understanding of the history and theory of curatorial practices, with attention paid to questions of how curating activates art in relation to a range of audiences and interacts with diverse communities.

The Master of Urban Planning/Master of Arts, Curatorial Practices and the Public Sphere (MUP/MA) dual-degree program, offered by the USC Roski School and the USC Price School of Public Policy, provides an opportunity for students to become successful professionals in the arena of organizing art projects in urban public space, planning and community development.

The Graduate Certificate in Performance Studies provides deep training in the hybrid disciplinary areas of performance, live art, time-based media, and performance theory and history for USC students studying related disciplines.

All Roski graduate programs are housed in the new, state-of-the-art, Roski Graduate Building in the heart of the Los Angeles Arts District. The new facility includes individual work spaces/studios, a well-equipped Makerspace, conference rooms and the 2,000-square-foot Graduate Gallery.

USC Roski encourages students to expand their horizons through a diverse community, global initiatives and interdisciplinary opportunities. These goals better prepare them to forge entirely new paths for an arts education, utilizing every advantage of a great university to drive change, challenge others and create a better future for themselves and for the world.

Watt Hall 104
(213) 740-2787
FAX: (213) 740-8938
Email: roski@usc.edu
roski.usc.edu

Administration

Dean: Haven Lin-Kirk, MFA

Faculty

Professors: Nao Bustamante, MFA; Patty Chang, MFA; Jud Fine, MFA; Amelia Jones, PhD; Mary Kelly, MFA; Suzanne Lacy, PhD; Keith Mayerson, MFA; Ruth Weisberg, MA*
Professor of Teaching, Critical Studies: Karen Moss, PhD
Associate Professors of Art: Bob Alderette, MFA; Edgar Arceneaux, MFA
Associate Professors of Practice, Art: David Kelley, MFA; Ruben Ochoa, MFA; Jennifer West, MFA
Associate Professor of Practice, Design: Sherin Guirguis, MFA
Associate Professors of Teaching, Art: Caroline Clerc, MFA; Thomas Mueller, MFA; Julia Paull, MFA
Assistant Professors of Practice, Design: Alice Fung, MArch; Ewa Wojciak, MFA
Assistant Professor of Critical Studies: Andrew Campbell, PhD; Jenny Lin, PhD
Assistant Professors of Teaching, Art: Karen Leibowitz, MFA; Marisa Mandler, MFA
Assistant Professors of Teaching, Design: China Adams, MFA; Jason Ellenburg; Brian O'Connell, MFA; Osvaldo Trujillo, MFA; Alexis Zoto, MFA
Visiting Professor of Design: April Greiman
Visiting Associate Professor of Critical Studies: Jenny Lin
Part-time Lecturers: Eugene Ahn, MA; Ariel Brice, MFA; Arden de Brun, MFA; Laurie Burruss, MFA; Penny Collins; Paul Donald, MFA; Charla Elizabeth, MSc; Xavier Fumat, MFA; Julia Haft-Candell, MFA; Peter Holzhauer, MFA; Samuel Jernigan, MFA; Eric Junker, MFA; Shoshi Kanokohata, MFA; Helen Kim, MFA; Andrew Kutchera, Ceci Moss,PhD; MFA; Brian Olson, BA; Domenic Piturro, MA; Helene Reiner, BFA; Peter Robbins, MFA; Jean Robison, MFA; Stephanie Sabo, MFA; Jovi Schnell, MFA; Betsy Seder, MFA; Anastasia Triviza, MFA; Anuradha Vikram, MA; Angie Wang, MFA; Christina Webb, MFA
MFA Fellows: Gina Fulton; José Guadalupe Sánchez III
Emeritus Professors: Robbert Flick, MFA;Ron Rizk, MFA; Jay Willis, MA; Margaret Lazzari, MFA*
Emeritus Associate Professors: Karen Koblitz, MFA; Ann Page, BFA
**Recipient of university-wide or school teaching award.*

General Information

Degrees Offered

At the undergraduate level, the school offers the Bachelor of Fine Arts in Art and the Bachelor of Fine Arts in Design. The Bachelor of Arts in Art is offered in conjunction with the Dornsife College of Letters, Arts and Sciences. The Roski School of Art and Design also offers 11 minor programs in studio arts and design including a Communication Design minor in conjunction with the Marshall School of Business and the Annenberg School for Communication and Journalism and a Visual Narrative Art minor in conjunction with the USC School of Cinematic Arts.

Degrees offered at the graduate level are: Master of Fine Arts in Fine Arts, Master of Fine Arts in Design, and Master of Arts in Curatorial Practices and the Public Sphere. A dual degree is also available: Master of Urban Planning/Master of Arts, Curatorial Practices and the Public Sphere (MUP/MA) plus a graduate certificate in Performance Studies.

Minimum Grade Point Average Requirements

A minimum grade of C (2.0) or higher is required in all studio and art history courses for all undergraduate majors and minors in the Roski School of Art and Design. A grade of C- or lower will not satisfy a major or minor requirement. A minimum grade point average of 3.0 must be maintained by all candidates for the Master

of Fine Arts in Art, Master of Fine Arts in Design and Master of Arts.

Undergraduate Admission

Admission to the Roski School of Art and Design at the undergraduate level is granted through the USC Office of Admission. Freshman applicants applying by December 1 for the fall semester will receive priority consideration for admission to the university and for merit scholarship. January 15 is the deadline for general consideration. The deadline for transfer applicants for the fall semester is February 1.

Undergraduate applicants must upload a portfolio of images and an artist statement at the school's website. Specific requirements and additional information are available at roski.usc.edu/undergrad or email roski@usc.edu.

Students who have not been admitted to the Roski School of Art and Design may complete a maximum of 20 units of Roski course work at USC. No further course work may be taken until admitted. Students who are interested in becoming Roski majors or minors should meet with the Roski School's advisers as soon as possible, preferably during their first semester taking art classes. Advisers can be contacted through the school's Advisement Office, Watt Hall 104, (213) 821-1290, for assistance.

Graduate Admission

Applications for admission to the graduate programs are evaluated by the USC Office of Graduate Admission before being forwarded to the school. Students must be admitted by both the USC Graduate School and the Roski School of Art and Design. The Graduate School's general admission requirements include official transcripts of all previous college and university work, and three letters of recommendation from instructors or persons able to comment on the applicant's creative work and/or scholarly potential.

Applicants to the MFA degrees must upload a portfolio of images and an artist statement at the school's website. Specific requirements and additional information are available at roski.usc.edu/academic/mfa.

Advisement

Academic advisement is provided to fine arts majors, minors and graduate students through the Advisement Office in Watt Hall 104, (213) 821-1290. All students who are interested in taking art courses are welcomed and encouraged to make an appointment for advisement as well. The staff advisers provide information regarding academic life at the university, program requirements, policies and procedures to assist students with their degree completion. Majors are required to meet with advisers before registering each semester. Appointments may be scheduled at most times during the academic year. For more information, see roski.usc.edu/resources/student.

International Study Options

Roski majors may take advantage of art courses offered through study abroad programs. For more information, see Roski's study abroad page at roski.usc.edu/academic/study-abroad.

Please contact the USC Overseas Studies Office in CAS 104, (213) 740-3636, or dornsife.usc.edu/overseas-studies/ for complete information, program requirements and applications.

Minor Programs

The Roski School of Art and Design offers minors in art and design as supplements to major fields of specialization in other departments and schools for students whose academic programs do not permit the opportunity to pursue one of the school's regular degree options. There are eight intensive studio minors — in painting, drawing, photography, ceramics, sculpture, two-dimensional studies, intermedia arts and 3-D design — and three interdisciplinary minors in communication design, performance art and visual narrative art. There is a separate application for Roski minors available at roski.usc.edu/academic/minors.

Candidates for the minors in the Roski School of Art and Design will be counseled by an academic adviser in the school.

Bachelor's Degree

Art (BA)*

The Bachelor of Arts program offers a more flexible and broad academic education than the Bachelor of Fine Arts (BFA) degree while still providing a meaningful experience in the studio area and preparation for many design and art-related careers. The degree provides the student with the opportunity to double major or to combine an art major with a minor in various fields. Some possibilities for minors include communication, multimedia, education, business, film, animation and many other options.

Curriculum Requirements

The Bachelor of Arts (BA) requires a total of 128 units including 68 units of major requirements (52 units in Art courses and 16 units in Critical Studies courses, some of which overlap with the university's required GE courses). In addition to the required courses, BA students have a minimum of 24 non-specific elective units that can be selected from a variety of university courses, based on their personal and professional goals and in consultation with their academic adviser. Electives are typically clustered in a particular field as in a minor, but may be spread across different areas.

Required Courses

Three 4-unit foundation courses are required for students admitted to the BA, Art:

- ART 105 Art and Design Studio I Units: 4
- ART 106 Art and Design Studio II Units: 4
- ART 110 Drawing for Art and Design Units: 4

Two 2-unit Studio Critique courses are required in the second and third year:

- ART 280 Studio Critique I Units: 2
- ART 380 Studio Critique II Units: 2

In the senior year, the following 4-unit course is required.

- ART 485 Studio Capstone Units: 4

The following Critical Studies courses are required:

- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CRIT 160g Critical Theory in Art, Design and Visual Culture Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
  and
- One 400-level Critical Studies seminar Units: 4

Art Electives

Select 12 additional units from any lower-division ART or DES courses, and 20 additional units from any upper-division ART or DES courses.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. See the General Education for more information.

Design (BFA)

The **Bachelor of Fine Arts (BFA) in Design** requires a total of 128 units, including 74 units of DES and CRIT requirements.

In addition to the required courses, BFA Design students are encouraged to explore in greater depth an area of design in which they have an interest. Students should select electives based on their personal and professional goals and in consultation with academic advisers. Electives are typically clustered in a particular field, but may be spread across different areas

Required Lower-Division Courses

28 units of lower-division Roski DES courses are required as follows:

- ART 105 Art and Design Studio I Units: 4
- ART 106 Art and Design Studio II Units: 4
- ART 110 Drawing for Art and Design Units: 4
- DES 102 Design Fundamentals Units: 4
- DES 202 Design II Units: 4
- DES 203 Digital Tools for Design Units: 2
- DES 213 Digital Tools in 3D Design Units: 2
- DES 230 3D Design: Materials and Tools Units: 4

Required Upper-Division Courses

34 units of upper-division Roski DES courses are required as follows:

- DES 302 Design III Units: 4
- DES 303 Web Design Units: 2
- DES 322 Publication Design Units: 4
- DES 323g Design Theory Units: 4
- DES 332a Typography Units: 2
- DES 332b Typography Units: 2
- DES 402 Advanced Design Projects Units: 4
- DES 413 Professional Practice in Design Units: 4
- DES 419 Professional Internship in the Arts Units: 2
- DES 432 Special Projects in Design Units: 2
- DES 494a Senior Thesis Units: 2
- DES 494b Senior Thesis Units: 2

Required Critical Studies Courses

The following Critical Studies courses are required for the BFA major that also satisfy up to five categories of General Education requirements:

- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CRIT 160g Critical Theory in Art, Design and Visual Culture Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Electives

26 units of electives are required, to be chosen from either Roski courses or non-Roski courses from across the university, allowing for a minor to complement the design course work.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. See the General Education page for more information.

Fine Arts (BFA)

The BFA is a four-year studio intensive program in preparation for a career in the fine arts, design and/or related fields or pursuit of a master of fine arts degree. With few required courses or electives and a wide variety of media from which to choose, the BFA provides ample opportunity to explore and develop a strong personal vision in art.

Introductory courses focus on technique and conceptual context while building a solid grounding in critical theory. Advanced students work on self-generated independent projects under the guidance and mentoring of individual faculty members. Emphasis in the last year is on the production of a major body of work and professional quality portfolio.

Curriculum Requirements

The Bachelor of Fine Arts (BFA) requires a total of 128 units, including 78 units of major requirements (66 units in Art courses and 12 units in Critical Studies courses, some of which overlap with the university's required GE courses). In addition to the required courses, BFA students have a minimum of 22 non-specific elective units that can be selected from a variety of university courses, based on their personal and professional goals and in consultation with their academic adviser. Electives are typically clustered in a particular field as in a minor, but may be spread across different areas.

Required Courses

Three 4-unit foundation courses are required for students admitted to the BFA, Fine Arts

- ART 105 Art and Design Studio I Units: 4
- ART 106 Art and Design Studio II Units: 4
- ART 110 Drawing for Art and Design Units: 4

Two 2-unit Studio Critique courses are required in the second and third year:

- ART 280 Studio Critique I Units: 2
- ART 380 Studio Critique II Units: 2

In the senior year, a 4-unit capstone and one 2-unit thesis courses are required:

- ART 485 Studio Capstone Units: 4
- ART 494a Senior Thesis Units: 2

The following 4-unit Critical Studies courses are required:

- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CRIT 160g Critical Theory in Art, Design and Visual Culture Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Fine Arts Electives

Select 16 additional units from any 100–299 ART courses, and 28 additional units from any 300–499 ART courses. Up to 4 units of DES courses may be counted toward the required 16 additional units from any 100-299 ART courses. Up to 12 units of DES courses may be counted toward the required 28 additional units from any 300-499 ART courses.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. See General Education for more information.

Minor

3-Dimensional Design Minor

A minor in 3-Dimensional Design offers USC students in all fields of studies the opportunity to gain knowledge and skills in 3-D thinking, imaging and production. Course work will focus on the process behind creating well-designed, expressive functional objects and spaces (both actual and virtual). The minor would be of particular interest to students wishing to further develop specializations such as package design, product design, and environmental design (way-finding, signage, display).

Required lower division courses (10 units)

- DES 102 Design Fundamentals Units: 4
- DES 213 Digital Tools in 3D Design Units: 2
- DES 230 3D Design: Materials and Tools Units: 4

Upper-Division Courses (12 units) chosen from the following:

- ART 444 Modeling and Mold Making Units: 2
- DES 302 Design III Units: 4
- DES 303 Web Design Units: 2
- DES 313 Graphic Design in Fashion Units: 4
- DES 323g Design Theory Units: 4
- DES 332a Typography Units: 2
- DES 332b Typography Units: 2
- DES 402 Advanced Design Projects Units: 4
- ITP 415 3-D Design and Prototyping Units: 2
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4

Total Minimum Units: 22

Optional lower division course(s) chosen from the following:

- ART 140 Sculpture I Units: 4
- DES 202 Design II Units: 4
- DES 203 Digital Tools for Design Units: 2
- ITP 215L Introduction to 3D Modeling, Animation, and Visual Effects Units: 2

Ceramics Minor

Students enrolled in this minor will be introduced to the rich traditions of ceramic practice — from wheel throwing to 3-D modeling — while encouraging the use of materials and methods as vehicles for individual expression in contemporary art. They will be exposed to lectures and readings in the history of clay and critical writings on the subject. A variety of classes is offered including beginning and advanced ceramics, wheel throwing, clay and glaze formulation, art and technology, modeling and mold making, sculpture, visual literacy and theory and criticism. As students advance in the level of their studies, they can choose to follow a traditional approach to clay and/or pursue exploration and experimentation with the medium including freedom to create mixed-media pieces or to bring technology in to their work. The goal is to create a strong foundation in clay significant to the career path of their choosing. The total number of units is required for this minor is 20.

Required lower-division course (4 units)

- ART 130 Ceramics I Units: 4

Three required upper-division courses (10 units)

- ART 330 Ceramics II Units: 4
- ART 331 Clay and Glazes Units: 2
- ART 430 Topics in Advanced Ceramics Units: 4 max 12

Upper-division electives (6 units)

- ART 441 Installation Art Units: 4
- ART 442 Art and Technology Units: 4
- ART 443 Woodworking Units: 2
- ART 444 Modeling and Mold Making Units: 2
- ART 445 Metal Units: 2

Communication Design Minor

The core of this minor is communication design. In addition to courses in design, visual literacy and digital imaging, this minor includes optional courses in business, communication, public relations and marketing, allowing students to translate their design foundation in ways that are directly relevant to their career paths. The total number of units required for the minor is 24.

Required Course (4 units)

- DES 102 Design Fundamentals Units: 4

One lower-division course (4 units), chosen from the following:

- ART 150 Introduction to Photography: Process and Concept Units: 4
- ART 260 Introduction to Video: Projection and Virtual Worlds in Art Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- DES 202 Design II Units: 4 (corequisite: DES 203 or former FADN 203)

Four upper-division courses (16 units), chosen from the following:

- ACCT 410x Foundations of Accounting Units: 4
- ART 360 Video Installation and Moving Image Environments Units: 4
- ART 361 Post-Internet Art and Aesthetics Units: 4
- ART 362 Ideas in Intermedia Units: 4
- BAEP 423 Management of Small Businesses Units: 4
- BAEP 451 The Management of New Enterprises Units: 4
- BAEP 452 Feasibility Analysis Units: 4
- COMM 321 Communication and Social Media Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- COMM 340 The Cultures of New Media Units: 4
- COMM 375 Business and Professional Communication Units: 4
- DES 302 Design III Units: 4
- DES 303 Web Design Units: 2
- DES 313 Graphic Design in Fashion Units: 4
- DES 323g Design Theory Units: 4
- DES 332a Typography Units: 2
- DES 332b Typography Units: 2
- DES 333 New York Design Study Tour Units: 2
- DES 402 Advanced Design Projects Units: 4 max 12
- DES 432 Special Projects in Design Units: 2
- DES 433 International Design Study Tour Units: 2
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4
  or
- BUAD 307 Marketing Fundamentals Units: 4
- MKT 405 Advertising and Promotion Management Units: 4
- MKT 406 Practicum in Advertising and Promotion Design Units: 4.0
- MKT 450 Consumer Behavior and Marketing Units: 4
- PR 340 Introduction to Advertising Units: 4
- PR 342 Advertising Media and Analysis Units: 4

Drawing Minor

Students enrolled in the minor in drawing will develop their creativity and technical drawing skills, as well as deepen their understanding of contemporary art. Foundation courses provide the fundamentals of spatial rendering, composition, figure drawing and visual expression. Advanced courses require more ambitious projects, personal direction, research and sustained focus. The minor is available to all USC students who wish to develop their abilities to communicate through visual means, or who wish to develop skills for conceptualization and problem solving. The minor in drawing can assist the students in art-related work, as well as creative pursuits such as printed works with images, games and animation. A total of 20 units are required for this minor.

Required Lower-Division Courses (8 Units)

- ART 110 Drawing for Art and Design Units: 4
- ART 120 Painting I Units: 4

Three Upper-Division Courses (12 units) chosen from the following:

- ART 310 Drawing II Units: 4
- ART 311 Anatomical Drawing from Life Units: 2
- ART 312 Comics Project Units: 4
- ART 370 Printmaking Units: 4
- ART 410 Topics in Advanced Drawing Units: 4 (max 12)
- ART 415 Studies in Drawing and Painting Units: 4
- ART 470 Topics in Advanced Printmaking Units: 4 (max 12)
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Intermedia Arts Minor

This minor deals with technology in art making including digital photography, digital video and the Internet. Course work includes choice of classes in history of photography, digital media, visual literacy and computer imaging. The professional aspects of this minor assist students in developing careers in fine arts, communication, design, engineering, film, journalism and in any area where there is a need for flexible and creative imaging using digital media. The total number of units required for the minor is 20.

Required Lower-Division Courses (8 Units)

- ART 150 Introduction to Photography: Process and Concept Units: 4

- ART 260 Introduction to Video: Projection and Virtual Worlds in Art Units: 4

Three Upper-Division Courses (12 units)

Choose from the following courses:

- ART 350 Intermediate Photography: Studio, Field, Independent Projects Units: 4
- ART 360 Video Installation and Moving Image Environments Units: 4
- ART 361 Post-Internet Art and Aesthetics Units: 4
- ART 362 Ideas in Intermedia Units: 4 max 8
- ART 460 Post-Material Studio Units: 4 max 8
- ART 484 Contemporary Issues in Art Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Painting Minor

Within both western and non-western traditions, painting has a long history as a site for aesthetic experience and cultural questioning. This minor allows students to immerse themselves in painting, as well as developing a grasp of the critical issues surrounding it. Foundation courses provide the fundamentals of color, composition, medium and drawing. Advanced courses require more ambitious projects, personal direction, research and sustained focus. Students majoring in many areas of the humanities may pursue this minor to augment their understanding of one of the key media in the arts. The minor is available to all USC students who wish to develop their painting skills. A total of 20 units are required for this minor.

Required lower-division courses (8 units):

- ART 110 Drawing for Art and Design Units: 4
- ART 120 Painting I Units: 4

Three upper-division courses (12 units) chosen from the following:

- ART 312 Comics Project Units: 4 max 8
- ART 320 Painting II Units: 4
- ART 370 Printmaking Units: 4
- ART 415 Studies in Drawing and Painting Units: 4
- ART 420 Topics in Advanced Painting Units: 4 (max 12)
- ART 470 Topics in Advanced Printmaking Units: 4 (max 12)
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Performance Art Minor

This interdisciplinary minor is designed for students who wish to engage in the experimental discipline of performance art, a mode of creative expression in which live or mediated bodies perform in theatrical or virtual settings for an audience. The minor offers two required courses, one in video and media installation and one in performance art, along with a broad range of electives from Roski* and partner schools in Kaufman School of Dance, the School of Dramatic Arts, Thornton School of Music, the School of Cinematic Arts and Dornsife College. It is open to any USC student regardless of prior experience, especially those interested in creating new stories, actions or personas or those who want to explore the kind of disciplinary boundary-breaking and individual expressivity that is characteristic of the field. Practitioners in performance art come from a variety of backgrounds and crossovers between performance art with studies in popular culture, social media, community activism, theater and dance are common. Performance art also highlights intersections among postcolonial and decolonial, ethnic and sexuality/gender studies, making it an effective medium to explore and express identity and its politics. Total number of units required is 20**.

**Roski majors are required to include at least 16 units of electives that are unique to this minor (i.e., not included in their major and outside of Roski). Please consult with your academic adviser before adding this minor.*

***It is highly recommended to take at least one Critical Studies elective course*.

Required Courses (8 units)

- ART 260 Introduction to Video: Projection and Virtual Worlds in Art Units: 4
- ART 462 Performance Art Workshop Units: 4

Upper Division Electives* (12 units)

*At least one Critical Studies (CRIT) course highly recommended

- ART 361 Post-Internet Art and Aesthetics Units: 4
- ART 362 Ideas in Intermedia Units: 4
- ART 460 Post-Material Studio Units: 4
- ART 461 Techniques in After Effects Units: 2
- ART 463 Performance Art and the Frame Units: 2
- ART 484 Contemporary Issues in Art Units: 4
- CRIT 415 Performance: Event, Action, Situation Units: 4
- CRIT 425 Identity and Visual Representation Units: 4
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 453 3-D Animation for Motion Graphics Units: 2
- CTAN 466 Projection Mapping Design and Production Units: 2
- CTAN 495 Visual Music Units: 2
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTPR 457 Creating Poetic Cinema Units: 2
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 363g Dancing on the Screen Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4
- IML 328 Sonic Media Art Units: 2
- IML 365 Future Cinema Units: 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4
- THTR 488mw Theatre in the Community Units: 4

Photography Minor

The photography minor provides an in-depth experience in all aspects of photography. The well-equipped darkrooms allow individual hands-on exploration of black and white and color processes, camera types, historical and traditional printing methods, lighting and film processing as well as digital technologies and issues. It also includes a foundation in photo theory and criticism. This minor is appropriate for students interested in an intense experiential exploration of the medium of photography. The total number of units required for the minor is 20.

Two lower-division courses (8 units):

- ART 150 Introduction to Photography: Process and Concept Units: 4
- ART 255 Black and White Film and Darkroom Photography Units: 4

Required upper-division course (8 units):

- ART 350 Intermediate Photography: Studio, Field, Independent Projects Units: 4
- ART 450 Topics in Advanced Photography Units: 4

One upper-division course (4 units) chosen from the following:

- AHIS 373g History and Theory of Photography Units: 4
- AHIS 469 Critical Approaches to Photography Units: 4

- ART 362 Ideas in Intermedia Units: 4
- ART 450 Topics in Advanced Photography Units: 4 max 12
- ART 460 Post-Material Studio Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Sculpture Minor

This minor focuses on making, organizing and manipulating objects and their spatial relationships in a range of materials such as wood, fiberglass, clay, plaster, latex and metal. Course work includes choice of classes in sculpture, ceramics, visual literacy, public art, moldmaking, metal and casting. The three-dimensional skills taught in this minor intersect with many other disciplines including architecture, cinematic arts, special effects, engineering design, urban planning and any other areas where skills in maquette and model building are relevant. The total number of units required for the minor is 20.

Required Lower-Division Course (4 Units)

- ART 140 Sculpture I Units: 4

Required Upper-Division Courses (8 units)

- ART 340 Sculpture II Units: 4
- ART 440 Topics in Advanced Sculpture Units: 4

Upper-Division Electives (8 units)

- ART 441 Installation Art Units: 4
- ART 442 Art and Technology Units: 4
- ART 443 Woodworking Units: 2
- ART 444 Modeling and Mold Making Units: 2
- ART 445 Metal Units: 2

Two-Dimensional Studies Minor

This minor is designed for students who wish to augment their understanding of art in general in two-dimensional areas, rather than complete a minor that focuses on one medium. This minor provides a broad scope of courses in 2-D media and studies. This minor is open to any USC student, especially those interested in animation to sharpen their drawing, color and compositional skills. Students interested in the vast varieties of digital visual communication can develop better color and compositional skills. Total number of units required is 24.

Required Courses (24 Units)

Three lower-division courses (12 units) chosen from the following:

- ART 110 Drawing for Art and Design Units: 4
- ART 120 Painting I Units: 4
- ART 150 Introduction to Photography: Process and Concept Units: 4
- DES 102 Design Fundamentals Units: 4

Three upper-division courses (12 units) chosen from the following:

- ART 310 Drawing II Units: 4
- ART 311 Anatomical Drawing from Life Units: 2
- ART 312 Comics Project Units: 4 max 8
- ART 320 Painting II Units: 4
- ART 350 Intermediate Photography: Studio, Field, Independent Projects Units: 4
- ART 370 Printmaking Units: 4
- ART 410 Topics in Advanced Drawing Units: 4 max 12
- ART 415 Studies in Drawing and Painting Units: 4
- ART 420 Topics in Advanced Painting Units: 4 max 12
- ART 470 Topics in Advanced Printmaking Units: 4 max 12

Visual Narrative Art Minor

This interdisciplinary minor is designed for students who wish to concentrate on Visual Narrative Art (which could be any genre or platform of art, including fine art, illustration and cartooning and more). This minor provides a broad scope of courses in 2-D media, rendering and narrative art studies. This minor is open to any USC student ** especially those interested in telling stories through pictures -- fine art, illustration, comics, journalism, narrative studies, cinema and media studies, animation and digital arts, film and television production, interactive media and game design and more. Students will create works that have a narrative intent, telling stories and creating worlds through the language of images and words. Students interested in the vast varieties of visual communication and media can develop better rendering (in all genres), composition, and word/image storytelling skills. Total number of units required is 20.

***Roski majors are required to include at least 16 units of electives that are unique to this minor (i.e., not included in their major and outside of Roski). Please consult with your academic adviser before adding this minor.*

Required Courses (8 units)

- ART 110 Drawing for Art and Design Units: 4
- ART 314 Illustration for Art and Design Units: 2
- DES 203 Digital Tools for Design Units: 2

Upper Division Electives (12 units)

- ART 310 Drawing II Units: 4
- ART 312 Comics Project Units: 4
- ART 320 Painting II Units: 4
- ART 410 Topics in Advanced Drawing Units: 4
- ART 420 Topics in Advanced Painting Units: 4
- CTAN 420 Concept Design for Animation Units: 2
- CTAN 435 Story Art Development Units: 2
- CTAN 436 Writing for Animation Units: 2
- CTAN 443L Character Development for 3-D Animation and Games Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 460 Character Design Workshop Units: 2
- CTAN 485L Pipeline and Character Modeling for Animation Units: 2
- CTIN 491L Advanced Game Project I Units: 4
- CTPR 448 World Building Design Studio Units: 2
- CTPR 455 Survey of Production Design Units: 2
- CTPR 456 Introduction to Art Direction Units: 2
- ENGL 343m Images of Women in Contemporary Culture Units: 4
- ENGL 372 Literature and Related Arts Units: 4
- ENGL 376g Comics and Graphic Novels Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- THTR 331 Costume Design I Units: 4
- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2
- THTR 433a Costume Design II Units: 3
- THTR 433b Costume Design II Units: 3

Master's Degree

Curatorial Practices and the Public Sphere (MA)

The MA Curatorial Practices and the Public Sphere is an intensive master's-level program in the practice and history of curating studied through the lens of critical theory and the history of art. With a focus on the research and exhibition of contemporary art, as well as attending to art historical curating and broader conceptions of curating such as performance art programming, instructors with international careers lead students in asking social questions about the exhibition of art (broadly construed) in relation to its publics. Over two years of full-time academic study, students explore modes of curatorial practice in a curriculum combining seminars and professional training. Courses are led by USC Roski's internationally acclaimed faculty, which includes renowned artists, scholars, critics and curators.

The MA features courses that focus on the history of art, exhibitions and aesthetics, with a focus on contemporary art and theory. Other courses emphasize direct practical experience leading toward the realization of art exhibitions, but also performance art programming and other hybrid modes of arts curating.

Admission Requirements

Requirements for admission: (1) a Bachelor of Arts or Bachelor of Fine Arts degree, or equivalent, from an accredited school; (2) a minimum 3.0 overall GPA; (3) three letters of recommendation; (4) two writing samples (one academic paper and the admission essay). The GRE General Test is required. International applicants are required to take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Thesis Requirements

The thesis committee is established and contingent upon satisfactory completion of the second semester's course work. Advancement to candidacy is determined by the director of the program, in consultation with other faculty.

Roski MA thesis committees will comprise three faculty members. Two members will be Roski faculty, defined as any faculty currently teaching in either the MA or the MFA program with either full-time, part-time or adjunct appointments, tenure track or non-tenure track. The third member can be any full-time tenure track or non-tenure track USC faculty member, either within the Roski School or from outside Roski. Thesis committees are ultimately subject to approval by the school dean.

Curatorial Practicum Requirement

All students participate in the group curatorial practicum course for three consecutive terms (which complements the thesis requirement).

Program Requirements

A minimum of 39 units is required, taken during a consecutive two-year period, distributed as follows:

Required Courses

- ART 515 Visiting Artist and Scholar Seminar Units: 2 – must be taken twice for a total of 4 units
- CRIT 510 History and Theory of Art and Exhibitions Units: 4
- CRIT 512 Art and Curatorial Visits Units: 2
- CRIT 525 Making and Curating Art: Pedagogy and Praxis Units: 4
- CRIT 555 Methods of Curating: Introduction to Curatorial Practicum Units: 4
- CRIT 556 Curatorial Practicum: Individual/Group Projects Units: 4
- CRIT 557 Curatorial Practicum: Group Project Summation Units: 4
- CRIT 591 Field Internship Experience Units: 1
- CRIT 594a Master's Thesis Units: 2
- CRIT 594b Master's Thesis Units: 2
- CRIT 594z Master's Thesis Units: 0

Electives (4 units of which must be Roski electives)

Units: 39

Elective Requirement

Candidates for the Master of Arts, Curatorial Practices and the Public Sphere must complete a minimum of 8 units of 400- or 500-level electives, 4 units of which must be from the Roski School and 4 units of which can be from another relevant area in the university (with departmental approval).

Design (MFA)

A five-term program administered in collaboration with the Graduate School, the Master of Fine Arts in Design is a professional degree in the practice of design. A progressive degree option is available on a competitive basis to current Roski undergraduate students. With a faculty of influential design professionals and an expansive, retrofitted building in the downtown arts district, the MFA Design program seeks to be an ambitious and far-reaching addition to educational design community in Southern California.

In addition to mentored relationships with the design faculty, students participate in regular seminars, discussions and studio visits with leading visiting designers, writers and theorists from around the world. The Roski School's partnership and affiliation with the contemporary design community in Los Angeles, such as American Institute of Graphic Arts (AIGA), is a critical component of the MFA Design program.

The opportunity to gain experience as a teaching assistant is available on a competitive basis. All incoming students, regardless of country of citizenship, are considered for departmental funding and teaching assistantships.

THESIS AND COMPLETION

The Roski MFA Design thesis committee will comprise three faculty members. Two members will be Roski faculty, defined as currently teaching in the Roski graduate program with either full-time, part-time or adjunct appointments, tenure-track or non-tenure track. A third member can be any full-time tenure track or non-tenure track USC faculty member, either within the Roski School or from outside Roski. Thesis committees are ultimately subject to approval by the school dean.

Master of Fine Arts Design students are evaluated by faculty during reviews held near the end of each semester.

Before a student is recommended for the Master of Fine Arts, a comprehensive review of past work and professional goals is held. A written thesis, documented with visual material, and a practice-based component, such as an exhibition of work, a public presentation, community project or a course syllabus at the end of the course of study, complete the Master of Fine Arts program. A minimum grade point average (GPA) of 3.0 on all graduate work is required for the Master of Fine Arts degree.

ADMISSION

Admission is competitive and based on an application and portfolio submission at Slideroom.com.

An undergraduate degree in Design or its equivalent with a GPA of at least 3.0 is required. Applications are accepted in the spring for the fall. Preference will be given to full-time students, although part-time study can be accommodated with the director's approval.

Application materials include the following:

1. USC Graduate Application
2. Transcripts (waived for Progressive Degree applicants)
3. Three letters of recommendation
4. Personal statement and CV
5. A portfolio of 20 images, submitted at slideroom.com
6. Results of the TOEFL or IELTS (international students only)

See the Roski website *roski.usc.edu* for additional information about the MFA Design program.

Program Requirements

At least 56 units are required for the Master of Fine Arts in Design, to be distributed as follows:

Required Courses (30 units)

- DES 503 Contemporary Issues in Design Units: 4
- DES 513 Visiting Designers Forum Units: 2 (4 units required)
- DES 514 Designers in Residence Forum Units: 2 (4 units required)
- DES 520 Individual Studies Units: 2 (8 units required)
- DES 523 Design Theory Units: 4
- DES 550 Advancement Units: 2
- DES 594a Master's Thesis Units: 2
- DES 594b Master's Thesis Units: 2
- DES 594z Master's thesis Units: 0

Elective Courses (26 units)

- 18 units of 400-level or higher course work within Roski School of Art and Design, 10 of which must be at the 500-level or higher
- 8 units of 400-level or higher course work outside Roski School of Art and Design

Suggested Roski courses include:

- DES 433 International Design Study Tour Units: 2
- DES 530 Design Studio Co-Lab Units: 2
- DES 540 Design Pedagogy Units: 4
- DES 543 Design Study Tour Units: 2

- DES 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DES 591 Field Internship Experience Units: 2

Note: All elective courses (Roski and non-Roski) must be approved by the Director of the MFA Design program.

Fine Arts (MFA)

A two-year program administered in collaboration with the Graduate School, the Master of Fine Arts is a professional degree in the practice of art preparing students to pursue careers as professional artists. With an influential and innovative faculty and expansive facilities, the MFA program is one of the most ambitious, energetic and forward-thinking MFA programs in the United States. In addition to close, constant interaction with the faculty artists, students participate in regular seminars, lectures, discussions, and studio visits with leading visiting artists, critics, curators and theorists from around the world. The school's immersion in the contemporary art community is a critical component of the MFA program.

The opportunity to gain experience as a teaching assistant is available on a competitive basis. All incoming students, regardless of country of citizenship, are considered for departmental funding and teaching assistantships.

Program Requirements

At least 48 units are required for the Master of Fine Arts, to be distributed as follows:

- ART 515 Visiting Artist and Scholar Seminar Units: 2 (4 units required)
- ART 520 Individual Studies Units: 2 (8 units required)
- ART 525 Making and Curating Art: Pedagogy and Praxis Units: 4 (Enroll in CRIT 525)
- ART 535 Group Critique Units: 2 (6 units required)
- ART 594a Master's Thesis Units: 2
- ART 594b Master's Thesis Units: 2
- ART 594z Master's Thesis Units: 0
- CRIT 510 History and Theory of Art and Exhibitions Units: 4

and 18 units of 400- or 500-level electives:

- 8 units outside of the Roski School and
- 8 units of departmental electives within the Roski School
- 2 units either outside the Roski School or within the Roski School

Note:

Roski MFA thesis committees will comprise three faculty members. Two members will be Roski faculty, defined as any faculty currently teaching in either the MA or the MFA program with either full-time, part-time or adjunct appointments, tenure track or non-tenure track. The third member can be any full-time tenure track or non-tenure track USC faculty member, either within the Roski School or from outside Roski. Thesis committees are ultimately subject to approval by the school dean.

Master of Fine Arts students are evaluated by faculty during reviews held near the end of each semester. Before a student is recommended for the Master of Fine Arts, a comprehensive review of past work and professional goals is held. An exhibition of work at the end of the course of study and a written thesis, documented with visual material, complete the Master of Fine Arts program. A minimum grade point average of 3.0 on all graduate work is required for the Master of Fine Arts degree.

Performance Studies Graduate Certificate

This 16-unit graduate certificate program is meant to complement PhD and MA studies in related areas such as English, Comparative Literature, Art History, Cinema Studies, etc., by affording students interested in live and time-based art media, courses and a specialization based on studying these modes of creative work.

With a focus on the deep history of discourse and media relating to performance, screen imagery, embodied and visual art work, the program intersects with ethnic studies, gender/sexuality studies, cinema studies, drama, dance and broad concerns addressing how bodies in performance or in visual images construct or resist identifications.

Application for the certificate is open to all USC graduate students in fall and spring semesters, and must be submitted by the end of the first year of a graduate program. The minimum GPA requirement is 3.0.

Required Courses (8 units)

The required core courses are intended to supply both a horizontal and a vertical understanding of performance studies. Emphasis will be placed on the student putting her or his practice (whether artistic or scholarly) in the context of both an overview of the field and deep examples of performance practices, approached either through a scholarly framework or via hands on and practice-based strategies.

CRIT 500 provides a broad historical chronology and an understanding of the histories of theory and practice; CRIT 560 and CRIT 570 provide deep analysis and hands-on research skills.

Note: If desired a student may take both CRIT 560 and CRIT 570 with the second counting as a Roski elective.

- CRIT 500 Theory and History of Performance Studies Units: 4
  and
- CRIT 560 Visual Theory/Performance Theory Units: 4 or
- CRIT 570 Performance Theory and Praxis Units: 4

Electives (8 units)

Electives include courses in Roski and those ratified courses by affiliate faculty beyond Roski, or courses approved by the Graduate Program Director. Participating programs currently include Cinema Studies, Architecture, Dramatic Arts, Dance, Music, American Studies and Ethnicity, Sexuality and Women's Studies, Communication, East Asian Languages and Cultures, Art History, English and Philosophy. All these courses are 4 units unless otherwise noted. In all cases students must get approval from the Graduate Program Director based on current content of the class.

Some suggested elective courses include the following:

- AHIS 505 Seminar in Feminist Theory and Visual Culture Units: 4
- AMST 552 Archives and Subcultures Units: 4
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- COMM 563 Black Popular Culture: Theory and Central Debates Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- THTR 578 Theatre of the Oppressed: Theory, Games, and Techniques Units: 4

USC Marshall School of Business

Consistently ranked among the nation's premier schools, the USC Marshall School of Business offers impressive international and experiential opportunities backed by path-breaking research, close industry engagement, and the uniquely powerful Trojan family. USC Marshall draws on the region's cultural diversity, entrepreneurial mindset and economic power to produce leaders who are immediately ready to impact the future of business.

USC Marshall integrates its foundational core curriculum with a range of dynamic, experiential learning opportunities, giving students the ability to practice and apply what they learn to real-world situations. That curriculum spans a range of disciplines including Business Communication, Data Sciences and Operations, Entrepreneurship, Finance and Business Economics, Accounting, Management and Organization, and Marketing. The Leventhal School of Accounting, one of the nation's top ranked accounting schools and housed within Marshall, educates the next generation of leaders in that field. Hands-on learning opportunities are of paramount importance and are embedded throughout the educational experience. The Experiential Learning Center and the USC Marshall Student Investment Program are just two examples of many that offer students invaluable experiential opportunities.

Combining a world-class faculty, international student body and strategic location at the gateway to the Pacific Rim, USC Marshall is a pioneer in global business education. International experience is a required component of all residential MBA degree programs. Undergraduates have access to numerous overseas programs including study abroad and international internships in addition to week-long global learning experiences and the one-of-a-kind World Bachelor in Business.

With cross-disciplinary excellence spanning the performing arts to the data sciences, USC and Marshall provide students with the power to combine multi-faceted fields of study and to build the skills that today's transforming economy demands. Many Marshall undergraduates choose complimentary minors, while graduate students have the option to earn dual degrees or certificates of specialization. Whether through one of five MBA offerings or 11 specialized master's programs, Marshall offers flexibility for graduate students looking to propel their careers. The Lloyd Greif Center for Entrepreneurial Studies, consistently ranked as one of the best, is an exceptional resource for all students interested developing a more sophisticated entrepreneurial mindset.

Marshall's resourcefulness and resiliency continue to set us apart. The school prepares leaders who are visionary and adaptable; ready for today's jobs and future careers not yet imagined and that the Marshall community will help shape. Recognizing its outsized role to play in the evolution of business toward a more sustainable, equitable and engaged future, USC Marshall is powering that change through groundbreaking ideas translated to real-world outcomes.

Leadership of the USC Marshall School of Business

Geoffrey Garrett, PhD, *Dean, Robert R. Dockson Dean's Chair in Business Administration*
Gareth M. James, PhD, *Deputy Dean; E. Morgan Stanley Chair in Business Administration; Professor of Data Sciences and Operations*

Dean's Cabinet

Sara Bamossy, BA, *Chief Marketing Officer, Associate Dean, Marketing and Communications*
Janet Horan, MPA, *Chief Financial Officer, Senior Associate Dean, Finance and Administration*
Suh-Pyng Ku, PhD, *Vice Dean, Graduate Programs; Professor of Clinical Finance and Business Economics*
Patricia Mills, JD, LLM, *Vice Dean for Teaching and Innovation; Professor of Clinical Accounting*
Rachel Morrell, MPA, *Chief Development Officer, Associate Dean, External Relations*
Daniel E. O'Leary, PhD, CPA, CMA, CISA, *Chair of the Faculty Council; Professor of Accounting*
Ramandeep Randhawa, PhD, *Vice Dean for Undergraduate Programs; Professor of Data Sciences and Operations*
Violina Rindova, PhD, *Interim Vice Dean, Diversity, Equity, and Inclusion; Captain Henry W. Simonsen Chair in Strategic Entrepreneurship; Professor of Management and Organization*
Sha Yang, PhD, *Vice Dean for Faculty and Academic Affairs; Ernest Hahn Professor of Marketing*

Undergraduate Programs Administration

Tiffiani Frye, *Director, Undergraduate Admissions and Outreach*
Onma Lwin, MS, *Director, Undergraduate Career Services*
Maureen McHale, PhD, *Assistant Dean and Director, Undergraduate Advising and Student Affairs*
Sean O'Connell, MA, *Director, Undergraduate International Programs*
Jerry Giaquinta, PhD, JD, *Academic Director, World Bachelor in Business Program*
Marion Philadelphia, EdD, *Academic Director, Business of Cinematic Arts Program*
Cynthia McCloud, MBA, *Director, Food Industry Programs*

Graduate Programs Administration

Evan Bouffides, MBA, MPW, MA, *Assistant Dean and Director, MBA Admissions*
Mark Brostoff, MHA, *Assistant Dean and Director, Graduate Career Services*
Susan Hunt, PhD, *Assistant Dean, Graduate Programs*
Anakkarat Barth, MA, *Director, Office of Global Programs and Partnerships*
Sriram Dasu, PhD, *Academic Director, International Experiential Programs*
Philip Griego, MBA, *Assistant Dean and Director for Online Programs*

Murat Bayiz, PhD, *Academic Director, Full-Time MBA Program*
Anne Ziemniak, EdD, *Assistant Dean and Director, Full-Time MBA Program*
Peter Cardon, PhD, *Academic Director, MBA.PM Program*
Jeanette L. Christensen, MA, *Director, MBA.PM Program*
Miriam Burgos, MBA, *Interim Academic Director, Executive MBA (EMBA) Program*
Brigitte M. Engel, BS, *Director, EMBA Program*
Carl Voigt, PhD, *Academic Director, IBEAR MBA Program*
Richard Drobnick, PhD, *Director, IBEAR MBA Program*
Miriam Burgos, MBA, *Academic Director, Online MBA Program*
Brittany Hawkins, MEd, *Associate Director, Online MBA Program*

Rex Kovacevich, MBA, *Assistant Vice Dean, Graduate Programs*
Sara McLachlan, MA, *Senior Associate Director, Specialized Master's Programs*
Lori Smith, BS, CPA, *Assistant Dean, Master of Accounting and Master of Business Taxation (Leventhal School of Accounting)*
Cathy Cowan, BS, *Director, Master of Accounting and Master of Business Taxation (Leventhal School of Accounting)*
Ashley Flinn, MEd, *Associate Director, Master of Accounting and Master of Business Taxation (Leventhal School of Accounting)*
Abbas Sharif, PhD, *Academic Director, Master of Science in Business Analytics*
Nina Richardson, MEd, *Associate Director, Master of Science in Business Analytics*
Steven Mednick, JD, MPA, *Academic Director, Master of Science in Entrepreneurship and Innovation*
Jeymi Choi, MEd, *Assistant Director, Master of Science in Entrepreneurship and Innovation*
Julia Plotts, MBA, *Academic Director, Master of Science in Finance*

Melisa Hanparsun, BA, *Associate Director, Master of Science in Finance*
Kyle Mayer, PhD, *Academic Director, Master of Science in Food Industry Leadership*
Cynthia McCloud, EdD, *Director, Food Industry Programs*
Kimberly Brower, EdD, *Assistant Director, Food Industry Programs*
Nick Vyas, EdD, *Academic Director, Master of Science in Global Supply Chain Management*
Katy Lin, MEd, *Associate Director, Master of Science in Global Supply Chain Management*
Christopher Stewart, EdD, *Interim Director, Master of Management in Library and Information Science*
Alexis Hackathorn, MA, *Coordinator of Student Services, Master of Management in Library and Information Science and Graduate Certificate in Library and Information Management*
Diane Badame, PhD, *Academic Director, Master of Science in Marketing*
Iain McConnell, MS, *Associate Director, Master of Science in Marketing*
Adlai Wertman, MBA, *Academic Director, Master of Science in Social Entrepreneurship*
JJ Lee, MBA, *Director, Master of Science in Social Entrepreneurship*
Kevin C. Fields, JD*, *Academic Director, Master of Business for Veterans*
James Bogle, MBA, *Director, Master of Business for Veterans*

Dina Mayzlin, PhD, *Associate Dean, PhD Program*
Julie Phaneuf, BS, *Associate Director, PhD Program*

Office of Executive Education

The USC Marshall Office of Executive Education offers a variety of non-degree and certificate programs for individual contributors seeking to enhance their business-related skill set, as well as for aspiring and current managers, leaders and executives in both fully customized and open enrollment programs.

Areas of expertise include strategy, leadership, innovation, digital transformation, entrepreneurship and business acumen.

In addition to a variety of individual courses within our areas of expertise, Executive Education offers non-degree certificate programs in online, face-to-face, and blended formats. Certificate programs include:

- Data-Driven Decision-Making
- Disruptive Innovation
- Management Consulting
- Digital Transformation
- Humanistic Leadership

USC Marshall Executive Education also offers programs customized specifically for corporations and organizations with a focus on high impact performance journeys including classroom and/or virtual instruction, simulations, personalized leadership assessments, coaching, and real-world practice and applications.

In addition to a Certificate of Completion, Executive Education participants receive digital "badges" that highlight their skill development and learning accomplishments.

To learn more about our programs and upcoming offerings, please visit our Executive Education Programs website. For further information, contact the Office of Executive Education by phone at (213) 740-8990 or by email at execeducation@marshall.usc.edu.

Tim Blakesly, BS, *Assistant Dean, Executive Education*

Marshall Undergraduate Degrees

Bachelor of Science

The business administration major combines a strong grounding in business fundamentals and expertise in select functional areas with extensive exposure to the liberal arts. The curriculum is designed with significant flexibility so that students can complement their studies in business with a minor in a field outside business.

Marshall School programs lead to a Bachelor of Science degree with a major in Business Administration. Marshall students may major in Accounting through the USC Leventhal School of Accounting (part of the Marshall School). See the USC Leventhal School of Accounting pages for a complete listing of information regarding courses, programs and requirements. See Accounting (BS) for specific degree requirements.

The Marshall School offers ten emphasis programs including Business Analytics, Communication, Entrepreneurship and Innovation, Finance, Leadership and Innovation, Marketing, Real Estate Finance, and Risk Management. Students in the BS in Business Administration (World) program earn bachelor's degrees from USC, Hong Kong University of Science and Technology (HKUST) and Bocconi University (Milan, Italy). The program with the School of Cinematic Arts leads to a BS in Business Administration with an emphasis in Cinematic Arts; and the program with the School of International Relations leads to a BS in Business Administration with an emphasis in International Relations. The Marshall School and USC Viterbi School of Engineering offer a combined degree program leading to a bachelor's degree in Computer Science/Business Administration (BS) administered by the Viterbi School of Engineering.

The Marshall School also offers a variety of minors for non-business majors.

Educational Objectives

The undergraduate programs in business administration have three main goals: (1) graduates will have a grounding in skills and concepts that are fundamental to business; (2) graduates will have deep expertise in one or more specific areas of business, selected according to the student's personal and professional goals and objectives; and (3) graduates will have extensive exposure to the liberal arts, usually with a formal minor in a field outside business.

Degree Requirements

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge students will need to consider themselves (and to be considered by other people) a generally well-educated person. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. The current GE program is effective for all students entering USC in fall 2015 or later and for transfer students who began college elsewhere in fall 2015 or later and subsequently transferred to USC. For more information about USC's general education requirements, see the General Education page for more information.

Marshall Majors

The major requirements for each degree are found on the catalogue page for each major:

- Business Administration (BS)
- Business Administration (Business Analytics) (BS)
- Business Administration (Cinematic Arts) (BS)
- Business Administration (Communication) (BS)
- Business Administration (Entrepreneurship and Innovation) (BS)
- Business Administration (Finance) (BS)
- Business Administration (International Relations) (BS)
- Business Administration (Leadership and Innovation) (BS)
- Business Administration (Marketing) (BS)
- Business Administration (Real Estate Finance) (BS)
- Business Administration (Risk Management) (BS)
- Business Administration (World Program) (BS)

Certificate Program

Marshall offers an undergraduate certificate in Food Industry Management for individuals currently employed in the food industry. For more information see the Food Industry Management Program page.

Marshall Minors

Marshall offers minors in a range of business disciplines. Please see the catalogue page for each minor for a complete description and degree requirements.

- Business Minor
- Business Economics Minor
- Business Finance Minor
- Business Law Minor
- Business Technology Fusion Minor
- Consumer Behavior Minor
- Customer Analytics Minor
- Dynamics in Workplace Communication Minor
- Entrepreneurship Minor
- Human Resource Management Minor
- Management Consulting Minor
- Marketing Minor
- Operations and Supply Chain Management Minor
- Organizational Leadership and Management Minor
- Performance Science Minor
- Real Estate Finance Minor
- Risk Management Minor
- Social Entrepreneurship Minor
- Sports Business and Management Minor
- Technology Commercialization Minor

The Leventhal School of Accounting offers the Accounting Minor to students in all schools and departments except the Marshall School of Business. Leventhal also oversees the Risk Management Minor, which is open to students in all schools and departments except Accounting.

Marshall participates with other USC academic units that administer a number of interdisciplinary minors:

- Advertising Minor
- Applied Analytics Minor
- Biotechnology Minor
- Communication Design Minor
- Game Entrepreneurism Minor
- Innovation: The Digital Entrepreneur Minor
- Managing Human Relations Minor
- Mathematical Finance Minor
- Media Economics and Entrepreneurship Minor
- Risk Management Minor

Admission

Students may be admitted as incoming freshmen, as students transferring from another college or university, or as USC undergraduates transferring from another major. Admission to the Marshall School requires admission to the university and depends on academic performance, particularly in quantitative areas. USC students who have not been admitted to the major or a minor in the Marshall School may register for a maximum of 12 units from the Marshall School and/or the Leventhal School. Information and guidelines for students applying to USC Marshall as freshmen and those transferring to USC from another university are available at the USC Undergraduate Admission and USC Marshall Undergraduate Admissions Websites. Admission to the Computer Science/Business Administration program requires admission to USC and the Viterbi School of Engineering. Information and guidelines for USC undergraduates who wish to transfer to Marshall from another major at USC can be found on the Marshall Undergraduate Programs Website for current students or contact Marshall Undergraduate Advising and Student Affairs.

Transferring College Credit

Community College Courses

USC has established articulation agreements with most community colleges in California. Most academic courses are acceptable for transfer credit from a two-year school, but students will not receive credit for remedial course work. A maximum of 64 semester units may be transferred. There are university restrictions that apply to transferring course work from other institutions that may affect the above rule.

Official transcripts of college work taken elsewhere must be submitted at the time of application to the USC Office of Admission. ECON 351x and ECON 352x must be taken in residence at USC, and all business courses completed at a two-year college, if transferable, will be considered elective credit. There is one exception to this policy: Students may transfer two semesters of introductory accounting and receive credit equivalent to one semester of introductory accounting at USC. Then students can register for BUAD 305 Abridged Core Concepts of Accounting Information.

Four-Year Colleges

Most courses of an academic nature are acceptable for unit credit from all fully accredited four year institutions. If they do not satisfy specific subject requirements at USC, they will usually be accepted for elective course credit.

Students are urged to complete all their required business courses at USC. ECON 351x and ECON 352x must be completed at USC. All business courses from four year institutions, if transferable, will be considered elective credit unless a challenge examination is passed. All upper-division core classes, with the exception of BUAD 497 Strategic Management and BUAD 425 Data Analysis for Decision Making, may be challenged. Students should consult with an academic adviser to initiate the challenge examination process.

Registration

Students register for Marshall courses using the Web Registration system, according to their scheduled appointment times. Appointment times are based on number of units completed. For example, seniors have the first opportunity to register. It is important to register as soon as one's appointment allows or priority standing will be lost. There are no waiting lists for Marshall undergraduate courses. USC students who have not been admitted to the Marshall School may register for a maximum of 12 units in the Marshall School and/or the Leventhal School.

Global Opportunities

The Marshall School offers students a variety of opportunities to cultivate a global perspective. Classes such as international trade and commercial policy, financial management of multinational corporations, international finance, multinational marketing, and international management practices and negotiation broaden students' understanding of managing a global business. Opportunities to travel and study outside the United States allow students to develop skills for functioning in different cultures, societies and economic environments, and to understand a wide variety of international business practices. Contact Marshall Undergraduate International Programs or Undergraduate Advising and Student Affairs for information about international study opportunities at Marshall, including:

GLP/LInC/TIE

Students are encouraged to take advantage of one of Marshall's international experiential learning programs. Each includes a nine-day faculty-led trip to a city outside the United States, where students meet with business, political and civic leaders. The Learning about International Commerce (LInC) Program is a 2-unit class open to freshman students who apply. The Global Leadership Program (GLP) is a two-course sequence open by invitation to select first-year students in the incoming freshman class. GLP invitations are extended by the USC Marshall Undergraduate Admissions Office. The Transfer International Experience (TIE) Program consists of two 1-unit classes or one 2-unit class, open to transfer students who apply.

International Exchange Program

The International Exchange Program is a one-semester exchange program with a host institution in Asia, Australia, South America or Europe during either the fall or spring semester. Exposure to international cultures and practices in business and non-business settings provides another level of understanding of international business. Students complete between four to eight

courses at the host institution (15-18 USC units). All instruction is in English, so foreign language proficiency is not required. Courses completed at the host school are graded credit/no credit on the student's USC transcript. The courses are selected from a list approved by the Marshall School of Business and satisfy the business elective requirement.

International Summer Program

The Marshall School offers unpaid international internship programs in London, Madrid, Berlin, Dublin, Prague, Hong Kong, Milan and Singapore during the summer session. The program provides students with theoretical and practical experiences working and navigating within the international business environment. The program consists of an eight- to ten-week internship abroad. Funded internships in Bangkok and Jakarta are also offered.

Research Opportunities

BUAD 490 Directed Research provides an opportunity to pursue research above and beyond the normal course offerings. This course is open to juniors and seniors with a 3.0 or better grade point average who have obtained approval from a faculty sponsor and associated department chair prior to registration. Units are assigned on a variable basis with a maximum of 12 units toward an undergraduate degree, 4 units per semester. Students may also work with faculty as research assistants. For additional information, contact Marshall Undergraduate Advising and Student Affairs.

Marshall Honors Program

Marshall Honors, available upon graduation to majors in business administration or accounting, provides a special designation of departmental honors on a student's transcript. Acceptance to the program requires completion of at least 64 units of course work (including transfer units), an overall GPA of at least 3.3, a GPA of 3.5 or higher in course work to be applied to the major, and a successful application. Achievement of Marshall Honors requires completion of BUAD 493 Marshall Honors Research Seminar prior to the senior year, completion of BUAD 494 Marshall Honors Research and Thesis during the senior year, and a minimum GPA of at least 3.5 in upper-division Marshall School and Leventhal School courses applied to the major. For additional information, contact Marshall Undergraduate Advising and Student Affairs.

Honor Societies

Beta Gamma Sigma is the national honor society for business students. The Marshall School of Business chapter has been active since 1923. Juniors in the top 10 percent of the class and seniors in the top 10 percent of the class are invited to join.

Marshall Undergraduate Advising and Student Affairs

Academic advisement is provided through the Marshall Office of Undergraduate Advising and Student Affairs, which supports the education and development of undergraduate students by providing a broad array of co-curricular and academic support programs and services. Incoming freshman and new transfer students are required to meet with an academic adviser before registering, and this requirement is in effect until 24 USC units are completed. All students are encouraged to see an academic adviser on a regular basis, and continuing students may schedule appointments throughout the year.

The Marshall First-Year Experience (Marshall FYE) includes a wide variety of programs to support and engage new freshman and transfer students throughout their first year at USC. Marshall FYE is designed to help students navigate academic and career resources, become involved in student life, and foster a sense of belonging within the Marshall community.

The Transfer Success Program provides selected incoming transfer students with the opportunity to build a community among other transfer students and maximize their experience at USC Marshall.

The Marshall Academic Resources (MARs) Program provides free group tutoring through its Core Review Sessions for select Marshall core courses. Core Review Sessions, led by Peer Academic Leaders, are a supplement to classroom instruction and designed to assist students at all academic levels. Participating in Core Review Sessions early and regularly supports student success and learning.

Marshall Recognized Student Organizations serve as a vehicle for Marshall students to develop and practice their leadership and networking skills through participation in various professional, academic, and social organizations. The Marshall School has more than 40 student organizations including Marshall Business Student Government.

The Marshall School offers a number of scholarships available to continuing students. Awards recognize academic excellence and/or outstanding service at Marshall, and provide funding applied toward tuition for one academic year.

Marshall Undergraduate Career Services

The Marshall School recognizes the importance of integrating education with experience. Marshall Undergraduate Career Services seeks to enhance the Marshall undergraduate student experience by engaging students in services designed to help them cultivate, refine, and plan for their professional development.

In cooperation with the USC Career Center, we provide a variety of workshops, recruiting events, networking opportunities, and individual advising appointments to educate and empower students in their pursuit of internship and full-time opportunities. Students also have access to weekly newsletters, industry specific opt-in email announcements, and alumni mentorship programs.

Those who actively participate in these events while establishing and achieving meaningful career goals, will maximize their opportunities for employment after graduation.

Marshall Graduate Programs

The Marshall School of Business prepares men and women to become leaders at every level of management. Today's successful businesses demand flexibility, innovation, creativity, teamwork and leadership from their employees. The Marshall School's goal is to help students meet those demands through a rigorous grounding in all functional areas of business and the honing of analytical and interpersonal skills required to address real business problems.

The more than 240 faculty members at the school include authorities recognized around the world for their contributions to business theory and practice. They are also distinguished by their dedication to teaching excellence.

The Marshall School of Business offers six graduate degrees: The Doctor of Philosophy (PhD); the Master of Business Administration (MBA); the Master of Science (MS) in Business Administration, Business Analytics, Business Research, Entrepreneurship and Innovation, Finance, Food Industry Leadership, Global Supply Chain Management, Marketing, and Social Entrepreneurship; the Master of Business for Veterans (MBV); the Master of Management in Library and Information Science (MMLIS); and the Master of Management Studies (MMS). The Marshall School jointly sponsors a Master of Arts in Long Term Care Administration.

Graduate certificates are also offered in business analytics, business fundamentals, financial analysis and valuation, library and information management, management studies, marketing, optimization and supply chain management, strategy and management consulting, sustainability and business, and technology commercialization.

Admission Requirements

A bachelor's degree equivalent to a four-year U.S. undergraduate degree from an accredited institution (regardless of field or major) is required for admission to any graduate degree program at the Marshall School of Business.

All applicants are required to submit the following documents: (1) completed application form; (2) a nonrefundable application fee; (3) responses to required essay questions; (4) history of full- and part-time work experience or résumé; (5) one official transcript from the registrar of each college or university attended (undergraduate and postgraduate, if applicable) whether the degree was completed or not. If all college or postgraduate work has not been completed, transcripts must be sent again when work in progress is completed and the degree posted. Transcripts written in languages other than English must be accompanied by a certified English translation. Degrees earned in non-anglophile countries must be verified through IERF.

Some programs require (6) letters of recommendation and (7) Graduate Management Admission Test (GMAT) or Graduate Record Examinations (GRE) scores.

All international students who did not earn a four-year bachelor's degree from a college or university in the United States, Canada, the United Kingdom, Ireland, Australia or New Zealand must submit (8) recent scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS) or the Pearson Test of English Academic (PTE). (9) Proof of financial support is required of admitted international applicants.

To ensure a place in a program and adequate time to receive an admission decision, it is important to send completed application materials well in advance of the semester for which the applicant wishes to register. For the non-traditional student, if work is still in progress to complete a bachelor's degree, the applicant must state specifically what courses are in progress, what must be done to finish and the estimated date of completion. Admission is contingent upon official verification of a bachelor's degree.

Additional program-specific admission criteria are available on each program's Website. Links are available at marshall.usc.edu/programs.

Doctor of Philosophy (PhD)

The Doctor of Philosophy program in business administration is designed to produce research-oriented graduates who, from positions in academia, can advance business practice and enhance the contributions that businesses make to the larger community. These goals can be advanced through research contributions in theory, concepts, methods and practices, and education of the next generation of business leaders. For more information see Business Administration (PhD) and marshall.usc.edu/phd.

Master of Business Administration (MBA)

MBA students gain an understanding of the forces confronting business around the world and are encouraged to take an active role in making a difference — to seek out opportunities for personal and professional growth and to empower others in the pursuit of shared goals. The Master of Business Administration is offered through five distinct programs.

While the five programs are designed to meet the needs of different types of students, all programs have the same goals (albeit different weight): providing students with the personal skills and development necessary to become effective leaders; developing a thorough understanding of business fundamentals such as economics, accounting, finance, marketing, and data analytics as well as being motivated and able to build and work in high-performing teams. Each student is challenged to develop self-understanding, an appreciation for the complexities of business organizations, and the ability to offer creative solutions to business problems.

Full-Time MBA Program

The Marshall MBA program is designed for individuals who can leave the world of work and immerse themselves "full time" in two years of graduate education. It provides a foundation for success that balances analytical and critical thinking with real-world application.

During the first year, our approach to leadership and business education combines case analysis, management simulations, consulting projects for real business problems, executive seminars and international travel with traditional methods for establishing a conceptual understanding of the general management role in a global context. Career Insight Seminars improve students' functional and industry awareness and as a result enhance decision-making in the areas critical to career development, satisfaction and success. Elective options in the second semester allow students to complement the core curriculum with informed choice and individualized interests. Summer internships help students apply their knowledge in practice and prepare for the job market.

In year two, students continue to chart their own course of study. A wide array of elective courses offers students immersion in specific functional areas, disciplines and industries. The selection allows students to gain an in-depth understanding of a particular subject or to continue to pursue a broad-based management education. For more information see the Full-time MBA Program page and ftmba.marshall.usc.edu.

Part-Time MBA Program for Professionals and Managers

The MBA Program for Professionals and Managers (MBA.PM) allows fully employed individuals to pursue an MBA degree while continuing their career. Students can pursue the first year of study at the University Park Campus or at the USC Orange County Center in Irvine. Elective course work is completed mainly on the University Park Campus. The curriculum, offered in the evening, is similar to the curriculum offered to full-time MBA students but is structured to allow completion of the program in 33 months or less. For more information see the MBA Program for Professionals and Managers program page and marshall.usc.edu/mbapm.

International MBA Program (IBEAR MBA) and the International Management Science (STEM) MBA Program

The IBEAR MBA is a mid-career international MBA emphasizing trade and investment in and between the Americas and Asia in particular. Participants complete the equivalent of two years of intensive MBA study and return to their careers in 12 months.

The Management Science specialization of the Master of Business Administration recognizes the efforts of individuals who choose to focus their MBA studies on quantitative business-related fields such as statistics, mathematical techniques, analytics, data warehousing, data mining, operations and supply chain optimization, finance, forecasting, digital marketing and modeling.

In addition to an internationalized set of core courses, the program includes elective course offerings on international management, international financial management, global e-business, global marketing strategy, international trade, politics for global management and global strategy.

The program features a two-term international business consulting project, a cross-cultural team-building retreat, a visiting international expert speaker series and participation in Marshall's annual Asia/Pacific Business Outlook Conference.

IBEAR MBA graduates join a network of well-placed alumni in more than 50 nations. For more information see the International MBA Program and the International Management Science (STEM) MBA Program pages and visit marshall.usc.edu/ibear.

Online MBA Program

The Online MBA (OMBA) program enables students to develop expertise in business administration, management and leadership through a rigorous course of study, most of which is delivered using flexible online technologies. The program content covers business fundamentals including accounting, economics, finance, data sciences, marketing, management, operations and entrepreneurship; communication and analytics training

are interwoven with the entire program. The program takes advantage of distinctive educational opportunities offered by online technologies, both in terms of teaching methods and content and helps students to increase their effectiveness as business leaders, corporate managers and entrepreneurs.

The program is structured so that it can be completed in as little as 21 months. Students can work through much of the material on a flexible schedule customized to their own needs, making the program especially convenient to students who are currently employed and wish to remain at their jobs while enrolled. Content is delivered by faculty members with strong backgrounds in practice and research from different disciplines teaching in a team format to integrate understanding of business fundamentals, internal and external operations, business environments and leadership. For more information see the Online MBA Program and marshall.usc.edu/online-mba.

Executive MBA Program

The Executive MBA program provides those with significant work experience, particularly mid- to senior-level professionals who have high potential as business and industry leaders, a chance to complete an MBA on Fridays and Saturdays over a two-year period without interrupting their careers. The program is offered on the University Park Campus in downtown Los Angeles.

This program uses a non-traditional, interdisciplinary approach to executive and management education through "themes" that integrate various functional areas and address classic, yet dynamic business issues.

Through the integrated curriculum, participants develop a complete understanding of decision-making, a focus on the future and the international context of business as well as strong interpersonal, leadership and analytical skills. More specifically, participants achieve advanced skills in corporate and international finance, marketing, environmental and strategic analysis, information technology, organizational leadership, managerial communication and corporate relations. Core faculty include the school's most senior, experienced members as well as nationally renowned academic and business specialists. The program includes three residential off-site experiences — two domestic and one international. For more information see the Executive MBA Program and marshall.usc.edu/EMBA.

Dual MBA Degree Programs

Dual degree programs offer graduate students the opportunity to complete concurrently the requirements for two separate degrees with modified degree requirements.

Admission criteria for applicants to dual degree programs co-sponsored by the Marshall School of Business are the same as Master of Business Administration program admission criteria.

Dual degree programs may be completed in conjunction with the Marshall MBA, MBA.PM or IBEAR MBA programs. Students interested in completing a dual degree program should apply to the specific MBA program suited to the individual's needs.

The Marshall School offers the MBA in conjunction with a number of other programs at USC:

- Master of Business Administration/Master of Arts in East Asian Area Studies (MBA/MA)
- Master of Business Administration/Master of Science in Gerontology (MBA/MS)
- Master of Business Administration/Master of Science in Industrial and Systems Engineering (MBA/MS)
- Master of Business Administration/Master of Arts in Jewish Nonprofit Management (MBA/MA)
- Juris Doctor/Master of Business Administration (JD/MBA)
- Master of Business Administration/Doctor of Medicine (MBA/MD)
- Master of Business Administration/Doctor of Pharmacy (MBA/PharmD)
- Master of Business Administration/Master of Real Estate Development (MBA/MRED)
- Master of Business Administration/Master of Social Work (MBA/MSW)
- Master of Business Administration/Master of Science, Systems Architecting and Engineering (MBA/MS)
- Master of Business Administration/Master of Urban Planning (MBA/MUP)

Specialized Master's Degrees

Master of Accounting and Master of Accounting (Data and Analytics)

The Master of Accounting (MAcc) program provides an integrated curriculum designed to prepare graduates for careers in professional accounting, public accounting, industry and government. For more information, visit Accounting (MAcc).

The Master of Accounting program with an emphasis in data and analytics combines course work from the Leventhal School of Accounting and Marshall's Data Sciences and Operations department. The data and analytics emphasis of the MAcc is designed to train auditors for the data age. For more information visit Accounting (Data and Analytics) (MAcc).

Master of Science in Business Analytics

The Master of Science in Business Analytics is designed for managers who want to develop their analytical skills and recent college graduates with strong analytical skills who are interested in pursuing a career in business analytics. The program provides students with tools, ideas and frameworks that will aid them in making business decisions in a scientific manner, based on actual data, to improve the performance of their organization. For more information see Business Analytics (MS) and visit marshall.usc.edu/MSAnalytics.

Master of Business Taxation and Master of Business Taxation (Data and Analytics)

The Master of Business Taxation (MBT) program is designed for accountants, attorneys and business professionals who wish to learn or improve skills and knowledge through participation in advanced tax study. For more information see Business Taxation (MBT) and Business Taxation for Working Professionals (MBT).

The Master of Business Taxation with an emphasis in data and analytics (MBT D&A) delivers a firm foundation in taxation with a focus on data and analytics and the enabling of IT capabilities. For more information see Business Taxation (Data and Analytics) (MBT).

Master of Science in Entrepreneurship and Innovation (MS)

The Master of Science in Entrepreneurship and Innovation is designed to develop the entrepreneurial knowledge, skill sets, and decision-making frameworks required to recognize and evaluate business opportunities and to create and guide a new entrepreneurial entity either individually or within a larger organization. The program is intended for students seeking to pursue careers in entrepreneurship, corporate venturing and innovation, or technology commercialization. The degree can be completed on either a full-time basis in one year or on a part-time basis over two years, and classes are offered primarily at night to accommodate the needs of working professionals. For more information see Entrepreneurship and Innovation (MS) and visit marshall.usc.edu/msei.

Master of Science in Finance (MS)

The Master of Science in Finance is designed to provide individuals with the necessary skills and knowledge to become experts in finance and thus advance their careers in business. The program is exceptionally well suited to individuals completing a bachelor's degree who are seeking an opportunity to continue their studies at USC for one year and earn a master's degree in finance before entering the work force. It is also well suited to those who have earned or soon will earn a master's degree and wish to earn a second master's degree. For more information see Finance (MS) and visit marshall.usc.edu/msf.

Master of Science in Food Industry Leadership (MS)

The Master of Science in Food Industry Leadership provides tools, concepts, frameworks and practical hands-on projects in areas such as new/current technologies, strategic planning and managing change as a senior leader. This unique curriculum integrates the functional areas of business with cutting-edge theory and practical application to help students understand how all of the pieces of an entire organization fit together and work dynamically to support the success of local and global businesses. For more information see Food Industry Leadership (MS) and visit marshall.usc.edu/fil.

Master of Science in Global Supply Chain Management (MS) for Executives (Online)

The Marshall School of Business offers individuals across the U.S. and around the world an opportunity to expand their knowledge of management of the ever-changing world of global supply chains. The program provides managers with tools, ideas and frameworks that will aid them in improving the performance of the global supply chains that they manage. Courses are broadcast via distance learning technologies so that, with the exception of two international travel experiences, the degree can be completed through the Internet. Additional in-person instructional activities are provided at partner institutions. Two international travel experiences to global distribution hubs are included in the program. In-person midterms and final exams may be required for some courses, in which case they will be administered in cities near student population concentrations. For more information see Global Supply Chain Management for Executives (MS) (Online) and visit marshall.usc.edu/MSGSCM.

Master of Science in Global Supply Chain Management (MS) (On-Campus)

The Marshall School of Business, jointly with the Viterbi School of Engineering, offers individuals an opportunity to expand their knowledge of the management of global supply chains. The program focuses on teaching the necessary knowledge and skills in areas like inventory management; sustainable supply chains; strategic procurement; outsourcing; logistics and distribution; information technology and its role in managing global supply chains; and supply chain optimization. This 27-unit on-campus program can be completed on a full-time basis in one calendar year. For more information see Global Supply Chain Management (OnCampus/Residential) (MS) and visit marshall.usc.edu/MSGSCM.

Master of Management in Library and Information Science (MMLIS)

The Master of Management in Library and Information Science program is designed to educate professional librarians for leadership from every level of the organization in academic, urban and corporate environments. Graduates will identify and analyze critical issues and leverage resources and expertise to build community assets. The program is taught entirely online. For more information see Library and Information Science (MMLIS) and visit librarysciencedegree.usc.edu.

Master of Arts in Long Term Care Administration

This program is designed to prepare competent individuals to administer the long term needs of America's elderly population. It is jointly offered by the USC Leonard Davis School of Gerontology, the Marshall School of Business, and the USC Price School of Public Policy. For more information, see the USC Leonard Davis School of Gerontology.

Master of Science in Marketing (MS) and Master of Science in Marketing (Marketing Analytics) (MS)

The Master of Science in Marketing is designed to develop an in-depth knowledge of relevant and innovative marketing skills and techniques for prospective students interested in pursuing a career in marketing or enhancing their existing marketing career. The degree can be completed on full-time basis in one calendar year or part-time. Classes are available during both daytime and evening hours. For more information see Marketing (MS) and visit marshall.usc.edu/MSMKT.

The Master of Science in Marketing (Marketing Analytics) provides students with tools, concepts, frameworks and critical thinking and innovative skills needed to position themselves as leaders in quantitative marketing methods, gaining exposure to in-demand programming languages such as R and Python for marketers, as well as strategies and techniques for predictive modeling, consumer analysis, customer segmentation and micro-targeting. For more information see Marketing (Marketing Analytics) (MS) and visit marshall.usc.edu/MSMKT.

Master of Science in Social Entrepreneurship (MS)

The Master of Science in Social Entrepreneurship gives students the opportunity to learn business and entrepreneurship skills within a framework of combining both financial and social missions. The program can be completed in one year (full-time students) or two or more years (part-time students). Courses are offered on the University Park Campus in downtown Los Angeles in the evenings and on weekends. For more information see Social Entrepreneurship (MS) and visit marshall.usc.edu/MSSE.

Master of Science in Social Entrepreneurship/Master of Public Health (MSSE/MPH) Dual Degree Program

The Marshall School of Business and the Keck School of Medicine leverage resources and expertise with this program designed for students who want to gain the skills to make sustainable change in the field of public health. By combining fundamental business and entrepreneurship skills with the expertise gained through the Master of Public Health, graduates will be uniquely equipped to address global health challenges. For more information see Master of Science, Social Entrepreneurship/Master of Public Health (MS/MPH).

Master of Business for Veterans (MBV)

This program is designed for veterans who wish to gain formal business knowledge and develop critical thinking skills to manage or grow a business. Significant project and course work is completed during the two-semester program. Class sessions meet over 16 full-day sessions each semester, offered on the University Park Campus in downtown Los Angeles. For more information see Business for Veterans (MBV) and visit marshall.usc.edu/MBV.

Master of Management Studies (MMS)

The Master of Management Studies is designed to provide students who have completed graduate business course work equivalent to the first year of a traditional two-year MBA program with an opportunity to pursue further studies at the USC Marshall School of Business. The program is especially valuable for those who have completed the first year of a traditional MBA at another institution and those who completed one-year MBA programs and wish to enhance their knowledge in specialized areas of business. The degree can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. For more information see Management Studies (MMS) and visit marshall.usc.edu/MMS.

Master of Science in Business Administration (MS)

The Master of Science in Business Administration is designed to provide students with an opportunity to pursue an area of specialization subsequent to successfully completing the Master of Business Administration (MBA). The program is especially valuable for those who wish to enhance their knowledge base in a specialized area of business. In cooperation with a faculty

member, the student in this program designs a course of study to meet his or her individual needs. The degree can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. For more information see Business Administration (MS) and visit marshall.usc.edu/ms-busad.

Master of Science in Business Research (MS)

The Master of Science in Business Research is designed to provide an alternative for Marshall PhD students. Marshall does not accept applications for admission to this program. See Business Research (MS).

Graduate Certificate Programs

Graduate Certificate in Business Analytics

The Graduate Certificate in Business Analytics is designed for individuals who want to develop the analytical skills needed to work with today's complex data sets in the support of business decision-making. The certificate can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. For more information see Business Analytics Graduate Certificate and visit marshall.usc.edu/GCRTAnalytics.

Graduate Certificate in Financial Analysis and Valuation

The Graduate Certificate in Financial Analysis and Valuation is designed to offer students the intensive instruction and training needed to successfully compete in rapidly developing global financial markets. Course work in the fundamental theories and practice of financial accounting, financial analysis, valuation, credit analysis, and financial instruments and markets expands analytical capacities to better understand and develop strategic financial decisions. For more information see Financial Analysis and Valuation Graduate Certificate and visit marshall.usc.edu/FAV.

Graduate Certificate in Library and Information Management

The online Graduate Certificate in Library and Information Management is uniquely designed to serve both those who are looking to explore library and information management without committing to an entire degree and those who currently hold the equivalent MLIS degree looking to specialize in a specific aspect of the field. For more information see Library and Information Management Graduate Certificate.

Graduate Certificate in Management Studies

The Graduate Certificate in Management Studies is designed to provide students who have completed graduate business course work equivalent to the first year of a traditional two-year MBA program with an opportunity to pursue further studies at the USC Marshall School of Business. The program is especially valuable for those who have completed the first year of a traditional MBA at another institution and those who completed a one-year MBA program and wish to enhance their knowledge in specialized areas of business. The certificate can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. For more information see Management Studies Graduate Certificate and visit marshall.usc.edu/gcms.

Graduate Certificate in Marketing

The Graduate Certificate in Marketing is designed for individuals who want to develop the analytical and technical skills needed to work with today's complex marketing issues in the support of effective business decision-making. The certificate can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. For more information see Marketing Graduate Certificate and visit marshall.usc.edu/GCRTMarketing.

Graduate Certificate in Optimization and Supply Chain Management

The Optimization and Supply Chain Management Program is offered by the Marshall School of Business in partnership with the Viterbi School of Engineering. The program offers individuals opportunities to expand their knowledge of the rapidly expanding uses of technology in the management of global supply chains. The certificate may be completed on either a full- or part-time basis. Most classes applicable to the program are offered during both daytime and evening hours. Many of the ISE courses included in the curricula are available online. For more information see Optimization and Supply Chain Management Graduate Certificate and visit marshall.usc.edu/oscm.

Graduate Certificate in Strategy and Management Consulting

The Graduate Certificate in Strategy and Management consulting is designed for individuals who want to develop the analytical skills needed to consult on complex strategic and organizational issues in support of effective business renewal. The certificate can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. For more information see Strategy and Management Consulting Graduate Certificate and visit marshall.usc.edu/GCRTSMC.

Graduate Certificate in Sustainability and Business

The Graduate Certificate in Sustainability and Business is designed to offer individuals the instruction and training they need to help shape solutions to social and environmental sustainability challenges, both from within and from outside the business sector. Course work includes sustainability strategies and practices, business law and ethics, and sourcing management. The program is suited to students coming from a broad range of backgrounds. Applicants do not need to be matriculated USC students to undertake the program. Anyone who holds a four-year bachelor's degree is welcome to apply. For more information see Sustainability and Business Graduate Certificate and visit marshall.usc.edu/SUSB.

Graduate Certificate in Technology Commercialization

The Graduate Certificate in Technology Commercialization, offered through the Lloyd Greif Center for Entrepreneurial Studies, provides technology commercialization skills in an academic/real world environment that combines theory and practice. Through a living laboratory academic program, students experience the entire spectrum of the commercialization process: invention, product development, technical and market feasibility analysis, intellectual property acquisition, business development and venture funding. Working with USC scientists and engineers, students have the potential to become stakeholders in a new technology venture. They are also eligible to apply for summer internships sponsored by industry partners to give them additional experience in taking a new technology to market. The program is particularly well suited to those in science, engineering and business. For more information see Technology Commercialization Graduate Certificate and visit marshall.usc.edu/tccm.

Marshall Master's Programs Academic Policies

Academic Policies — Master's Programs

Waivers

Subject waiver of required courses may be granted to students based on prior academic work subject to university policy limitations, program structure, and in some cases by examination.

In most cases waived courses must be replaced with electives of equal unit value.

Further information regarding the waiver policy in the Marshall School of Business may be obtained from the program adviser for the applicable degree program following admission.

Change of Degree Program

Students who are currently enrolled in one degree program who wish to change their degree status to another program must formally apply for admission to that program through USC Admissions. Details concerning individual student requirements in other degree programs may be obtained by contacting the applicable program office.

Continuous Enrollment/Leave of Absence/ Withdrawal/Reinstatement

Once admitted to a graduate degree program, the student must enroll at USC each fall and spring semester each year until she or he has satisfactorily completed all degree requirements. MBA.PM students must enroll at USC each fall, spring and summer term until they have satisfactorily completed all degree requirements.

If for military, medical, religious or job-related reasons a student must skip a semester, the student must petition for a leave of absence. The petition should be submitted to the student's program adviser no later than the first day of class for the semester of the leave.

If granted, the period of leave is not counted in the time allowed for the completion of degree requirements, and the student is allowed to complete the degree requirements in effect when he or she was originally admitted.

Once a leave is approved, it is the student's responsibility to withdraw from any classes for which the student has already enrolled. An approved leave may not exceed one academic year. If one academic year is insufficient, the student may petition for up to two more semesters (a second year) of leave. A student whose leave exceeds two academic years or who fails to maintain continuous enrollment without obtaining an approved leave must, when ready to return to school, apply for readmission to the program. Contact the program adviser for the applicable program.

Students who must completely withdraw from a program must notify their program office of their withdrawal from the program. Students should contact their program office for more information or assistance.

Marshall School of Business Second Master's Degree Policy

A "second master's degree" is any master's degree pursued after a first master's degree is earned at USC. The maximum number of units that may be applied from a master's degree previously completed at USC toward a subsequent Marshall master's degree is 3 units. This policy also applies when two master's degrees are being completed simultaneously. No more than 3 business-related units can be applied from the other master's degree. (This Marshall unit maximum supersedes any USC unit calculations related to second master's degrees.) Second master's degrees are not allowed in the same program of study for students who earned their first master's degree at USC.

For students who earned their first master's degree at another institution, no course work may be repeated from the first program of study and no unit credit from the first program of study may be counted toward the second master's degree. No individual exceptions are allowed.

Course Work at Another Institution

Once matriculated into a Marshall School of Business program, a student must receive prior permission by petition from the appropriate Marshall program office to take course work (a maximum of 6 units) at another institution. Only course work from an AACSB accredited business school can be accepted. A grade of B or better must be earned. Permission is granted only in exceptional circumstances.

Limited Status

The Marshall School of Business does not allow students to take graduate (500-level) electives on any conditional or special status basis prior to application and an official admission decision except under the following condition: students completing a Master of Business Administration program at another accredited university outside of the Los Angeles area may take up to 12 units in the Marshall School of Business to complete their degrees, provided that a letter from the associate dean or program director at the student's university verifies that the student is in good academic standing and identifies the courses that will be accepted for credit by the university granting the degree.

Marshall master's degree alumni are welcome to return as Limited Status students subject to satisfaction of prerequisites and space available.

Auditing

Auditing of Marshall graduate courses (ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT, MOR courses numbered 500 and above) is not allowed.

Grade Point Average Requirements

Master's students must maintain a grade point average of 3.0 (A = 4.0) or better to stay in good academic standing. Students who are not in good academic standing are subject to dismissal.

Grades

Grades below C (2.0) in all master's degree courses are not acceptable. If a lower grade is earned in a required course, the course must be repeated at USC and a grade of C or above must be earned. Degree credit will not be given for courses with grades of C- and below, but the grades are computed into the grade point average. Such courses should be repeated in the next semester in which the course in question is offered and must be repeated within one calendar year. Satisfactory completion of all required courses must occur prior to or concurrently with the beginning of advanced course work.

Academic Warning

Master's students who, in a term, do not earn or maintain a 3.0 (A = 4.0) grade point average are placed on academic probation. Continued enrollment in the program requires the permission of the academic director of the program. Students who fail to achieve a 3.0 upon completion of the required number of units for any degree may, with the prior endorsement from the academic director of the program and approval by the Marshall Vice Dean for Graduate Programs, be allowed to take a maximum of 12 additional units at USC to obtain the required GPA. Petitions to take additional units should be submitted to the student's program adviser well in advance of the term in which additional units will be attempted.

Dismissal

A student may be dismissed from a master's program whenever, in the judgment of the program's academic director; it is unlikely that the student will successfully complete his or her program.

Department of Business Communication

The Department of Business Communication offers core and elective classes in a variety of topics relating to interpersonal, internal and external communication in organizations, business writing and oral communication and presentations, group and team communication processes, persuasion, networking and leadership. Courses also focus on critical thinking and decision-making processes, cross-cultural business communication, media-mediated communication, and ethics.

The importance of effective communication to the success of individuals and organizations and their stakeholders has increased exponentially in the age of globalization and the Internet. New media technologies are changing communication at the workplace and influencing how business is conducted. Understanding communication theory, concepts, practice and skills will help students advance themselves and their organizations regardless of their positions or industries. The ability to communicate strategically in times of calm or crisis is essential for career success.

Undergraduate Minor

- Dynamics in Workplace Communication Minor

Undergraduate Major

- Business Administration (Communication) (BS)

Department of Business Communication
Marshall School of Business
Accounting 400
(213) 740-0627
FAX: (213) 740-9428
Email: BUCO@marshall.usc.edu
marshall.usc.edu/faculty/buco
Chair: Kirk Snyder, EdD

Faculty

Professors of Clinical Business Communication: Jolanta Aritz, PhD; Stephen Byars, PhD; Pete Cardon, PhD*; Ellen-Linnea Dipprey, MPW*; Jerry Giaquinta, PhD, JD; Lucy Lee, PhD*; Sharoni Little, PhD*; Greg Patton, PhD*; Marion Philadelphia, EdD*; Kirk Snyder, EdD*
Associate Professors of Clinical Business Communication: Lee Cerling, PhD; Stacy Geck, MA*; Stephen J. Lind, PhD; James Owens, EdD; Naomi Warren, PhD*
Assistant Professors of Clinical Business Communication: Lindsey Bier, PhD; Yijia (Veronica) Guo, PhD; Andrew Ogilvie, PhD
Senior Lecturers: Clark C. Hansen, MA; Janna Wong-Healy, MPW
Lecturer: Maria Colman, MBA
Emeritus Professors: J. Douglas Andrews, PhD; Sandra Chrystal, PhD*; Paul Frommer, PhD; James Gosline, MPW
**Recipient of university-wide or school teaching award.*

Department of Data Sciences and Operations

The Data Sciences and Operations (DSO) department equips students with the skills to excel in today's firms operating in the age of digital products, data-driven decision making, sustainability, platforms, and supply chain ecosystems.

The department offers courses that stem from three different disciplines - information systems, operations management and statistics.

- The information systems group offers courses, many with field-based projects, that expose students to emerging technologies, digital transformation, and digital business models, highlighting new ways to transform data into value for the firm and consumer.
- Operations management coursework, including hands-on projects with industrial partners, shows students how to design businesses that are flexible enough to capitalize on data-driven insights and robust enough to survive the unexpected.
- Statistics courses teach students to transform "big data" from e-commerce and smart devices into usable insights, competitive analyses, and forecasts.

Across all courses, the emphasis is not only on rigorous core knowledge, but on developing practical, real-world skills (e.g., by learning project management, statistical software such as R, or coding languages such as Python).

Career opportunities include both traditional roles in analytics, data science, consulting, product development, and supply-chain management as well as a variety of emerging roles leveraging new technologies such as artificial intelligence (AI), machine learning (ML), blockchain, the internet of things (IoT), and new economic business models including cryptocurrency, API economy, data monetization, and mesh economic structures.

Undergraduate Minors

- Business Technology Fusion Minor
- Operations and Supply Chain Management Minor

Undergraduate Major

- Business Administration (Business Analytics) (BS)

Graduate Programs

Master of Science in Business Analytics (MSBA)

The Master of Science in Business Analytics (MS) is designed to empower managers and recent college graduates with necessary skills (computing, modeling and strategy) to leverage big data for making effective business decisions, and improving organizational performance.

Master of Science in Global Supply Chain Management (MSGSCM)

The Master of Science in Global Supply Chain Management focuses on a world-class academic foundation in Supply Chain Management with real-world applications in the form of live projects for leading companies as well as international and domestic site visits. We uniquely prepare our students for an increasingly global, complex and ever-evolving world.

- Global Supply Chain Management (OnCampus/Residential) (MS)
- Global Supply Chain Management for Executives (MS) (Online)

Graduate Certificates

- Business Analytics Graduate Certificate (GCRT-BUAN)
- Optimization and Supply Chain Management Graduate Certificate (GCRT-OSCM)

Data Sciences and Operations
Marshall School of Business
Bridge Hall 308
(213) 740-0172
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Chair: Greys Sosic, PhD

Faculty

Centennial Chair in Business Administration: Yingying Fan, PhD
E. Morgan Stanley Chair in Business Administration: Gareth James, PhD
Kenneth King Stonier Chair in Business Administration: Jinchi Lv, PhD

USC Associates Chair in Business Administration: Ann Majchrzak, PhD
Justin Dart Professor in Operations Management: Paat Rusmevichientong, PhD
Kenneth King Stonier Professor of Business Administration: Omar El Sawy, PhD
Dean's Associate Professor in Business Administration: Jacob Bien, PhD
Dean's Associate Professor in Business Administration: Hamid Nazerzadeh, PhD
Robert R. Dockson Assistant Professor of Business Administration: Kimon Drakopoulos, PhD
Professors: Yingying Fan, PhD; Gareth James, PhD*; Jinchi Lv, PhD; Ann Majchrzak, PhD; S. Rajagopalan, PhD*; Ramandeep Randhawa, PhD; Paat Rusmevichientong, PhD; Greys Sosic, PhD; Leon Zhu, PhD
Associate Professors: Jacob Bien, PhD; Sriram Dasu, PhD*; Vishal Gupta, PhD; Adel Javanmard, PhD; Alireza Kabirian, PhD; Hamid Nazerzadeh, PhD; Tianshu Sun, PhD; Wenguang Sun, PhD
Assistant Professors: Mohammed Alyakoob, PhD; Andrew Daw, PhD; Kimon Drakopoulos, PhD; Paromita Dubey, PhD; Milan Miric, PhD; Gourab Mukherjee, PhD; Matteo Sesia, PhD; Peng Shi, PhD; Somya Singhvi, PhD; Mika Sumida, PhD; Xin Tong, PhD; Angela Zhou, PhD
Professors of Clinical Data Sciences and Operations: Arif Ansari, PhD*; Murat Bayiz, PhD*; Dawn Porter, PhD; Douglas Shook, PhD*
Associate Professors of Clinical Data Sciences and Operations: Hiroshi Ochiumi, PhD; Francis Pereira, PhD; Philip Rogers, PhD; Abbass Sharif, PhD; Ashok Srinivasan, PhD; Nick Vyas, EdD
Assistant Professors of Clinical Data Sciences and Operations: Feng Chen, PhD; Robertas Gabrys, PhD; Lorena Martin, PhD; Inga Maslova, PhD
Emeritus Professors: Yehuda Bassok, PhD*; Richard B. Chase, PhD; Delores Conway, PhD*; Richard McBride, PhD; Bert M. Steece, PhD*; Jonathan S. Yormark, PhD
**Recipient of university-wide or school teaching award.*

Lloyd Greif Center for Entrepreneurial Studies

The Greif Center offers a wide range of courses in entrepreneurship designed for students who want to start or own a high-growth business, join an emerging business or participate in an entrepreneurial venture in an established corporation (intrapreneurship). Students can develop an entrepreneurial mindset, learn about the entrepreneurial process and enhance their conceptual and practical skills to pursue new business opportunities. Wide exposure is given to all types of entrepreneurs and industries. The highly experiential courses span the entrepreneurial process from opportunity discovery to venture initiation, growth and exit, and are designed to teach relevant frameworks and theory as well as to develop an entrepreneurial mindset and skills through hands-on application. The Greif Center also offers co-curricular programs such as venture competitions, speaker events, and a new venture incubator, and it maintains an active alumni network.

Programs

Greif Center Undergraduate Minors:
- Entrepreneurship Minor
- Social Entrepreneurship Minor

Interdisciplinary Minors:
- Game Entrepreneurism Minor (with the School of Cinematic Arts)
- Innovation: The Digital Entrepreneur Minor (with the Viterbi School of Engineering)
- Media Economics and Entrepreneurship Minor (with the Annenberg School for Communication and Journalism)
- Performance Science Minor (with the Dornsife College of Letters, Arts and Sciences)
- Technology Commercialization Minor (with the Viterbi School of Engineering)

Undergraduate Major:
- Business Administration (Entrepreneurship and Innovation) (BS)

Master's Degrees:
- Entrepreneurship and Innovation (MS)
- Social Entrepreneurship (MS)

Dual Degree Program:
- Master of Science, Social Entrepreneurship/Master of Public Health (MS/MPH)

Graduate Certificate:
- Technology Commercialization Graduate Certificate

Lloyd Greif Center for Entrepreneurial Studies
Marshall School of Business
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marshall.usc.edu/greif
Director: Elissa Grossman, PhD
Managing Director: Monica Dean, MBA
Research Director: Violina Rindova, PhD

Faculty

Orfalea Director's Chair in Entrepreneurship: Elissa Grossman, PhD
David C. Bohnett Chair in Social Entrepreneurship: Adlai Wertman, MBA
Captain Henry W. Simonsen Chair in Strategic Entrepreneurship: Violina Rindova, PhD
Professors of Clinical Entrepreneurship: Elissa Grossman, PhD*; Jill R. Kickul, PhD; Rohit (Dan) Wadhwani, PhD; Adlai Wertman, MBA
Associate Professors of Clinical Entrepreneurship: Susan Harmeling, PhD; Thomas Knapp, MBA*; Steven Mednick, JD, MPA*
Assistant Professor of Clinical Entrepreneurship: Anthony Borquez, EdD
Senior Lecturer in Entrepreneurship: Albert Napoli, MBA
Lecturer in Entrepreneurship: Glenn Fox, PhD
Emeritus Professors: Kathleen R. Allen, PhD*; Patrick Henry, MBA*; Gene Miller, JD, MBA
**Recipient of university-wide or school teaching award.*

Department of Finance and Business Economics

The department of Finance and Business Economics (FBE) offers classes in the fields of finance, business economics, business law and real estate. Subjects include microeconomics, macroeconomics, economic forecasting, corporate finance, investments and valuation, financial institutions and markets, risk management, and real estate finance, among others. These subjects are important for business planning and consulting, evaluation of capital investments and corporate strategies, and securities investment analysis, advising and trading.

Programs

Undergraduate Programs
Minors
- Business Economics Minor
- Business Finance Minor
- Business Law Minor
- Real Estate Finance Minor

Majors
- Business Administration (Finance) (BS)
- Business Administration (Real Estate Finance) (BS)

Graduate Programs
- Finance (MS)
- Financial Analysis and Valuation Graduate Certificate

Finance and Business Economics Department
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Chair: Kevin J. Murphy, PhD
Associate Chair: Tyrone Callahan, PhD

Faculty
Fred V. Keenan Chair in Finance: Lawrence E. Harris, PhD
Kenneth L. Trefftzs Chair in Finance: Kevin J. Murphy, PhD
Charles F. Sexton Chair in American Enterprise: John G. Matsusaka, PhD
James McN. Stancill Chair in Business Administration: Vincenzo Quadrini, PhD
Charles E. Cook Community Bank Chair of Finance: Gerard Hoberg, PhD
Jorge Paulo and Susanna Lemann Chair in Entrepreneurship: Arthur Korteweg, PhD
Professors: Patricia Dechow, PhD *(Accounting)*; Richard Green, PhD *(Price School)*; Lawrence Harris, PhD; David A. Hirshleifer, PhD; Gerard Hoberg, PhD; Ayse Imrohoroglu, PhD; Selahattin Imrohoroglu, PhD; Anthony M. Marino, PhD; John G. Matsusaka, PhD; Kevin J. Murphy, PhD; Christopher Parsons, PhD; Vincenzo Quadrini, PhD; Rodney Ramcharan, PhD; Romain Ranciere, PhD *(Economics)*; Lukas Schmid, PhD; Neeraj Sood, PhD *(Price School)*
Associate Professors: Kenneth Ahern, PhD; Odilon Camara, PhD*; Tom Chang, PhD; Cary Frydman, PhD; Christopher Jones, PhD; Scott Joslin, PhD; Arthur Korteweg, PhD*; Selale Tuzel, PhD
Assistant Professors: Neha Bairoliya, PhD; Diego Daruich, PhD; Ricardo De la O, PhD; Marco Giacoletti, PhD; Erica Jiang, PhD; Chad Kendall, PhD; Mete Kilic, PhD; Yaron Levi, PhD; Wenhao Li, PhD; Alejandro Martínez-Marquina, PhD; Ekaterina Neretina, PhD; Emily Nix, PhD; Andrii Parkhomenko, PhD; Joao Ramos, PhD; Sandra Rozo, PhD; Miao (Ben) Zhang, PhD
Professors of Clinical Finance and Business Economics: Tyrone Callahan, PhD; Baizhu Chen, PhD; C. Kerry Fields, JD*; Suh-Pyng Ku, PhD; Lloyd Levitin, JD; Julia Plotts, MBA*
Associate Professors of Clinical Finance and Business Economics: Rahsan Akbulut, PhD*; Ayca Altintig, PhD; Duke Bristow, PhD*; Kevin C. Fields, JD*; Fatemeh Ibrahimi-Nazarian, PhD*; Mick Swartz, PhD
Assistant Professors of Clinical Finance and Business Economics: Scott Abrams, MBA; Erin Kaplan, PhD; Shane Shepherd, PhD
Senior Lecturer: Mohammad Safarzadeh, PhD
Adjunct Professor: Steve Moyer, JD
Emeritus Professors: Guilford C. Babcock, PhD; Robert Bridges, MRED; Tim Campbell, PhD; Henry R. Cheeseman, JD; Harry DeAngelo, PhD*; Linda De Angelo, PhD*; Dennis W. Draper, PhD; Richard Eastin, PhD; Wayne Ferson, PhD; Douglas H. Joines, PhD; Aris Protopapadakis, PhD; Alan C. Shapiro, PhD; Mark Weinstein, PhD; Randolph W. Westerfield, PhD
**Recipient of university-wide or school teaching award.*

Department of Library and Information Science

Offered through the USC Marshall School of Business in partnership with USC Libraries, the Master of Management in Library and Information Science (MMLIS) uniquely combines strength in LIS-based course work with management, communication and business fundamentals.

Aligned with the 14 major competencies laid out by the American Library Association, the MMLIS program provides a robust leadership, management, and library and information sciences focus for students. Each course is taught through real-world, experience-based learning and teamwork, with faculty support and guidance. This approach encourages critical and creative thinking and the development of the skills necessary for high-level careers in the library and information science fields.

MMLIS program faculty include Marshall School of Business faculty, USC Libraries faculty, faculty from other USC schools, and accomplished practitioners from the field. The program is offered entirely online and can be completed in as few as 20 months.

For in-career professionals already holding a master's in library science, the Graduate Certificate in Library and Information Management online program is offered to help develop advanced leadership and management skills.
- Library and Information Science (MMLIS)
- Library and Information Management Graduate Certificate

Library and Information Science
Doheny Memorial Library 314
(213) 821-1641
librarysciencedegree.usc.edu/
Director: Christopher Stewart, EdD

Department of Management and Organization

The department of Management and Organization (MOR) offers courses in human resources, negotiations, organizational behavior, organization theory and management strategy. The management function is concerned with setting corporate strategy to gain competitive advantage in a dynamic, global environment; designing the organization to implement the strategy; and leading organizational members to achieve strategic objectives. In carrying out their responsibilities, managers must balance the demands of the competitive environment with the resources and capabilities inside the organization. The department's classes help students learn how to be effective managers by developing skills in team building, decision-making, strategy formulation, organizational design, motivating employees and human resource development.

Management and Organization Department
Marshall School of Business
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Chair: Kyle J. Mayer, PhD

Faculty
Joseph A. DeBell Chair in Business Administration: Nandini Rajagopalan, PhD*
Jill and Frank Fertitta Chair in Business Administration: Peer C. Fiss, PhD
McAlister Associate Professor in Business Administration: Cheryl J. Wakslak, PhD
Harold Quinton Chair of Business Policy: Paul Adler, PhD
Captain Henry W. Simonsen Chair in Strategic Entrepreneurship: Violina Rindova, PhD
Provost Professor of Education and Business: Shaun R. Harper, PhD
Kenneth King Stonier Assistant Professor of Business Administration: Sarah S.M. Townsend, PhD
Dean's Associate Professor in Business Administration: Qingyuan Lori Yue, PhD
Distinguished Research Professor of Business: Edward E. Lawler III, PhD
Professors: Paul Adler, PhD*; Peter J. Carnevale, PhD; Thomas G. Cummings, PhD; Peer C. Fiss, PhD*; Shaun R. Harper, PhD; Peter H. Kim, PhD; Edward E. Lawler III, PhD; Kyle J. Mayer, PhD*; Nandini Rajagopalan, PhD*; Violina Rindova, PhD
Associate Professors: Arvind Bhambri, DBA; Nathanael J. Fast, PhD; Shon R. Hiatt, PhD*; Nan Jia, PhD; Leigh P. Tost, PhD; Sarah S. M. Townsend, PhD; Cheryl J. Wakslak, PhD; Scott S. Wiltermuth, PhD; Qingyuan Lori Yue, PhD
Assistant Professors: Eric M. Anicich, PhD; John Eklund, PhD, DPhil; Daniel Fehder, PhD; Erin Frey, PhD; Hyo Kang, PhD; Joseph Raffiee, PhD; Florenta Teodoridis, PhD
Professors of Clinical Management and Organization: Katharine Harrington, PhD; Rebecca (Becky) Heino, PhD; Thomas H. Olson, PhD*; Carl W. Voigt, PhD*
Associate Professors of Clinical Management and Organization: Michael Coombs, PhD*; Christine El Haddad, PhD*; S. Amy Sommer, PhD; Christopher Stewart, PhD
Assistant Professors of Clinical Management and Organization: Christopher G. Bresnahan, PhD*; Jody Tolan, EdD
Lecturers: Courtney M. Brunious, JD, MBA; Michael Mische, MBA*
Emeritus Professors: Philip H. Birnbaum-More, PhD; Judith Blumenthal, PhD; John W. Boudreau, PhD; Julia Liebeskind, PhD; Morgan W. McCall, Jr., PhD; Kathleen Reardon, PhD; Robert B. Turrill, PhD
Research Professor Emeritus: James O'Toole, PhD
**Recipient of university-wide or school teaching award.*

Department of Marketing

Marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational objectives. Modern marketing stresses research and analysis to understand consumer behavior and to identify customer needs, new product research and development, competitive pricing, coordinated promotional or sales programs, and efficient logistics and distribution. Students interested in careers in marketing management, logistics management, retailing or wholesaling, sales program administration, advertising or marketing research will find courses in marketing valuable.

Marketing Department
Marshall School of Business
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FAX: (213) 740-7828
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marshall.usc.edu/marketing
Chair: Anthony Dukes, PhD

Faculty
Robert E. Brooker Chair of Marketing: Anthony Dukes, PhD
Jayne and Hans Hufschmid Chair in Strategic Public Relations and Business Communication: Robert Kozinets, PhD
Jerry and Nancy Neely Chair in American Enterprise: Gerard J. Tellis, PhD
Dave and Jeanne Tappan Chair in Marketing: Shantanu Dutta, PhD
Robert E. Brooker Professor of Marketing: C.W. Park, PhD
Joseph A. DeBell Endowed Professorship in Business Administration: Joseph Nunes, PhD
Ernest Hahn Professor of Marketing: Sha Yang, PhD
Charles L. and Ramona I. Hilliard Professor of Business Administration: Deborah MacInnis, PhD*
Kenneth King Stonier Assistant Professor of Business Administration: Davide Proserpio, PhD
Provost Professor of Psychology and Business: Wendy Wood, PhD
Provost Professor of Psychology and Marketing: Norbert Schwarz, PhD
Professors: Kristin Diehl, PhD*; Anthony Dukes, PhD*; Valerie S. Folkes, PhD; Gary L. Frazier, DBA*; Shantanu Dutta, PhD; Robert Kozinets, PhD; Deborah J. MacInnis, PhD*; Dina Mayzlin, PhD; Joseph C. Nunes, PhD; Norbert Schwarz, PhD; Gerard Tellis, PhD; Allen Weiss, PhD; Wendy Wood, PhD; Sha Yang, PhD*
Associate Professors: Lan Luo, PhD*; Joseph Priester, PhD*; Sivaramakrishnan Siddarth, PhD*; Gulden Ulkumen, PhD
Assistant Professors: Eva Buechel, PhD; Linda Hagen, PhD; Nikhil Malik, PhD; Alex Miller, PhD; Davide Proserpio, PhD; Dinesh Puranam, PhD; Stephanie Tully, PhD; Kalinda Ukanwa, PhD; Yanhao "Max" Wei, PhD
Professors of Clinical Marketing: Diane Badame, PhD*; Rex Kovacevich, MBA*
Associate Professors of Clinical Marketing: Miriam Burgos, MBA*; Dennis Schorr, PhD; Therese Wilbur, MBA*
Assistant Professors of Clinical Marketing: Lars Perner, PhD*; Arianna Uhalde, PhD

Emeritus Faculty
Emeritus Professors: James G. Ellis, MBA; Ben M. Enis, PhD; Dennis Rook, PhD
**Recipient of university-wide or school teaching award.*

Marshall Research Centers and Institutes

Institute for Communication Technology Management (CTM)
1149 South Hill Street, 9th Floor
Los Angeles, CA 90015
(213) 740-0980
FAX: (213) 821-2477
Email: ctm@marshall.usc.edu
marshall.usc.edu/CTM
Executive Director: Jerry Power, MSc

Center for Effective Organizations
USC Center
1149 South Hill Street, Suite 950
MC: ATT-950
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Director and Distinguished Professor of Business: Edward E. Lawler III, PhD
Senior Research Scientists: John W. Boudreau, PhD; Alec R. Levenson, PhD; Susan A. Mohrman, PhD; Christopher G. Worley, PhD
Affiliated Research Scientists: Jay A. Conger, PhD; Gerald E. Ledford Jr., PhD; Theresa M. Welbourne, PhD

Global Branding Center
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Director: C.W. Park, PhD

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marshall.usc.edu/entrepreneur
Director: Elissa Grossman, PhD
Executive Director: David Belasco, JD

Center for Global Innovation
HOH 614, Mail Code 0443
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Email: innovation@marshall.usc.edu
marshall.usc.edu/cgi
Director: Gerard Tellis, PhD
Associate Director: Steven Mednick, JD, MPA
Associate Academic Director: Lan Luo, PhD

Randall R. Kendrick Global Supply Chain Institute
1149 S. Hill Street, Suite 950
Los Angeles, CA 90015
(213) 821-4079
Email: Nick.Vyas@Marshall.usc.edu
marshall.usc.edu/cgscm
Executive Director: Nick Vyas, MBA

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marshall.usc.edu/cgscm
Executive Director: Nick Vyas, MBA

Initiative and Referendum Institute
USC Gould School of Law
(213) 740-9690
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Executive Director: John Matsusaka, PhD

Center for Investment Studies
Accounting 301A
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marshall.usc.edu/cis
Director: Suh-Pyng Ku, PhD

Jerry and Nancy Neely Center for Ethical Leadership and Decision Making
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Email: NeelyCenter@marshall.usc.edu
Director: James O'Toole, DPhil

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Ralph and Goldy Lewis Hall 331B
650 Childs Way
Los Angeles, CA 90089-0626
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FAX: (213) 740-6170
usc.edu/lusk
Director: Richard Green, PhD

Institute for Outlier Research in Business (iORB)
Bridge Hall 101
3670 Trousdale Parkway
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(213) 8216579
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marshall.usc.edu/iorb
Director: Gareth James, PhD

SEC and Financial Reporting Institute
Accounting 121
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FAX: (213) 747-2815
Email: lori.smith@marshall.usc.edu
Director: Lori Smith, BS, CPA

Brittingham Social Enterprise Lab
3670 Trousdale Parkway
Bridge Hall 105
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(213) 740-7587
Email: Brittinghamlab@marshall.usc.edu
marshall.usc.edu/bsel
Director: Adlai Wertman, MBA

Bachelor's Degree

Business Administration (BS)

The business administration major combines a strong grounding in business fundamentals and expertise in select functional areas with extensive exposure to the liberal arts. The curriculum is designed with significant flexibility so that students can complement their studies in business with a minor in a field outside business.

Business Core Requirements

Business Administration majors must complete the business core. The business core contains foundational courses that provide analytical skills and theoretical knowledge in math, statistics, accounting and business economics as well as communication skills pertinent to the business field; functional courses in business

disciplines such as finance, marketing, organizational behavior and operations; and integrative courses in strategy and data analysis.

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118gx is contingent on successful completion of MATH 117g or obtaining an acceptable score on the math placement exam. The MATH 118gx requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125g. Eligible students should speak with their academic advisers for additional information.*

Business Electives Requirement

In addition to business core courses, students are required to gain a deeper understanding of a specific aspect of business in which they have an interest. Business administration majors must complete 12 units of upper-division elective courses (typically three 4-unit courses) offered by the Marshall School, specifically 300- or 400-level courses with a prefix ACCT, BAEP, BUCO, DSO, FBE, FIM, MKT or MOR. Students can also satisfy the business electives requirement through participation in a Marshall School sponsored international exchange program. FIM courses are open only to students in the non-degree FIM certificate program.

Electives should be selected based on a student's personal and professional goals and in consultation with an academic adviser. The Marshall School's academic departments and centers can also help students select courses that are particularly useful for careers in fields covered by the department or center. Electives are normally clustered in a particular field, but may be spread across different fields.

Non-Business Course Work

Sixty units of non-business course work are required for any of the undergraduate degrees conferred by the Marshall School of Business.

MATH 118, WRIT 150, WRIT 340, ECON 351, ECON 352 and all courses required for the major must be taken for a letter grade. ECON 351 and ECON 352 must be taken in residence at USC.

In addition to meeting university GPA requirements, a minimum overall/cumulative grade point average of 2.0 (A = 4.0) in upper-division business courses is required for graduation.

Free Electives

The business curriculum allows for 32 units of free electives. Students are strongly encouraged to pursue a minor, study a language and/or take advantage of the university's many opportunities to study abroad.

Minors

USC offers more than 150 minors, spanning a wide variety of fields. The business curriculum is designed to allow every student enough flexibility to pursue a minor outside of business, in the belief that a strong undergraduate education must be well-rounded and incorporate the liberal arts as well as business classes. Minors allow students to gain substantial expertise in a field outside of business by taking classes in another of USC's top-ranked departments and schools. Students with an officially declared minor may apply for the honor of being named a Renaissance Scholar if they meet the other program conditions.

Because some classes required for particular minors may have limited availability, students are encouraged to work closely with their academic advisers to develop plans for their minors. The Marshall Office of Undergraduate Advising can help plan for minors and provide information on the various minors offered throughout the university and how they complement different business tracks.

Business Administration (Business Analytics) (BS)

The Bachelor of Science in Business Administration with an emphasis in Business Analytics provides specialized skill sets for students who plan a career in today's business world, where analytics is at the forefront. The degree signals to potential employers that the graduate is ready to utilize the tools and techniques that aim to turn data into meaningful business insights. Students will obtain the necessary skills for defining business analytics for data-driven decision making along with the hands-on experience using analytics to solve real-world problems.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who have satisfied the following three conditions: (1) have attained sophomore standing, (2) have completed at least one semester in residence at USC, and (3) have earned credit for the course BUAD 311 Operations Management. Students who wish to transfer to this program should visit the Office of Undergraduate Advising and Student Affairs in the Marshall School of Business.

Students may earn only one emphasis within the BS in Business Administration degree.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration including 12 upper division-units in the emphasis.

Business Core Requirements

Business Administration majors must complete the business core. The business core contains foundational courses that provide analytical skills and theoretical knowledge in math, statistics, accounting and business economics as well as communication skills pertinent to the business field; functional courses in business disciplines such as finance, marketing, organizational behavior and operations; and integrative courses in strategy and data analysis.

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118gx is contingent on successful completion of MATH 117g or obtaining an acceptable score on the math placement exam. The MATH 118gx requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive*

subject credit for MATH 125g. Eligible students should speak with their academic advisers for additional information.

Emphasis Requirements

Complete 12 units of upper-division elective courses (typically three 4-unit courses) offered by the Data Sciences and Operations department in the Marshall School, specifically 300- or 400-level courses with a prefix DSO that are available for credit toward the major.

Business Administration (Cinematic Arts) (BS)

This program consists of courses offered by both the Marshall School and the School of Cinematic Arts. Students completing the program receive a Bachelor of Science in Business Administration with an emphasis in Cinematic Arts. The program is available to entering freshmen only.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business as well as an additional 24 units in cinematic arts, which specifically address the business side of the industry.

Business Requirements

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4 or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 or *
- MATH 125g Calculus I Units: 4 **
- Electives-Business 300- or 400-level ACCT, BAEP, non-core BUAD, BUCO, DSO, FBE, MKT or MOR Units: 12

Total business units: 60

Note:

*Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam or AP calculus or IB mathematics exam. The MATH 118 requirement may be waived with an AP Calculus AB or BC score of 4 or higher, or an IB math score of 5 or higher.

**A-level mathematics examination scores of A or B may receive subject credit for MATH 125. Eligible students should speak with their academic adviser for additional information.

Cinematic Arts Requirements

- CNTV 441 Business and Cinematic Arts Entertainment Practicum Units: 2
- CNTV 463 Television: Integrating Creative and Business Objectives Units: 2
- CNTV 467 The Future of Digital Media and the Entertainment Industry Units: 2
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 191 Introduction to Television and Video Units: 4
- CTIN 458 Business and Management of Games Units: 2
- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4
- CTPR 410 The Movie Business: From Story Concept to Exhibition Units: 2
- CNTV 458 Producing and Marketing Feature Length Films Units: 2

Total cinematic arts units: 24

Total program units: 84

Business Administration (Communication) (BS)

The Bachelor of Science in Business Administration with an emphasis in Communication provides specialized skill sets for students that they will apply to succeed in the workplace, regardless of their chosen profession. Students will learn to apply emotionally intelligent and strategic communication, and utilize rapidly evolving communication technologies, to facilitate effective workplace processes among organizational stakeholders. The degree signals to potential employers that the graduate is ready to lead and motivate teams in-person and virtually and facilitate complex communication situations among diverse groups and individuals across cultures to support the success of the organization.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who satisfy the following three conditions: (1) have attained sophomore standing, (2) have completed at least one semester in residence at USC, and (3) have earned credit for the course BUAD 302 Communication Strategy in Business. Students who wish to transfer to this program should visit the Marshall Undergraduate Advising Office.

Students may earn only one emphasis within the B.S. in Business Administration degree.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration including at least 12 upper-division units in the area of emphasis.

Business Core Requirements

Business Administration majors must complete the business core. The business core contains foundational courses that provide analytical skills and theoretical knowledge in math, statistics, accounting and business economics as well as communication skills pertinent to the business field; functional courses in business disciplines such as finance, marketing, organizational behavior and operations; and integrative courses in strategy and data analysis.

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118gx is contingent on successful completion of MATH 117g or obtaining an acceptable score on the math placement exam. The MATH 118gx requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125g. Eligible students should speak with their academic advisers for additional information.*

Emphasis Requirements

Complete 12 units of upper-division elective courses (typically three 4-unit courses) offered by the Business Communication department in the Marshall School, specifically 300- or 400-level courses with a prefix BUCO that are available for credit toward the major.

Business Administration (Entrepreneurship and Innovation) (BS)

The Bachelor of Science in Business Administration with an emphasis in Entrepreneurship and Innovation provides specialized skills and tools for students wishing to found new ventures, work as a part of a founding team, work within an early stage venture, or develop the mindset for innovating within existing organizations. The degree signals to potential employers that the graduate is a capable problem-solver who understands how to build, launch, and grow new initiatives.

The degree focuses not solely on founders and founding processes, but on developing the entrepreneurial mindset more generally – on adaptable thinking as an essential organizational skill; on assessing and managing risk in dynamic, uncertain environments; and on recognizing, evaluating, and implementing new business opportunities.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who satisfy the following three conditions: (1) have attained sophomore standing, (2) have completed at least one semester in residence at USC, and (3) have earned credit for one of the following courses: BAEP 423, BAEP 450, or BAEP 451. Students who wish to transfer to this program should visit the Office of Undergraduate Advising and Student Affairs in the Marshall School of Business.

Students may earn only one emphasis within the BS in Business Administration degree.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration including at least 12 upper-division units in the area of emphasis.

Business Core Requirements

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118gx is contingent on successful completion of MATH 117g or obtaining an acceptable score on the math placement exam. The MATH 118gx requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125g. Eligible students should speak with their academic advisers for additional information.*

Emphasis Requirements

Required Course

Complete one of the following courses:

- BAEP 423 Management of Small Businesses Units: 4
- BAEP 450 Fundamentals of Entrepreneurship Units: 4
- BAEP 451 The Management of New Enterprises Units: 4

Electives

Complete 8 units of upper-division elective courses (typically two 4-unit courses) offered by the Lloyd Greif Center for Entrepreneurial Studies in the Marshall School, specifically 300- or 400-level courses with a prefix BAEP that are available for credit toward the major.

Please note that the required courses listed above (BAEP 423, BAEP 450 and BAEP 451) duplicate credit and cannot be used to satisfy the elective requirement of this emphasis.

Business Administration (Finance) (BS)

The Bachelor of Science in Business Administration with an emphasis in Finance provides specialized skill sets for students wishing to work in finance industry. The degree signals to potential employers that the graduate is ready to perform complex tasks involving finance, economics and state-of-the-art computer modelling.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who satisfy the following three conditions: (1) have attained sophomore standing, (2) have completed at least one semester in residence at USC, and (3) have earned credit for the course BUAD 306 Business Finance. Students who wish to transfer to this program should visit the Office of Undergraduate Advising and Student Affairs in the Marshall School of Business.

Students may earn only one emphasis within the BS in Business Administration degree.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration including at least 12 upper-division units in the area of emphasis.

Business Core Courses

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118 gx is contingent on successful completion of MATH 117g or obtaining an acceptable score on the math placement exam. The MATH 118gx requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125g. Eligible students should speak with their academic advisers for additional information.*

Emphasis Requirements

Complete 12 units of upper-division elective courses (typically three 4-unit courses) offered by the Finance and Business Economics department in the Marshall School, specifically 300- or 400-level courses with a prefix FBE that are available for credit toward the major.

Business Administration (International Relations) (BS)

This program consists of courses offered by both the Marshall School of Business and the School of International Relations. Students completing the program receive a Bachelor of Science in Business Administration with an emphasis in International Relations.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business as well as an additional 24 units in international relations from the courses listed below.

Business Requirements

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4 or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 * or
- MATH 125g Calculus I Units: 4 **
- Electives: 300- or 400-level ACCT, BAEP, non-core BUAD, BUCO, FBE, DSO, MKT or MOR Units: 12

Total business units: 60

Note:

**Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam. The MATH 118 requirement may be waived with an AP Calculus AB or BC score of 4 or higher, or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125. Eligible students should speak with their academic adviser for additional information.*

International Relations Requirements

- IR 210gw International Relations: Introductory Analysis Units: 4

International Political Economy Courses (4 units)

- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 330 Politics of the World Economy Units: 4

International Relations Regional Courses (8 units)

- IR 333 China in International Affairs Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 383 Conflict Mediation & Negotiation Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 468 European Integration Units: 4

International Relations Electives (8 units)

Choose two from the list below or the two lists immediately above:

- IR 305w Managing New Global Problems Units: 4
- IR 306 International Organizations Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 327 International Negotiation Units: 4
- IR 341 Foreign Policy Analysis Units: 4
- IR 344 The Global South in World Politics Units: 4
- IR 381 Introduction to International Security Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 402 Theories of War Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 444w Theories of Global Society Units: 4
- IR 483 War and Diplomacy: The U.S. in World Affairs Units: 4

Total international relations units: 24

Total program units: 84

Business Administration (Leadership and Innovation) (BS)

The Bachelor of Science in Business Administration with an emphasis in Leadership and Innovation prepares students for leadership roles in a variety of organizations in a world of increasing global, technological and regulatory change. The program aims to train inspirational leaders who bring together diverse groups to achieve transformational innovation for sustained competitive advantage.

With this degree, students will learn how to create an inspiring vision and strategy for innovation in their organization, effectively lead high performing innovation teams, create a culture of agility and innovation, and effectively identify and solve critical problems in order to build sustainable competitive advantage and satisfy a diverse set of stakeholders.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who satisfy the following three conditions: (1) have attained sophomore standing, (2) have completed at least one semester in residence at USC, and (3) have earned credit for the course BUAD 304 Organizational Behavior and Leadership. Students who wish to transfer to this program should visit the Office of Undergraduate Advising and Student Affairs in the Marshall School of Business.

Students may earn only one emphasis within the BS in Business Administration degree.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration including at least 12 upper-division units in the area of emphasis.

Business Core Courses

Business Administration majors must complete the business core. The business core contains foundational courses that provide analytical skills and theoretical knowledge in math, statistics, accounting and business economics as well as communication skills pertinent to the business field; functional courses in business disciplines such as finance, marketing, organizational behavior and operations; and integrative courses in strategy and data analysis.

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118gx is contingent on successful completion of MATH 117g or obtaining an acceptable score on the math placement exam. The MATH 118gx requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*
***A-level mathematics examination scores of A or B may receive subject credit for MATH 125g. Eligible students should speak with their academic advisers for additional information.*

Emphasis Requirements

Complete 12 units of upper-division elective courses (typically three 4-unit courses) offered by the Management and Organization department in the Marshall School, specifically 300- or 400-level courses with a prefix MOR that are available for credit toward the major.

Business Administration (Marketing) (BS)

The Bachelor of Science in Business Administration with an emphasis in Marketing provides students with specialized training in marketing strategy, execution, and evaluation. With this degree, students will deepen their understanding of various aspects of marketing such as product development, communication and promotion, consumer insights, ethics and regulation, customer analytics, and data-driven marketing.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who satisfy the following three conditions: (1) have attained sophomore standing, (2) have completed at least one semester in residence at USC, and (3) have earned credit for the course BUAD 307 Marketing Fundamentals. Students who wish to transfer to this program should visit the Office of Undergraduate Advising and Student Affairs in the Marshall School of Business.

Students may earn only one emphasis within the BS in Business Administration degree.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration including at least 12 upper-division units in the area of emphasis.

Business Core Courses

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118gx is contingent on successful completion of MATH 117g or obtaining an acceptable score on the math placement exam. The MATH 118gx requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*
***A-level mathematics examination scores of A or B may receive subject credit for MATH 125g. Eligible students should speak with their academic advisers for additional information.*

Emphasis Requirements

Complete 12 units of upper-division elective courses (typically three 4-unit courses) offered by the Marketing department in the Marshall School, specifically 300- or 400-level courses with a prefix MKT that are available for credit toward the major.

Business Administration (Real Estate Finance) (BS)

The Bachelor of Science in Business Administration with an emphasis in Real Estate Finance provides specialized skill sets for students wishing to work in real estate finance and development. The degree signals to potential employers that the graduate is ready to perform complex tasks involving real estate finance, economics and state-of-the-art computer modelling.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who have attained sophomore standing and have completed at least one semester in residence at USC. Students who wish to transfer to this program should visit the Marshall Undergraduate Advising office (see marshall.usc.edu/current-students/academic-advising).

Students who wish to pursue the Bachelor of Science in Business Administration (Real Estate Finance) as a second bachelor's degree must satisfy all university requirements for a second bachelor's and complete 32 units unique to the Business Administration (Real Estate Finance) major.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration and 16 upper division units in the emphasis.

Business Core Courses

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam. The MATH 118 requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*
***A-level mathematics examination scores of A or B may receive subject credit for MATH 125. Eligible students should speak with their academic advisers for additional information.*

Real Estate Finance Emphasis Requirements

Required Course (4 units)

- FBE 391 Real Estate Finance and Investment Units: 4

Electives (12 units)

A minimum of 8 units must come from the Real Estate Finance Electives list. The sum of units from Real Estate Finance Electives and Non-Real Estate Electives must total at least 12.)

Real Estate Finance Electives: 8-12 units

- FBE 427 Real Estate Law Units: 4 ***
- FBE 465 Real Estate Analysis and Computer Modeling Units: 2 ***
- FBE 466 Management of Real Estate Development: Feasibility Studies Units: 4 ***

- FBE 470 Advanced Real Estate Analysis Units: 4 ***
- FBE 489 Real Estate Capital Markets Units: 4 ***
- FBE 491 Real Estate Finance Colloquium Units: 2 ***

Non-Real Estate Electives: 0-4 units

- BAEP 423 Management of Small Businesses Units: 4
- DSO 455 Project Management Units: 4
- FBE 421 Financial Analysis and Valuation Units: 4 ***
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4 ***
- FBE 435 Applied Finance in Fixed Income Securities Units: 4 ***
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4 ***
- FBE 441 Investments Units: 4 ***
- FBE 459 Financial Derivatives Units: 4 ***
- MOR 469 Negotiation and Persuasion Units: 4

****Prerequisites required. Plan carefully.*

Business Administration (Risk Management) (BS)

The Bachelor of Science in Business Administration with an emphasis in Risk Management provides students with an understanding of the processes and tools necessary for effective risk management across a variety of industries, including financial services, technology, real estate, healthcare, pharmaceuticals, entertainment, sports, and insurance, to name a few. The degree signals to potential employers that the graduate has acquired skills that are useful in facing the challenges of an increasingly complex and interconnected business environment.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who satisfy the following three conditions: (1) have attained sophomore standing, (2) have completed at least one semester in residence at USC, and (3) have earned credit for the course ACCT 380x Introduction to Enterprise Risk Management. Students who wish to transfer to this program should visit the Office of Undergraduate Advising and Student Affairs in the Marshall School of Business.

Students may earn only one emphasis within the BS in Business Administration degree. Students pursuing this emphasis are not eligible to earn the Risk Management Minor.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration including at least 16 upper-division units in the area of emphasis.

Business Core Requirements

Business Administration majors must complete the business core. The business core contains foundational courses that provide analytical skills and theoretical knowledge in math, statistics, accounting and business economics as well as communication skills pertinent to the business field; functional courses in business disciplines such as finance, marketing, organizational behavior and operations; and integrative courses in strategy and data analysis.

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4

  or
- BUAD 312g Statistics and Data Science for Business Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *

  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118gx is contingent on successful completion of MATH 117g or obtaining an acceptable score on the math placement exam. The MATH 118gx requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125g. Eligible students should speak with their academic advisers for additional information.*

Emphasis Requirements

Required Course

- ACCT 380x Introduction to Enterprise Risk Management Units: 4

Electives

Complete at least 12 units of electives.

Complete 4-8 units from the following courses:

- ACCT 385x Introduction to Risk Management and Insurance Units: 4
- ACCT 387 Risk Management in Entertainment, Sports and the Arts Units: 4

Complete additional units from the following courses:

- ACCT 463 Internal Audit Units: 2 *
- DSO 427 Designing Spreadsheet-Based Business Models Units: 4
- DSO 455 Project Management Units: 4
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4
- FBE 443 Introduction to Forecasting and Risk Analysis Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4
- FBE 459 Financial Derivatives Units: 4

** Prerequisite required that is not part of this major.*

Business Administration (World Program) (BS)

The World Bachelor in Business (WBB) Program offers students the opportunity for immersive study at three highly regarded business schools, one in each of the major economic/cultural zones of the world: the Americas, Asia and Europe. The program is designed and offered in cooperation with the Hong Kong University of Science and Technology (HKUST) and Bocconi University. Students spend at least one year at each campus and receive a degree from each university. The program is available to entering freshmen only. Prospective students should consult with the USC Marshall Undergraduate Admissions office for program and admissions information.

Requirements for Completion

To complete the program and receive a degree from each university, students must satisfy the degree requirements of each institution, which include language requirements. The USC degree requirements are those of the USC Marshall Bachelor of Science in Business Administration program, with the exception that WBB students do not need to complete 60 units of non-business course work. Students should consult with the WBB program academic adviser at each university. Specific courses completed at each university are used to fulfill specific requirements at the other universities.

Students should note the following USC degree requirements for the WBB program:

- A minimum of 32 units must be taken in residence at USC. The units applied toward this requirement must be taken for a letter grade and cannot be taken on a P/NP or CR/NC basis.
- In addition to meeting university GPA requirements, a minimum grade of C- must be earned on all upper-division course work taken at USC and required for the major.
- A minimum grade of C- for course work completed at HKUST and Bocconi University must be earned for the course credits to transfer to USC.

- USC GPA calculations will be based on course work completed at USC.

Sample Program

WBB students spend the first year taking classes in Los Angeles at USC, the second year taking classes in Hong Kong at HKUST and the third year taking classes in Milan at Bocconi University. In the final year, students choose their location of study in consultation with the program directors. Each year includes at least one cohort class designed specifically for the WBB program.

The following sample program is typical for most WBB students. It is not the only possible program of study, but it does serve as a representative guideline. Students will meet with a WBB program academic adviser at each location to ensure that each student's program of study will fulfill WBB program requirements.

Year One - USC

- BUAD 111 World Bachelor in Business Program Freshman Academy Units: 2
- BUAD 114 Global Social Impact Units: 2
- BUAD 307 Marketing Fundamentals Units: 4
- ECON 351x Microeconomics for Business Units: 4
- GE-D Life Sciences Units: 4
- GE-E Physical Sciences Units: 4

- GESM 120g Seminar in Humanistic Inquiry Units: 4 * or
- GESM 121g Seminar in Humanistic Inquiry Units: 4 *

- MATH 118gx Fundamental Principles of Calculus Units: 4 **
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Total units: 36

** Satisfies GE-B requirement.*
*** Satisfies GE-F requirement.*

Year Two - HKUST

- ACCT 2010-Principles of Accounting I Units: 3
- C-Comm Chinese Communications Units: 3
- Common Core Arts (select courses) Units: 3*
- Common Core Humanities (select courses) Units: 3**
- ECON 2123 Macroeconomics Units: 3
- ISOM 2010 Intro to Information Systems Units: 3
- ISOM 2500 Business Statistics Units: 3
- ISOM 2700 Operations Management Units: 3
- MGMT 2110 Organizational Behavior Units: 3
- WBBA 2010 Understanding Business in Asia Units: 2
- WBBA 2020 Seminars in Asia's Business Units: 1

Total units: 30

**Satisfies USC GE-A The Arts requirement.*
***Satisfies USC GE-B Humanistic Inquiry requirement.*

Year Three - Bocconi

- 30056 European Economic Policy Units: 3*
- 30361 Doing Business in Europe Units: 1
- 30364 Accounting Module II (Managerial Accounting) Units: 3
- 30367 Finance Module I (Financial Markets and Institutions) Units: 3
- 30366 Finance Module II (Corporate Finance) Units: 3
- 30372 Global History Units: 3**
- 30375 Mathematics — Module II (Applied) Units: 3
- 30430 Law Module I (Public Law) Units: 3
- 30431 Law Module II (Private Law) Units: 3
- 30444 Public Management (Business Government Relations) Units: 3
- 303xx Second Language Units: 3

Total units: 31

** Satisfies USC GE-C Social Analysis and GE-G Citizenship in a Diverse World requirements.*
*** Satisfies USC GE-C Social Analysis and GE-H Traditions and Historical Foundations requirements.*

Year Four, Option One - USC

- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- BUAD 497 Strategic Management Units: 4

- FBE 403 Introduction to the Legal Environment of Business Units: 4 or
- FBE 429 International Business Law Units: 4

- MOR 421 Social and Ethical Issues in Business Units: 4 or
- BUCO 425 Ethics and Professional Communication Units: 4
  Free electives Units: 8-12

Total units: 32-36

Year Four, Option Two - HKUST

- ACCT 3610 Function of Law in Society and Business Units: 3
- LABU 2060 Effective Communication in Business Units: 3
- MGMT 2130 Business Ethics and Social Responsibility Units: 2
- MGMT 4210 Corporate Strategy Units: 3
- WBBA 4010 Capstone Project Units: 4
- Electives Units: 15-18

Total units: 30-33

Year Four, Option Three - Bocconi

- 30012 Business Strategy Units: 4
- 30058 Comparative Business and European Law Units: 3
- 30223 Marketing Communication Units: 3
- 30296 Global Sustainability Strategy Units: 3
- Final Paper Units: 2
- Electives Units: 15-18

Total units: 30-33

Undergraduate Certificate

Food Industry Management Program

Certificate Program

The Food Industry Management Program offers courses emphasizing leadership and management aspects of the food industry. Completion of the program is acknowledged by a Food Industry Management Certificate awarded by the University.

To qualify for admission and a scholarship grant for the food industry management program, students must be currently employed in a management position in the food retailing, wholesaling or manufacturing industry and recommended by their employer. Also, they must have completed at least 64 undergraduate units (or have completed a bachelor's degree) with an academic standing adequate for admission to USC.

To earn a certificate students must complete 18 required units during this one-semester program.

Spring Semester

- FIM 410 Leadership in the Food Industry Units: 2
- FIM 481 Marketing Management in the Food Industry Units: 4
- FIM 482 Communication Management in the Food Industry Units: 4
- FIM 485 Financial Analysis and Valuation in the Food Industry Units: 4
- FIM 497 Strategic Management in the Food Industry Units: 4

Total units: 18

Minor

Business Economics Minor

This minor is available to students of all majors except business, accounting and economics. This minor teaches students to think strategically about business. It integrates economic ideas with practical applications in the real world. Students who minor in business economics learn to think like leaders in business firms. This minor approaches problems conceptually, proceeding from

the general economic theories to specific real world applications. This gives students a higher level of understanding of business opportunities and problems.

Many students in disciplines other than business need economic skills that focus on business. This minor teaches a combination of the ideas, skill sets and methodological approaches used in business economics. Students develop economic reasoning skills related to real-world problems and opportunities.

To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75. Completion of this minor requires a minimum GPA of 2.0 for the 20 units applied to the minor.

Required Courses (12 Units)

- MATH 118gx Fundamental Principles of Calculus Units: 4
- BUAD 351 Economic Analysis for Business Decisions Units: 4
  or
- ECON 351x Microeconomics for Business Units: 4
- BUAD 352 Macroeconomic Analysis for Business Decisions Units: 4
  or
- ECON 352x Macroeconomics for Business Units: 4

Electives (8 units)

Choose two from the list below:

- FBE 402 Government and Business Units: 4
- FBE 416 Managerial Economics Units: 4 *
- FBE 424 Financial Institutions and Capital Markets Units: 4 *
- FBE 443 Introduction to Forecasting and Risk Analysis Units: 4 *
- FBE 462 International Trade, Finance and Commercial Policy Units: 4 *

Note:

**Prerequisite required*

Business Finance Minor

The minor in business finance offers non-business/non-accounting majors an opportunity to expand their career opportunities by gaining a background in financial concepts, valuation and financial strategy. It provides students with the necessary tools to measure benefits and related costs that will enable them to make better business decisions. Problem-solving and quantitative skills that are widely used in business will enable students to work on special projects or management teams — opportunities that might not have been available had it not been for this minor. Eighteen units are required.

To enroll students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75. Completion of this minor requires a minimum of 18 units.

Required Courses

Economics *

Choose one of the following five options (units 2-8):

- BUAD 200x Economic Foundations for Business Units: 2
  or
- BUAD 201x Introduction to Business for Non-Majors Units: 4
  or

- BUAD 351 Economic Analysis for Business Decisions Units: 4 ** or
- ECON 351x Microeconomics for Business Units: 4 **
  and
- BUAD 352 Macroeconomic Analysis for Business Decisions Units: 4 ** or
- ECON 352x Macroeconomics for Business Units: 4 **
  or

- ECON 203g Principles of Microeconomics Units: 4 and
- ECON 205g Principles of Macroeconomics Units: 4
  or

- ECON 303 Intermediate Microeconomic Theory Units: 4 **
  and
- ECON 305 Intermediate Macroeconomic Theory Units: 4 **

Accounting

- ACCT 410x Foundations of Accounting Units: 4 **

Finance

- BUAD 215x Foundations of Business Finance Units: 4 **

Electives **

Choose two from the list below:

- FBE 421 Financial Analysis and Valuation Units: 4
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4
- FBE 431 Financial Policies and Corporate Governance Units: 4
- FBE 432 Corporate Financial Strategy Units: 4
- FBE 433 Corporate Governance and CEO Pay Units: 4
- FBE 435 Applied Finance in Fixed Income Securities Units: 4
- FBE 436 Financial Management of Multinational Corporations Units: 4
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4
- FBE 440 Trading and Exchanges Units: 4
- FBE 441 Investments Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4
- FBE 459 Financial Derivatives Units: 4
- FBE 460 Mergers, Acquisitions and Restructuring Units: 4
- FBE 462 International Trade, Finance and Commercial Policy Units: 4 **

Notes:

**Students who have earned scores of 4 or 5 on both the AP Microeconomics and the AP Macroeconomics exams will be waived out of the first (Economics) requirement (BUAD 200, BUAD 201, 351/352 or ECON).*

***Prerequisite or corequisite required*

Business Law Minor

A minor in business law is available to students in all schools and departments except business majors.

The minor in business law will provide students with practical legal knowledge of substantive business law topics and current legal issues. The minor provides skill sets to identify and manage issues encountered within personal and business contexts including litigation, contract law, employment and human resources, real and personal property law. This minor exposes students to such topics as: commercial transactions, constitutional law, Internet and online commerce; intellectual property and entertainment law; bankruptcy and securities law; law of business and non-profit organizations; and international law.

It also prepares students for career opportunities in management, technology and politics. The minor is an excellent preparation for further legal education.

To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75.

A minimum of 16 units is required to complete the minor.

Required Courses

- FBE 403 Introduction to the Legal Environment of Business Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4

Electives

Choose two of the following:

- FBE 427 Real Estate Law Units: 4
- FBE 428 Introduction to Employment Law Units: 4
- FBE 429 International Business Law Units: 4
- LAW 350 Law and Entrepreneurship Units: 4

Business Minor

The minor in business is available to students in all schools and departments except the Marshall School of Business and the Leventhal School of Accounting. The minor provides the opportunity for students to gain understanding of key concepts and tools of business.

To enroll in the business minor, students must have completed a minimum of 32 units of college-level courses and attained a minimum overall GPA of 2.75.

Successful completion of the business minor requires a minimum cumulative GPA of 2.0 in the courses applied to the minor.

Minor Course Requirements

Choose one of the following five options: (units 2-8)

- BUAD 200x Economic Foundations for Business Units: 2 *
  or
- BUAD 201x Introduction to Business for Non-Majors Units: 4
  or

- BUAD 351 Economic Analysis for Business Decisions Units: 4 or
- ECON 351x Microeconomics for Business Units: 4
  and
- BUAD 352 Macroeconomic Analysis for Business Decisions Units: 4 or
- ECON 352x Macroeconomics for Business Units: 4
  or

- ECON 203g Principles of Microeconomics Units: 4 and
- ECON 205g Principles of Macroeconomics Units: 4
  or

- ECON 303 Intermediate Microeconomic Theory Units: 4 and
- ECON 305 Intermediate Macroeconomic Theory Units: 4

Additional Required Course Work:

- ACCT 410x Foundations of Accounting Units: 4 or
- BUAD 280 Introduction to Financial Accounting Units: 3 or
- BUAD 305 Abridged Core Concepts of Accounting Information Units: 4

- BUAD 215x Foundations of Business Finance Units: 4 ** or
- BUAD 306 Business Finance Units: 4

- BUAD 302 Communication Strategy in Business Units: 4

- BUAD 304 Organizational Behavior and Leadership Units: 4

- BUAD 307 Marketing Fundamentals Units: 4 or
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4

- BUAD 315x Basics of Project and Operations Management for Non-Majors Units: 2 or
- BUAD 311 Operations Management Units: 4

Notes:

**Students who have earned scores of 4 or 5 on both the AP Microeconomics and the AP Macroeconomics exams will be waived out of the first requirement (BUAD 200, BUAD 201, 351/352 or ECON).*

***ACCT 410 or BUAD 280 or BUAD 285a or BUAD 305 must be taken before BUAD 215.*

Business Technology Fusion Minor

The minor in business technology fusion is available to students in all schools and departments except business majors. This minor requires 20 units to complete. To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75.

Course Requirements

- DSO 431 Digital Innovation as Competitive Advantage Units: 4
- DSO 433 Designing Digital Processes and User Experiences Units: 4
- DSO 435 Enterprise Data Architecture Units: 4

Electives

Choose from the following to achieve a total of at least 8 units:

- DSO 401 Business Information Systems – Spreadsheet Applications Units: 2
- DSO 402 Business Information Systems – Database Applications Units: 2
- DSO 443 Current Trends in Digital Business Models Units: 4
- DSO 455 Project Management Units: 4
- DSO 462 Managing a Small Business on the Internet Units: 2

Consumer Behavior Minor

Consumer behavior studies inform decision makers in the business, government and non-profit sectors on how consumer decisions, preferences, activities and other behaviors are influenced by factors such as culture, subculture, demographics, sensation, thinking, conscious and unconscious information processing, knowledge organization, beliefs, interpersonal communication, learning from experience and values. This is an interdisciplinary field, drawing on such disciplines as marketing, psychology, sociology, anthropology, economics, linguistics, ethnic studies, gender studies, geography, history, cognitive science and communications to understand the experiences of contemporary consumers across the world.

To enroll in this minor, students must have completed a minimum of 32 units of college-level courses and have a minimum overall GPA of 2.75.

This minor requires 18-20 units.

Required Courses

- MKT 450 Consumer Behavior and Marketing Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4

Electives

Complete at least 10 units consisting of at least three courses from the list below subject to the following constraints:

- A minimum of 18 units (including MKT 450 and PSYC 100Lg) must be unique to the minor (i.e., not be countable toward requirements for the major). This does not include any prerequisites for courses listed.
- At least 16 units of all courses taken for the minor are not offered by the student's major department. For Business Administration and Accounting majors, courses with prefixes of BUAD, DSO and MKT are considered to be offered by the student's major department.
- No more than two of the courses chosen from the list below may be offered by the same department.
- At least one of the courses chosen below has a prefix other than COMM, MKT and BUAD.
- *Courses taken at institutions other than USC (i.e., International Exchange programs and transfer credits) cannot substitute for any of the minor requirements.*

American Studies

- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 380 American Popular Culture Units: 4

Anthropology

- ANTH 355 Urban Anthropology Units: 4 **
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 375 Anthropology for Consulting and Design Units: 4
- ANTH 445 African American Anthropology Units: 4
- ANTH 460 Economic Anthropology Units: 4 **

Business Administration

- BUAD 307 Marketing Fundamentals Units: 4

Communication
- COMM 302 Persuasion Units: 4
- COMM 340 The Cultures of New Media Units: 4 *
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 396g Fashion, Media and Culture Units: 4 **

Comparative Literature
- COLT 102g On Location: The Place of Literature in Global Cultures Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4

Data Science and Operations
- DSO 427 Designing Spreadsheet-Based Business Models Units: 4
- DSO 455 Project Management Units: 4

Economics
- ECON 340 Economics of Less Developed Countries Units: 4 *
- ECON 346 Economics of Transition and Development: China Units: 4 *
- ECON 405 Neuroeconomics Units: 4 *
- ECON 415 Behavioral Economics Units: 4 *
- ECON 420 Experimental Economics Units: 4 *
- ECON 432 Economics of Happiness Units: 4 *

English
- ENGL 392 Visual and Popular Culture Units: 4

History
- HIST 380 American Popular Culture Units: 4

Information Technology Program
- ITP 115 Programming in Python Units: 2
- ITP 249 Introduction to Data Analytics Units: 4
- ITP 310 Design for User Experience Units: 4

Marketing
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4
- MKT 402 Introduction to Marketing Analytics Units: 4 *
- MKT 404 Happiness and Wellbeing in the Marketplace Units: 4
- MKT 405 Advertising and Promotion Management Units: 4 *
- MKT 410 Professional Selling Units: 4 *
- MKT 465 Global Marketing Management Units: 4 *

Policy, Planning, and Development
- PPD 245g The Urban Context Units: 4

Psychology
- PSYC 240gx Scientific Inquiry and Reasoning in Health Care Units: 4
- PSYC 355 Social Psychology Units: 4 *
- PSYC 422 Human Judgment and Decision Making Units: 4 *
- PSYC 451 Formation and Change of Attitudes Units: 4 * **
- PSYC 454 Social Cognition Units: 4 * **
- PSYC 456 Conservation Psychology Units: 4 *

Sociology
- SOCI 155gm Immigrant America Units: 4
- SOCI 210g Science, Technology, and Social Conflict Units: 4
- SOCI 242g Sociology, Demography and Health Units: 4 *
- SOCI 305m Sociology of Childhood Units: 4 **

Notes:
** Prerequisites required*
*** Courses not offered regularly*
(Prerequisites will not be waived for upper-division courses; students must complete the prerequisite courses needed in addition to the courses for this minor.)

Total requirements: at least five courses: 18-20 units

Customer Analytics Minor

At the heart of most modern organizations, such as Google, Amazon, Netflix and Facebook, lies a strong Customer Analytics function. Customer Analytics uses vast amounts of data to generate insights that help firms and policy makers to make data driven decisions about customers. Insights into customer behavior, attitudes, demographics and pyschographics can prove to be a sustainable advantage for firms.

This minor draws on empirical methods and applications from fields such as marketing, economics, entrepreneurship, information sciences, international relations, political sciences and sociology to better understand its multidimensional prime constituent - the customer.

This minor is available to students in all schools and departments outside of the Marshall School of Business and Leventhal School of Accounting. To enroll in this minor, students must have completed a minimum of 32 units of college-level courses and have a minimum overall GPA of 2.75.

This minor requires 20 units.

Required Courses
- BUAD 307 Marketing Fundamentals Units: 4
- MKT 402 Introduction to Marketing Analytics Units: 4

Electives
Complete at least 12 units from the lists below subject to the following constraints:
- A minimum of 16 units (including BUAD 307 and MKT 402) must be unique to the minor (i.e., cannot be countable toward requirements for the student's major).
- At least 16 units of all courses taken for the minor are not offered by the student's major department.
- A minimum of 4 units must be taken from each of the two groups listed below.

Marketing Applications and Consumer Decision Making
Complete at least 4 units from the following group:
- BAEP 450 Fundamentals of Entrepreneurship Units: 4 or
- BAEP 451 The Management of New Enterprises Units: 4
- DSO 431 Digital Innovation as Competitive Advantage Units: 4
- ECON 203g Principles of Microeconomics Units: 4 or
- ECON 351x Microeconomics for Business Units: 4
- MKT 405 Advertising and Promotion Management Units: 4 *
- MKT 425 Marketing in a Digital World Units: 4 *
- MKT 440 Marketing Analysis and Strategy Units: 4 *
- MKT 445 New Product Development and Branding Units: 4 *
- MKT 450 Consumer Behavior and Marketing Units: 4
- MKT 465 Global Marketing Management Units: 4

** Prerequisite required.*

Research Techniques
Complete at least 4 units from the following group:
- BUAD 310g Applied Business Statistics Units: 4 or
- BUAD 312g Statistics and Data Science for Business Units: 4 or
- PSYC 274Lg Statistics Units: 4
- COMM 301Lg Empirical Research in Communication Units: 4
- DSO 401 Business Information Systems – Spreadsheet Applications Units: 2
- DSO 427 Designing Spreadsheet-Based Business Models Units: 4
- DSO 428 Essentials and Digital Frontiers of Big Data Units: 4
- ITP 249 Introduction to Data Analytics Units: 4
- JOUR 494 Python Coding for Data Journalism Units: 2

Total units required: 20

Dynamics in Workplace Communication Minor

Whether navigating the culture of a start-up, a Fortune 100 company, or in any domestic or international workplace situation, strategic and emotionally intelligent communication is essential. This minor has a high emphasis on application practice to prepare students to succeed in their work environment. Courses feature experiential components and/or offer opportunities to connect with professionals and outside constituencies to learn hands-on

about communication challenges and how to develop effective communication strategy.

This minor is available to students in all schools and departments except the Marshall School of Business and the Leventhal School of Accounting. To declare this minor, students must have a declared major and must have completed 32 units of college level courses with a cumulative USC GPA of at least 2.75.

Students taking this minor should, if possible, enroll in the business version of the upper division USC writing requirement: WRIT 340 Advanced Writing.

Successful completion of the minor requires a minimum cumulative GPA of 2.0 in the courses applied to the minor.

Required Courses (8 units)

- BUAD 302 Communication Strategy in Business Units: 4

Complete one of the following:

- BUCO 333mw Communication in the Working World - Managing Diversity Units: 4
- BUCO 460 International Business Communication Units: 4

Electives (8 units)

Business Communication (4-8 units)

Complete at least one of the following BUCO courses:

- BUCO 333mw Communication in the Working World - Managing Diversity Units: 4 *
- BUCO 425 Ethics and Professional Communication Units: 4
- BUCO 445 Communicating to Lead and Persuade Units: 4
- BUCO 458 Managing Communication and New Media Units: 4
- BUCO 460 International Business Communication Units: 4 *
- BUCO 485 Business Communication Management for Nonprofits Units: 4

* May be completed as an elective if not applied as a required course.

Free Electives (0-4 units)

Complete any of the following as needed to total 16 units:

- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 472 The Science of Peak Performance Units: 2
- BAEP 475 Entertainment Entrepreneurship Units: 2
- BAEP 491 Introduction to Social Entrepreneurship Units: 4
- BUCO 450 Communication for Organizations: Exploring Creativity Units: 2
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 471 Managing and Developing People Units: 4

Entrepreneurship Minor

The minor in entrepreneurship is available to students in all schools and departments except business majors. It provides an understanding of entrepreneurship and the entrepreneurial mindset. To enroll in this minor, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of 2.75.

The minor requires a minimum of 17 units to complete.

Core Requirements

- BAEP 423 Management of Small Businesses Units: 4
  or
- BAEP 450 Fundamentals of Entrepreneurship Units: 4
  or
- BAEP 451 The Management of New Enterprises Units: 4
  or
- BUAD 301 Technology Entrepreneurship Units: 3

- BAEP 452 Feasibility Analysis Units: 4

- BAEP 453 Venture Management Units: 4
  or
- BAEP 454 Venture Initiation: Launching and Scaling Your Startup Units: 4

Electives

Choose from the following to achieve a total of at least 17 units for the minor:

- BAEP 455 Founder's Dilemmas Units: 4
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 469 Growth Hacking: Scaling Startups Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 474 The Entrepreneur's Guide to Intellectual Property Units: 2
- BAEP 475 Entertainment Entrepreneurship Units: 2
- BAEP 491 Introduction to Social Entrepreneurship Units: 4
- BAEP 495 Practicum in Business Issues (Internship) Units: 1
- BAEP 499 Special Topics Units: 2, 3, 4
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4

- BUAD 307 Marketing Fundamentals Units: 4 or
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4

- BUAD 315x Basics of Project and Operations Management for Non-Majors Units: 2
- FBE 400x Introduction to Real Estate Finance and Development Units: 4
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4

Human Resource Management Minor

The minor in human resource management is available to students in all schools and departments except business majors. It is appropriate for students pursuing careers in human resource management, as well as for students pursuing management positions where they will be interfacing with or relying on the human resource function for support. To enroll in this minor, students must have completed a minimum of 32 units of collegelevel courses and have a minimum overall GPA of 2.75. Completion of the human resource management minor requires a minimum GPA of 2.0 in the following business minor courses:

Minor Course Requirements

- BUAD 304 Organizational Behavior and Leadership Units: 4
- MOR 471 Managing and Developing People Units: 4

Electives

Choose three courses from the following (12 units):

- FBE 428 Introduction to Employment Law Units: 4
- FBE 433 Corporate Governance and CEO Pay Units: 4 *
- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 461 Design of Effective Organizations Units: 4
- MOR 463 Organization Change and Development Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 472 Power, Politics and Influence Units: 4
- MOR 473 Designing and Leading Teams Units: 4

Note: **Prerequisite that is not part of this minor required*

Management Consulting Minor

The minor in management consulting is available to students in all schools and departments except business majors. The minor develops skills used by professional consultants to assist organizations and businesses in identifying and addressing their issues and problems.

To enroll, students must have completed a minimum of 32 units of college-level courses and have a minimum overall GPA of 2.75. Completion of this minor requires a minimum GPA of 2.0 in the following courses:

Course Requirements

- BUAD 304 Organizational Behavior and Leadership Units: 4
- MOR 462 Management Consulting Units: 4

Electives

Choose three courses from the following (12 units):

- DSO 455 Project Management Units: 4
- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 451 Mastering Decision Making Units: 4
- MOR 461 Design of Effective Organizations Units: 4
- MOR 463 Organization Change and Development Units: 4
- MOR 465 Dynamic Strategies for the Business Lifecycle Units: 4
- MOR 467 Strategic Management of Innovation Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 473 Designing and Leading Teams Units: 4
- MOR 492 Global Strategy Units: 4

Marketing Minor

Minor in Marketing

The minor in marketing is available to students in all schools and departments except business majors. Marketing studies processes that organizations use to identify and serve the needs of customers.

The marketing minor provides a business-related education that will supplement many undergraduate majors, and enhance the career prospects for students whose majors could incorporate a marketing dimension or application. This minor should appeal to any student interested in an early marketing career, which includes, but is not limited to, professional sales, retailing, marketing research, product management and advertising.

Eligible students must have completed a minimum of 32 units of college-level course work and have a minimum GPA of 2.75. Either BUAD 307 Marketing Fundamentals or MKT 385 Marketing of Creative Disruption and Innovation must be completed as a required prerequisite. Students must successfully complete 16 units of MKT electives to satisfy this minor.

Operations and Supply Chain Management Minor

The minor in operations and supply chain management is available to students in all schools and departments except business majors. This minor requires 20 units to complete. To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75.

Minor Course Requirements

- BUAD 311 Operations Management Units: 4
- DSO 482 Supply Chain Management Units: 4

One of the following

- DSO 427 Designing Spreadsheet-Based Business Models Units: 4 or
- DSO 455 Project Management Units: 4 or
- DSO 483 Operations Consulting Units: 4

Electives

Choose from the following to achieve a total of at least 8 units:

- DSO 401 Business Information Systems – Spreadsheet Applications Units: 2
- DSO 424 Business Forecasting Units: 4
- DSO 427 Designing Spreadsheet-Based Business Models Units: 4 *
- DSO 433 Designing Digital Processes and User Experiences Units: 4
- DSO 455 Project Management Units: 4 *
- DSO 462 Managing a Small Business on the Internet Units: 2
- DSO 483 Operations Consulting Units: 4 *
- DSO 499 Special Topics Units: 2, 3, 4 **

* If not applied to the minor as a required course.
** Subject to approval by the program director prior to registration.

Organizational Leadership and Management Minor

The minor in organizational leadership and management is available to students in all schools and departments except business majors. Students in the minor learn about personal and organizational leadership, ethics of the workplace, leading in a global context and organizing and planning for effective personal and organizational performance. To enroll, students must have completed a minimum of 32 units of college-level courses and have a minimum overall GPA of 2.75. Completion of this minor requires a minimum GPA of 2.0 in the following courses:

Course Requirements

Complete both of the following courses.

- BUAD 304 Organizational Behavior and Leadership Units: 4
- MOR 470 Global Leadership Units: 4

Electives

Choose three courses from the following (12 units):

- MDA 365 The Art and Adventure of Leadership Units: 4
- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 451 Mastering Decision Making Units: 4
- MOR 462 Management Consulting Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 471 Managing and Developing People Units: 4
- MOR 472 Power, Politics and Influence Units: 4
- MOR 473 Designing and Leading Teams Units: 4
- MOR 492 Global Strategy Units: 4

Performance Science Minor

The minor in Performance Science teaches the science, best practices and applied processes to instill a high-performance mindset though a multi-disciplinary curriculum spanning business, psychology, biology, philosophy and athletics. This interdisciplinary minor will enable students to understand brain and body function, human behavior, psychology, emotion and leadership, all with the goals of optimizing individual mindsets, maximizing performance and creating a culture of high performance within their organizations.

To enroll in this Performance Science minor, students must have completed 32 units of college-level courses and attain a minimum overall GPA of 2.75.

Completion of the minor requires 20 units.

Core Requirement

- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 472 The Science of Peak Performance Units: 2

Complete at least 4 units from each of the following categories: Mind, Business, Body.

MIND:

- GERO 315g A Journey into the Mind Units: 4
- OT 325 The Brain: Mind, Body, and Self Units: 4
- PSYC 440 Foundations of Cognitive Neuroscience Units: 4 *

BUSINESS:

- BAEP 455 Founder's Dilemmas Units: 4
- BUCO 333mw Communication in the Working World - Managing Diversity Units: 4
- MOR 451 Mastering Decision Making Units: 4

BODY:

- BISC 230Lgx The Biology of the Brain Units: 4
- HP 440 Happiness, Well-Being, and Health Units: 4
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4 *

**Prerequisite required.*

Total Core: 16 units

Electives

Complete at least 4 units from the list of courses below or the courses listed above that are not applied as a "required course."

MIND:

- PHIL 258g Probability and Rational Choice Units: 4
- PSYC 301L Cognitive Processes Units: 4 *

BUSINESS:

- BAEP 450 Fundamentals of Entrepreneurship Units: 4
  or
- BAEP 451 The Management of New Enterprises Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 461 Design of Effective Organizations Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 471 Managing and Developing People Units: 4

BODY:

- HBIO 202Lg Nutrition for Life Units: 4
- HBIO 205Lgx The Science of Sport Units: 4
- PHED 106a Physical Conditioning Units: 1
- PHED 160 Stress Management for Healthy Living Units: 2

**Prerequisite required.*

Total Units Required: 20

Real Estate Finance Minor

The minor in real estate finance is available to all students except business administration, accounting, and real estate development majors. It provides students with training in the areas of business, finance, real estate law, design, and urban economics. It provides an opportunity for students to gain thorough exposure to the topics of real estate investing, finance and development. Upon successful completion of this minor, students will have achieved a basic understanding of the interplay of the various disciplines involved in contemporary real estate ownership and investment and how they impact the areas of the student's specific interests and expertise.

Those completing this minor will master techniques in valuing income-producing properties, analyze financial instruments such as mortgages and loans, understand the roles of debt and equity, gain insights into the processes of design and construction, as well as understand the dynamics of how real estate markets affect the underlying values of real property assets, as well as the role real estate markets play in the overall economy.

To enroll, students must have completed a minimum of 32 units of college-level course work and attained a minimum overall GPA of at least 2.75. Successful completion of this minor requires 24-26 units including a minimum of 16 upper-division units in the minor and a cumulative GPA of 2.0 for the 24-26 units.

Required Courses (12-14 Units)

Accounting: 4 or 6 units

Choose one option from the following: Units: 4-6

ACCT 410x Foundations of Accounting Units: 4 or

- BUAD 280 Introduction to Financial Accounting Units: 3 and
- BUAD 281 Introduction to Managerial Accounting Units: 3

Business Finance: 4 units

- BUAD 215x Foundations of Business Finance Units: 4 *

Real Estate Finance: 4 units

- FBE 391 Real Estate Finance and Investment Units: 4 ** or
- FBE 400x Introduction to Real Estate Finance and Development Units: 4

Electives (12 Units with no more than 4 units of Non Real Estate electives)

Real Estate Electives: 8 - 12 units

Choose 8 - 12 units from the following. (The number of units of Real Estate Electives plus Non-Real Estate Electives will total 12.)

- FBE 427 Real Estate Law Units: 4
- FBE 465 Real Estate Analysis and Computer Modeling Units: 2 **
- FBE 466 Management of Real Estate Development: Feasibility Studies Units: 4 **
- FBE 470 Advanced Real Estate Analysis Units: 4 **
- FBE 489 Real Estate Capital Markets Units: 4 **
- FBE 491 Real Estate Finance Colloquium Units: 2 **

Non-Real Estate Electives: 0 - 4 units

Choose 0 - 4 units from the following:

- BAEP 423 Management of Small Businesses Units: 4
- DSO 455 Project Management Units: 4
- FBE 421 Financial Analysis and Valuation Units: 4 **
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4 **
- FBE 435 Applied Finance in Fixed Income Securities Units: 4 **
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4 **
- FBE 441 Investments Units: 4 **
- FBE 459 Financial Derivatives Units: 4 **
- MOR 469 Negotiation and Persuasion Units: 4

Notes:

**ACCT 410 or BUAD 280 and BUAD 281 must be taken before BUAD 215.*

***Prerequisites required. Plan carefully.*

Social Entrepreneurship Minor

The minor in social entrepreneurship provides students from all undergraduate majors with a foundation in the context and practice of social entrepreneurship, nationally and internationally. The minor provides an understanding of social entrepreneurship and its relationship to government and public policy as well as an understanding of management skills specific to starting and maintaining a social enterprise. The curriculum includes options allowing the student to tailor course work to his or her individual academic interests and professional aspirations.

To enroll in this minor, students must have completed 48 units of college level courses with a cumulative USC GPA of at least 2.75.

Course Requirements (14 Units)

- BAEP 451 The Management of New Enterprises Units: 4
- BAEP 491 Introduction to Social Entrepreneurship Units: 4

- BAEP 460 Seminar in Entrepreneurship Units: 2 or
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2 or
- BAEP 497 Field Project in Entrepreneurship Units: 2

- PPD 371 The Nonprofit Sector and the Public Interest Units: 4

Electives

Complete at least 7 units from the following:

- BAEP 452 Feasibility Analysis Units: 4 *
- BAEP 471 Social Innovation Design Lab Units: 4
- BUCO 485 Business Communication Management for Nonprofits Units: 4
- CE 469 Sustainable Design and Construction Units: 2
- COMM 402 Public Communication Campaigns Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 308w Economic Globalization Units: 4
- PPD 478 Social Innovation Units: 4
- PSYC 456 Conservation Psychology Units: 4 **
- SOCI 360m Social Inequality: Class, Status and Power Units: 4

Notes:

**Prerequisite: BAEP 310 or BAEP 423 or BAEP 450 or BAEP 451 or BUAD 301*

***Prerequisite: PSYC 100*

Sports Business and Management Minor

The worldwide and national sports industry is large and growing, with a significant presence in Southern California. The sports industry has significant ties to entertainment, real estate, games and special events, as well as media, journalism and other industries. The sports industry provides a unique business context, with specific needs in marketing, finance, economics, data analytics, risk management, communication, human resources, law and other business disciplines. The Sports Business and Management minor provides students the opportunity to combine courses in core management disciplines with complementary courses specific to sports business.

The Sports Business and Management minor is available to students in all schools and departments outside of the Marshall School of Business and Leventhal School of Accounting. To enroll in this minor, students must have completed 32 units of college-level courses and have a minimum overall GPA of 2.75.

Successful completion of the Sports Business and Management minor requires a minimum of 20 units and a minimum cumulative GPA of 2.0 in the courses applied to the minor.

Required Courses (8 units)

- BUAD 201x Introduction to Business for Non-Majors Units: 4
- MOR 479 The Business of Sports Units: 4

Elective Courses (12 units)

General Business and Management

Select at least 4 units from the following:

- ACCT 410x Foundations of Accounting Units: 4
- BAEP 450 Fundamentals of Entrepreneurship Units: 4 or
- BAEP 451 The Management of New Enterprises Units: 4
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 315x Basics of Project and Operations Management for Non-Majors Units: 2
- BUCO 333mw Communication in the Working World - Managing Diversity Units: 4
- DSO 428 Essentials and Digital Frontiers of Big Data Units: 4
- DSO 443 Current Trends in Digital Business Models Units: 4
- FBE 400x Introduction to Real Estate Finance and Development Units: 4
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- MOR 469 Negotiation and Persuasion Units: 4

Sports Business

Select at least 4 units from the following:

- ACCT 387 Risk Management in Entertainment, Sports and the Arts Units: 4
- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 472 The Science of Peak Performance Units: 2
- MOR 499 Special Topics Units: 2, 3, 4
  Sports Business Innovation - Impacts on Decision Making Units: 4

Technology Commercialization Minor

This interdisciplinary minor includes courses from both the business and engineering schools and provides education in the economic, technological and entrepreneurial aspects of commercializing new technologies. The minor is designed for students from a range of backgrounds (e.g., majors in engineering, life sciences or business) who are interested in starting their own technology-based ventures, working for technology-based start-up companies or pursuing corporate careers that may involve the commercialization of new technologies. In the minor, students learn about conceptualizing, developing and managing new, technology-based ventures and projects.

To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of 2.75. To complete the minor, students are required to complete the two required courses (7 units) and enough elective courses to achieve a total of 16 units outside of their major. Business majors thus require 23 total units and other majors 16 total units to complete the minor.

Required Courses

- BAEP 452 Feasibility Analysis Units: 4
- BUAD 301 Technology Entrepreneurship Units: 3 *

Note:

**BUAD 301 is a prerequisite to BAEP 452 and must be taken first.*

Electives

- ACCT 410x Foundations of Accounting Units: 4
- BAEP 454 Venture Initiation: Launching and Scaling Your Startup Units: 4
- BAEP 455 Founder's Dilemmas Units: 4
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 469 Growth Hacking: Scaling Startups Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 474 The Entrepreneur's Guide to Intellectual Property Units: 2
- BME 416L Development and Regulation of Medical Products Units: 4

- BUAD 307 Marketing Fundamentals Units: 4 or
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4

- CE 473 Engineering Law, Finance and Ethics Units: 3 or
- ENGR 509 Patent Law for Scientists and Engineers Units: 3

- ENGR 493 Dean's Seminar in Entrepreneurship: Disruptive Technologies with an Entrepreneurial Mindset Units: 2
- ISE 344 Engineering Team Management Units: 3
- ISE 440 Work, Technology, and Organization Units: 3
- ISE 460 Engineering Economy Units: 3
- ITP 310 Design for User Experience Units: 4
- ITP 466 Building the High Tech Startup Units: 4
- ITP 476 Technologies for Interactive Marketing Units: 4
- MKT 445 New Product Development and Branding Units: 4

Master of Business Administration

Executive MBA Program

The Executive MBA program is structured for mid-career to upper-career professionals who are fully employed. Rather than a program of traditional course disciplines (e.g., accounting, marketing, finance) the EMBA program offers a more thematic approach — integrating the material and often delivering it with faculty from different disciplines teaching in a team format. Core faculty include the school's most senior, experienced members as well as nationally renowned academic and business specialists. This program is delivered on Fridays and Saturdays (full days) for a two-year period at either the USC campus in downtown Los Angeles or in San Diego. As with the other USC Marshall MBA programs, an extensive international trip is integrated into the program.

Application

Application to the EMBA program does not require GMAT or GRE scores. In addition to the other general admission requirements, applicants should have 10 years of work experience that includes substantial managerial responsibilities. The Executive MBA Admissions office may be contacted at (213) 740-7846; Fax (213) 749-8520; or email: uscemba@marshall.usc.edu. Apply online at *gradadm.usc.edu*.

Program Structure

This program uses a non-traditional interdisciplinary approach to executive and managerial education though "themes" that

integrate various functional areas and address classic, yet dynamic, business issues.

The program begins with a six-day domestic residential session. Thereafter, the 21-month MBA program meets Fridays and Saturdays throughout the year with a short summer break. An eight-day international trip is scheduled during the first theme of the program's second year.

Year 1

Theme I

- GSBA 560 The Perspective of Top Management Units: 2

Theme II

- GSBA 561 Evaluating Market Performance Units: 9

Theme III

- GSBA 562 Management of Operations Units: 11 or

- GSBA 562a Management of Operations Units: 1
- GSBA 562b Management of Operations Units: 10

Theme IV

- GSBA 563 Technology and Information Systems Management Units: 6 or

- GSBA 563a Technology and Information Systems Management Units: 2
- GSBA 563b Technology and Information Systems Management Units: 4

Theme V

- GSBA 564 Functional Strategies and Implementation Units: 2

Year 2

Theme VI

- GSBA 570 The Role of the Senior Executive Units: 2

Theme VII

- GSBA 571 Environmental Analysis: Establishing Competitive Advantage Units: 9

Theme VIII

- GSBA 572 Strategic Planning for Growth Units: 11 or

- GSBA 572a Strategic Planning for Growth Units: 3
- GSBA 572b Strategic Planning for Growth Units: 8

Theme IX

- GSBA 573 Managing Strategic Change and Implementation Units: 6 or

- GSBA 573a Managing Strategic Change and Implementation Units: 5
- GSBA 573b Managing Strategic Change and Implementation Units: 1

Theme X

- GSBA 574 The Executive of the Future Units: 2

Total units required for degree: 60

Full-time MBA Program

The Marshall full-time MBA curriculum is a comprehensive two-year (63-unit) learning experience develop outstanding leaders who act with positive impact and character in a rapidly changing economic, social and political world.

A core of essential courses is designed to build the foundation of skills required of all leading executives, develop collaborative talent, cultivate innovation and expand the student's vision with a global perspective. An individualized program of study, which begins in the second semester of the first year, allows students to acquire knowledge and skills in specialized functions within specific industries.

Recognizing that success in business requires more than a thorough knowledge of the vernacular of business, the full-time MBA curriculum is both broad and deep, offering students an opportunity to learn about business from varying perspectives. Full-time MBA students develop:

- a strategic perspective that understands the global dynamics of worldwide industries and new markets;
- an ability to integrate decisions and solutions across disciplines in complex decision-making environments;
- a world view that understands and appreciates different cultures and economies;
- a clear framework for ethical and values-based, decision-making supported by unyielding personal integrity and the confidence to act accordingly; and
- a professional presence and the ability to articulate a vision needed to motivate others and lead diverse teams of people.

Full-time MBA graduates are collaborative by nature, innovative in spirit and global in perspective.

The Faculty

Instructors in the full-time MBA program are an inspired group of teachers who are passionate about nurturing the development of their students and are committed to the program and to innovative implementation. Scholars bring their latest thinking into the classroom and convey it so that students embrace ideas and learning with excitement and a willingness to demonstrate that learning and enthusiasm in their careers.

Recognized experts, academic specialists and industry leaders are actively involved in the program. Faculty known for their work in Marshall research centers offer industry collaboration. Many faculty connect with other schools in the university, tap into the strengths of innovative Southern California industries and engage our alumni across industries and globally. The valuable contributions of experience and expertise from individuals and organizations outside Marshall weave theory with practice.

An Advanced Learning Environment

The educational approach of the full-time MBA is a careful balance of case learning along with course work, lectures, experiential exercises and field studies. Students are members of supportive and challenging learning communities. The experience is hands-on and teamwork based, with extensive opportunities to work with real companies and managers on real projects.

Classes are taught in state-of-the-art case rooms. The Experiential Learning Center offers students opportunities for experimentation, video practice, simulation exercises and group preparation.

The full-time program is rigorous, intellectually demanding and time-intensive. Students typically spend 60–80 hours per week on course work and projects.

Application

The program enrolls students one time per year in the fall. To obtain information regarding application criteria, class profiles, deadlines and notification dates or to apply, visit marshall.usc.edu or contact the Marshall MBA Admission Office in Popovich Hall (JKP) 308 - phone (213) 740-7846, fax (213) 749-8520 or email marshallmba@marshall.usc.edu.

Summer Preparation

The average full-time MBA student is returning to school after completing five years of full-time employment. To help students prepare for their return to academia and refresh their knowledge of business fundamentals, Marshall provides non-credit tutorials and workshops via online/distance formats. Students complete the summer preparation materials and master the information before arriving on campus.

Orientation programs take place during the latter half of July.

Early Start to First Year

The academic program begins the first week of August with a three-week intensive term that includes graded course work in communication for management, strategy, microeconomics and professional values. The fall semester academic program continues with classes, workshops and study sessions meeting Monday through Friday.

Focus on Collaboration

The ability to work in and manage teams is becoming increasingly important in business practice. Building these skills during the program is a key part of each student's leadership growth.

Students are assigned to small teams for the first semester of study. These teams are composed of students with diverse backgrounds and experiences to enhance the overall learning experience for each team member. Teamwork is crucial to success in a variety of settings including group projects, study groups and competitive assignments. A greater understanding of teams is bolstered through formal discussions and presentations throughout the year.

In addition to formal team projects, a strong community of mutual support develops from the important role informal study groups play in the school's academic culture.

The Core: An Integrated Program of Study

Although the curriculum lists a series of required courses to be taken during the first year of the full-time MBA program, students are, in many ways, pursuing one nine-month course because the individual courses and materials covered are highly integrated.

The first-year teaching team develops and evaluates selected assignments jointly, linking concepts across courses, and occasionally team teaching, examining complex business programs from multiple perspectives.

Communication for Management

Communication for Management is a business communication course comprising class sessions, tailored workshops and ongoing individual and group coaching. First-year students are immersed in developing their presentation skills, interpersonal communication skills and emotional intelligence — the ability to understand and respond to the human side of business — all skills required of successful leaders.

Career Insight Seminars

Identifying and exploring potentially satisfying career paths is the starting point for effective lifelong career management success and the key to personal and professional growth and satisfaction. To support students in this process, all candidates attend a series of "Career Insight" seminars during the first semester of the program. These seminars improve students' functional and industry awareness, provide a deeper understanding into the future of business and industry, and as a result enhance decision-making in the areas critical to career development, satisfaction and success.

PRIME

The global vision generated during the first year of the MBA culminates with PRIME. The final component of the Global Context of Business course, PRIME takes on-campus classroom study abroad for nine days. Integrating the classroom and international travel components of the course, students conduct research on industry- and company-specific business issues and report their findings in major presentations. Recent PRIME locations include Bangkok, Beijing, Hong Kong, Seoul, Shanghai and Tokyo.

Internships

Practical experience is critical to success in business. Marshall has developed an extensive network of prospective employers who offer internships during the summer between their first and second year. Successful internships often lead to job offers.

International Exchange Program

The Marshall School offers a range of international semester-long exchange programs in cooperation with leading business schools around the world. Since many of the programs are taught in English, language proficiency is not a requirement for all countries. Students must complete the MBA core courses and maintain a 3.0 GPA in order to participate in the exchange program. This program is open to full-time MBA and MBAPM students.

Program Structure

A total of 63 units is required. The following outlines the typical full-time student's schedule:

First Year "Core" Required Courses - First Semester

- GSBA 509 Marketing Management Units: 1.5
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3 (3 units)
- GSBA 511 Microeconomics for Management Units: 1.5, 3 (1.5 units)
- GSBA 524 Data Science for Business Units: 2, 3 (3 units)
- GSBA 527 Structured Analysis for Unstructured Problems Units: 1, 1.5
  (1.5 units)
- GSBA 540 Contemporary Issues in Competitive Strategy Units: 1.5
- GSBA 541 Foundations of Your Professional Value Units: .5
- GSBA 542 Communication for Management Units: 1.5
- GSBA 548 Corporate Finance Units: 2, 3 (3 units)

Total units: 17

Second Semester

- GSBA 503 Contemporary Issues in Competitive Global Strategy Units: 1.5
- GSBA 504a Operations Management Units: 1.5
- GSBA 533 Organizational Behavior and Leadership Units: 1.5
- GSBA 552 Problem Solving and Decision Making: An Integrative Approach Units: 2
- GSBA 580 The Global Context of Business - PRIME Units: 2
- Graduate business electives Units: 7.5 (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units: 16

Summer

- GSBA 595 Internship in Business Units: 0.5, 1, 1.5, 2
  (maximum 1.5 units applicable to this degree)

Second Year

Additional graduate business elective courses (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR) sufficient to bring the total to at least 63 units required to complete the degree.

Total units required for degree: 63

Note: USC reserves the right to change, add or delete its course offerings and programs without notice.

International Management Science (STEM) MBA Program

The IBEAR MBA program is an accelerated global MBA for experienced managers and professionals. The curriculum contains internationalized core courses in its first three terms and selected international business electives thereafter. It concludes with a challenging consulting project in terms four and five.

The value of a business education focusing on quantitative and scientific methods has long been recognized. The Management Science specialization of the Master of Business Administration recognizes the efforts of individuals who choose to focus their MBA studies on quantitative business-related fields such as statistics, mathematical techniques, analytics, data warehousing, data mining, operations and supply chain optimization, finance, forecasting, digital marketing and modeling.

A core of essential courses is designed to build the foundation of skills required of all leading executives, develop collaborative talent, cultivate innovation, build analytical skills, and expand the student's vision and ethical framework with a global perspective. An individualized program of study allows students to acquire knowledge and skills in their preferred STEM-related disciplines.

Application

In addition to the general admission requirements, applicants should have a minimum of six years work and/or graduate study experience. Current participants average 11 years of experience and are 34 years of age. Scholarships are available to domestic and international students.

The Management Science specialization of the IBEAR MBA is open only to individuals who have been admitted to the Marshall IBEAR MBA program.

IBEAR MBA students who wish to transition to the STEM IBEAR MBA submit a petition to the academic director of the IBEAR MBA program during the first term of the program. The petition must include a brief essay explaining why the student would benefit academically and succeed in the STEM MBA program.

For more information, contact the IBEAR MBA Program; (213) 740-7140; Email ibearmba@marshall.usc.edu; Web: *marshall.usc.edu*. Apply online at *gradadm.usc.edu*.

Program Structure

This intensive full-time program begins in late June and ends in late June each year. It begins with a one-week orientation/transition program to assist international and domestic participants in adjusting to graduate school and life in Los Angeles.

"Core" Required Courses

Successfully complete all of the required (core) courses in the USC Marshall IBEAR MBA program.

- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
- GSBA 511 Microeconomics for Management Units: 1.5, 3
- GSBA 523 Communication for Management Units: 2, 3
- GSBA 524 Data Science for Business Units: 2, 3
- GSBA 528 Marketing Management Units: 3
- GSBA 529 Strategic Formulation for Competitive Advantage Units: 3
- GSBA 534 Operations Management Units: 2, 3
- GSBA 543 Managerial Perspectives Units: 3
- GSBA 548 Corporate Finance Units: 2, 3
- GSBA 549 The Firm in the National and International Economy Units: 3
- GSBA 583 The Global Context of Business (IELP) Units: 2
- GSBA 584a International Business Consulting Project Units: 2
- GSBA 584b International Business Consulting Project Units: 1

Total "Core" Required Units: 35

Management Science Electives

Successfully complete at least 18 units selected from the list below.

- ACCT 581 Financial Statement Analysis Units: 3
- DSO 506 Sourcing and Supplier Management Units: 1.5
- DSO 510 Business Analytics Units: 1.5, 3
- DSO 516 Probability and Data Modeling Units: 1.5
- DSO 520 Logistics Management Units: 3
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 529 Advanced Regression Analysis Units: 3
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 536 Monte Carlo Simulation and Decision Models Units: 1.5
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- DSO 549 Application of Lean Six Sigma Units: 3
- DSO 552 SQL Databases for Business Analysts Units: 1.5
- DSO 562 Fraud Analytics Units: 3
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3
- DSO 574 Using Big Data: Challenges and Opportunities Units: 3
- DSO 580 Project Management Units: 3
- DSO 581 Supply Chain Management Units: 3
- DSO 582 Service Management: Economics and Operations Units: 3
- DSO 583 Operations Consulting Units: 3
- DSO 586 Global Healthcare Operations Management Units: 3
- DSO 599 Special Topics Units: 1, 1.5, 2, 3 *
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
- FBE 543 Forecasting and Risk Analysis Units: 3
- FBE 550 High Yield Bond Investing - Managing Credit Risk Units: 1.5
- FBE 555 Investment Analysis and Portfolio Management Units: 3
- FBE 559 Management of Financial Risk Units: 3
- MKT 512 Customer Insights and Analysis Units: 3
- MKT 536 Pricing Strategies Units: 3
- MKT 543 Market Demand and Sales Forecasting Units: 3
- MKT 566 Marketing Analytics Units: 3

  * Selected offerings of DSO 599 may be applicable to this program, subject to approval by the academic director. Students must petition prior to registration.

General Business Electives

Complete a selection of graduate business electives (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR) sufficient to bring the total units completed to at least 56.

Total units required for degree: 56

Note: USC reserves the right to change, add or delete its course offerings and programs without notice.

International MBA Program

The IBEAR MBA program is an accelerated global MBA for experienced managers and professionals. The curriculum contains internationalized core courses in its first three terms and selected international business electives thereafter. It concludes with a challenging consulting project in terms four and five.

A core of essential courses is designed to build the foundation of skills required of all leading executives, develop collaborative talent, cultivate innovation, build analytical skills, and expand the student's vision and ethical framework with a global perspective. An individualized program of electives allows students to acquire knowledge and skills in their preferred disciplines.

Application

In addition to the general admission requirements, applicants should have a minimum of six years of work and/or graduate study experience. Current participants average 11 years of experience and are 34 years of age. Scholarships are available to domestic and international students.

For more information, visit *marshall.usc.edu/ibear* or contact the IBEAR MBA Program: phone (213) 740-7140 or email ibearmba@marshall.usc.edu.

Program Structure

This intensive full-time program begins in late June and ends in late June each year. It begins with a three-week transition program to assist international and domestic participants in adjusting to graduate school and life in Los Angeles.

Required Courses

- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
- GSBA 511 Microeconomics for Management Units: 1.5, 3
- GSBA 523 Communication for Management Units: 2, 3
- GSBA 524 Data Science for Business Units: 2, 3
- GSBA 528 Marketing Management Units: 3
- GSBA 529 Strategic Formulation for Competitive Advantage Units: 3
- GSBA 534 Operations Management Units: 2, 3
- GSBA 543 Managerial Perspectives Units: 3
- GSBA 548 Corporate Finance Units: 2, 3
- GSBA 549 The Firm in the National and International Economy Units: 3

- GSBA 583 The Global Context of Business (IELP) Units: 2
- GSBA 584a International Business Consulting Project Units: 2
- GSBA 584b International Business Consulting Project Units: 1
- GSBA 595 Internship in Business Units: 0.5, 1, 1.5, 2 *(maximum 1.5 units applicable to this degree)*

Electives

Complete a selection of graduate business elective courses (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR courses) sufficient to bring the total units completed to at least 56.

Total units required for degree: 56

Management Science (STEM) MBA Program

The value of a business education focusing on quantitative and scientific methods has long been recognized. The Management Science specialization of the Master of Business Administration recognizes the efforts of individuals who choose to focus their MBA studies on quantitative business-related fields such as statistics, mathematical techniques, analytics, data warehousing, data mining, data visualization, operations and supply chain optimization, finance, forecasting, digital marketing and modeling.

A core of essential courses is designed to build the foundation of skills required of all leading executives, develop collaborative talent, cultivate innovation, build analytical skills, and expand the student's vision and ethical framework with a global perspective. An individualized program of study allows students to acquire knowledge and skills in their preferred STEM-related disciplines.

Application

The Management Science specialization of the MBA is open only to individuals who have been admitted to the Marshall Full-Time MBA program and have successfully completed the majority of the “core” required courses in their MBA program. Students in the Full-time MBA program apply for admission to this program after completion of their first semester.

MBA students who wish to transition to the STEM MBA submit a petition to the academic director of their MBA program. The petition must include a brief essay explaining why the student would benefit academically and succeed in the STEM MBA program.

To qualify for admission to the Management Science MBA the student must have earned a Marshall MBA degree GPA of at least 3.0 and a cumulative graduate GPA at USC of at least 3.0.

Program Requirements

The Management Science specialization of the MBA requires 63 units including MBA core, management science electives, and general business electives.

"Core" Required Courses

Successfully complete all of the required (core) courses in the USC Marshall Full-Time MBA program.

Management Science Electives

Successfully complete at least 18 units selected from the list below.

- ACCT 581 Financial Statement Analysis Units: 3
- DSO 506 Sourcing and Supplier Management Units: 1.5
- DSO 510 Business Analytics Units: 1.5, 3
- DSO 516 Probability and Data Modeling Units: 1.5
- DSO 520 Logistics Management Units: 3
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 529 Advanced Regression Analysis Units: 3
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 536 Monte Carlo Simulation and Decision Models Units: 1.5
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- DSO 549 Application of Lean Six Sigma Units: 3
- DSO 552 SQL Databases for Business Analysts Units: 1.5
- DSO 562 Fraud Analytics Units: 3
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3
- DSO 574 Using Big Data: Challenges and Opportunities Units: 3
- DSO 580 Project Management Units: 3
- DSO 581 Supply Chain Management Units: 3
- DSO 582 Service Management: Economics and Operations Units: 3
- DSO 583 Operations Consulting Units: 3
- DSO 586 Global Healthcare Operations Management Units: 3
- DSO 599 Special Topics Units: 1, 1.5, 2, 3 *
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
- FBE 543 Forecasting and Risk Analysis Units: 3
- FBE 550 High Yield Bond Investing - Managing Credit Risk Units: 1.5
- FBE 553a Applied Portfolio Management Units: 3
- FBE 553b Applied Portfolio Management Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3
- FBE 559 Management of Financial Risk Units: 3
- GSBA 504b Operations Management Units: 1.5
- MKT 512 Customer Insights and Analysis Units: 3
- MKT 536 Pricing Strategies Units: 3
- MKT 543 Market Demand and Sales Forecasting Units: 3
- MKT 566 Marketing Analytics Units: 3

  * Selected offerings of DSO 599 may be applicable to this program, subject to approval by the academic director. Students must petition prior to registration.

General Business Electives

Complete a selection of graduate business electives (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR) sufficient to bring the total units completed to at least 63.

Total units required for degree: 63

Note: USC reserves the right to change, add or delete its course offerings and programs without notice.

MBA Program for Professionals and Managers

The MBA Program for Professionals and Managers (MBA.PM) is a part-time, comprehensive MBA program that allows fully employed individuals to pursue their MBA degree. The program offers flexibility and a rich array of elective courses. Students in the MBA.PM program complete the degree in 33 months attending classes in fall and spring semesters and summer sessions. The degree can be completed in as little as two years for students who accelerate or up to five years for students who prefer a slower pace.

The MBA.PM offers the following advantages:

- the scheduling design allows students to complete the degree in a timely way, while continuing to work full time;
- program flexibility allows students to tailor their selection of elective courses to their individual interests;
- PM.GLOBE, a course which includes an international trip, gives all MBA.PM students first-hand exposure to international markets;
- a cohesive group of student colleagues proceeds through the core together, providing opportunities for building relationships with other talented and ambitious individuals;
- special academic and social activities enhance the richness of the MBA experience; and
- interaction between faculty and students enhances the overall learning experience.

The first year of the MBA.PM program is also offered at the Orange County Center in Irvine. All students take most of their elective courses at the University Park Campus in Los Angeles.

Students attend core classes either two nights per week or on weekends (Saturdays plus an occasional Sunday) for 12 months. Students must complete the core courses in the prescribed sequence and within the prescribed time frame. Elective courses are offered on a semester basis during the remaining portion of the program, including summer session.

During the elective portion of the program, MBA students are encouraged to pursue a course of study that meets their professional goals. Students design their course of study by taking electives offered in the Marshall School and by sometimes taking courses in other areas of the university. Up to 9 units of graduate-level electives may be taken at USC outside the Marshall School of Business for elective credit provided the student shows sufficient reason why a selected course is relevant to the Marshall School of Business program. Permission to take courses outside the Marshall School must be requested via petition to the MBA.PM Program Office in Popovich Hall 106.

International Exchange Program

The Marshall School offers a range of international semester-long and summer exchange programs in cooperation with leading business schools around the world. Since many of the exchange programs are taught in English, language proficiency is not a requirement for all countries. Students must complete the MBA core courses and maintain a 3.0 GPA in order to participate in the exchange program. This program is open to fulltime MBA and MBA.PM students.

Application

The program enrolls students one time per year in the fall. To obtain information regarding application criteria, class profiles, deadlines, and notification dates or to apply, visit *marshall.usc.edu/mbapm* or contact the Marshall MBA Admission Office in Popovich Hall (JKP) 308 - phone (213) 740-7846, fax (213) 749-8520, email *marshallmba@marshall.usc.edu*.

Sample Program

A total of 63 units is required for the program. The following outlines the typical MBA.PM student's schedule:

First Year "Core" Required Courses - Fall Term

- GSBA 525 Introduction to Management and Strategy Units: 1 (Pre-Fall)
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3 (3-unit version required)
- GSBA 511 Microeconomics for Management Units: 1.5, 3 (1.5-unit version required)
- GSBA 523 Communication for Management Units: 2, 3 (2-unit version required)
  (begins during Pre-Fall)
- GSBA 527 Structured Analysis for Unstructured Problems Units: 1, 1.5

Total units: 8.5

Winter Term A&B

- GSBA 506a Applied Managerial Statistics Units: 1.5
- GSBA 506b Applied Managerial Statistics Units: 1.5
- GSBA 522a Managerial Perspectives Units: 1.5
- GSBA 522b Managerial Perspectives Units: 1.5
- GSBA 541 Foundations of Your Professional Value Units: .5
- GSBA 550a Entrepreneurship Units: .5
- GSBA 550b Entrepreneurship Units: 1

Total units: 8

Spring Term

- GSBA 519a Strategic Formulation for Competitive Advantage Units: 1.5
- GSBA 528 Marketing Management Units: 3
- GSBA 548 Corporate Finance Units: 2, 3 (3-unit version required)

Total units: 7.5

Summer Session

- GSBA 519b Strategic Formulation for Competitive Advantage Units: 1.5
- GSBA 534 Operations Management Units: 2, 3 (3-unit version required)
- GSBA 581 Technology Innovation and Management Units: 1.5

Total units: 6

Second Year - Fall Semester

- GSBA 544 The Firm in the Global Economy Units: 1.5
- Graduate business electives Units: 6 (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units: 7.5

Spring Semester

- GSBA 582 The Global Context and International Business Units: 1.5
- Graduate business elective(s) Units: 4.5 (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units: 6

Summer Session

- Graduate business electives Units: 6
  (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Third Year - Fall Semester

- Graduate business electives Units: 7.5
  (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Spring Semester

- Graduate business electives Units: 6
  (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units required for degree: 63

Note: USC reserves the right to change, add or delete its course offerings and programs without notice.

Online MBA Program

The Online MBA (OMBA) program is structured for students who are currently employed and wish to remain within the labor force while earning a degree. The OMBA Program offers an integrative approach to core business disciplines including accounting, finance, data sciences, marketing, management, operations and entrepreneurship. The program is delivered by full-time faculty from different disciplines teaching in a team format to integrate understanding of business fundamentals, internal and external operations, business environments and leadership. The program capitalizes on the unique opportunities inherent in online delivery to maximize student engagement through critical thinking, analytics and communication.

Application

The program accepts applicants for fall and spring semesters. Applications are submitted online through the Marshall School of Business application Website at *app.applyyourself.com/?id=usc-mba*. International applicants are advised to see the instructions for international students published in the *USC Graduate Admissions Website*.

Program Structure

The OMBA program uses an interdisciplinary approach to business education that enables students to develop an expertise in business administration in order to perform more effectively as business leaders, corporate managers and entrepreneurs.

The program begins with a five-day domestic residential session, after which the 21-month MBA Program meets online. The program requires 51 units. First semester courses include GSBA 501 and GSBA 505, which are prerequisites for the remaining courses. GSBA 535, GSBA 537, GSBA 538 and GSBA 539 may be taken in any order.

Required Courses - Residential Intensive

- GSBA 501 The Role of the Manager Units: 3

First Semester

- GSBA 505 Fundamentals of Business Units: 10

Remaining Required Courses

- GSBA 535 Opportunity Recognition and Implementation Units: 9.5
- GSBA 537 Managing Inside the Firm Units: 9.5
- GSBA 538 Managing Outside the Firm Units: 9.5
- GSBA 539 Business Environment and Leadership Units: 9.5

Total units: 51

For more information, visit http://onlinemba.marshall.usc.edu or email OMBA@marshall.usc.edu.

Note: USC reserves the right to change, add or delete its course offerings and programs without notice.

MBA Dual Degree Programs

Juris Doctor/Master of Business Administration (JD/MBA)

The Marshall School of Business in conjunction with the USC Gould School of Law offers a program leading to the degrees of Juris Doctor/Master of Business Administration.

Application

Applicants to this program must apply to both schools individually and take both the Graduate Management Admission Test (GMAT) or the Graduate Record Examinations (GRE) and the Law School Admission Test (LSAT). Applicants should apply either simultaneously to both programs or during the first year in the USC Gould School of Law. Certification for eligibility for the dual degree program must be provided by the Law School prior to admission to the dual degree program by the Marshall School of Business.

Program Requirements

The total number of units required for the MBA portion of the program is 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

The total number of Law units required for the JD portion of the program is 76. Further requirements are detailed in the *JD Student Handbook*. Dual degree program students may not count courses taken outside the Gould School of Law toward the 76 units.

First Year: Required Law School courses.

Second Year: Required MBA courses and graduate business electives.

Third and Fourth Years: Law courses sufficient to bring the total units completed in the Gould School of Law to at least 76 and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

The JD and MBA degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Doctor of Medicine (MBA/MD)

In response to the ongoing reorganization of health care delivery systems and the growing awareness of the impact of business decisions on health care, the Keck School of Medicine of USC and the Marshall School of Business jointly offer an innovative program for individuals seeking knowledge in both medicine and business administration. The program is designed to prepare its graduates to assume leadership in the design and management of health care systems.

Completion of the MBA/MD program spans five years. Interested students apply during their second or third year of medical school and begin required MBA courses following successful completion of the first two or three years of medical school. The remaining time is devoted to the clinical clerkships of the Keck School of Medicine and completion of elective courses in the Marshall School.

Application

MBA/MD students should apply during their second or third year of medical school in the Keck School of Medicine. Application to the MBA/MD does not require GMAT or GRE scores. All other requirements for admission to the Marshall MBA program must be fulfilled by the medical student for admission to the Marshall School. Only students who have successfully completed at least two years in the Keck School of Medicine will be considered for admission to the Marshall School of Business.

Program Requirements

At the conclusion of the program, students will have completed 48 units in the Marshall School of Business, including required and elective courses, and four years of courses in the Keck School of Medicine.

First and Second Years: Required medicine courses.

Third or Fourth Year: Required MBA courses and graduate business electives.

Remaining Years: Keck School of Medicine core, selective and elective clerkships, and graduate business elective courses sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

The MD and the MBA degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Doctor of Pharmacy (MBA/PharmD)

Responding to the growing demand on pharmacists to be knowledgeable in both science and business administration, the USC School of Pharmacy and the Marshall School of Business joined forces in 1988 to offer the MBA/PharmD dual degree program.

MBA Admission Requirements

Applicants to this program must have earned a baccalaureate degree equivalent to a four-year U.S. bachelor's degree from an accredited college or university. PharmD students should apply for admission to the MBA program during the first year of pharmacy studies. Only students who successfully complete the first year in the School of Pharmacy will be allowed to enroll in the MBA program.

Program Requirements

The program involves completion of the first year in the School of Pharmacy, the second year in the Marshall School of Business, and the balance of the dual degree program during the third through fifth years.

A total of 48 units of business course work is required. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units. See the USC School of Pharmacy for PharmD requirements.

First Year: Required Pharmacy School courses.

Second Year: Required MBA courses and graduate business electives.

Third to Fifth Years: Remaining Pharmacy courses and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

The MBA and PharmD degrees are awarded simultaneously upon completion of both the Marshall School of Business and the School of Pharmacy requirements.

Master of Business Administration/Master of Arts in East Asian Area Studies (MBA/MA)

The Marshall School of Business in conjunction with the East Asian Studies Center (USC Dornsife College of Letters, Arts and Sciences) offers a joint MBA/MA degree program that combines graduate business education with training in the cultures and societies of East Asia. Students may complete the degree on a full- or part-time basis.

Application

Students must apply to both the Marshall School of Business and the USC Dornsife College of Letters, Arts and Sciences. GRE scores are not required for admission to the dual degree program, but may be submitted in lieu of GMAT scores.

Program Requirements

Students enrolled in the program are required to complete a minimum of 72 units. All students must complete 48 units in the Marshall School of Business. In East Asian Area Studies (EASC), students have the option of taking five courses and writing a thesis (for a total of 24 units) or taking six courses and passing a comprehensive examination (for a total of 24 units).

Required courses that must be taken in the Marshall School of Business include: all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

See East Asian Area Studies in the USC Dornsife College of Letters, Arts and Sciences for East Asian Area Studies course requirements and the foreign language requirement.

The MBA and MA degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Arts in Jewish Nonprofit Management (MBA/MA)

In cooperation with Hebrew Union College-Jewish Institute of Religion's Zelikow School of Jewish Nonprofit Management, the Marshall School of Business offers the dual degree program Master of Business Administration/Master of Arts in Jewish Nonprofit Management. This degree program prepares students to apply business and management concepts to the nonprofit sector.

Application

Applicants to the MBA/Master of Arts in Jewish Nonprofit Management program should apply to the Marshall School of Business and to the Zelikow School of Jewish Nonprofit Management at the Hebrew Union College-Jewish Institute of Religion concurrently.

Degree Requirements

For the Marshall School portion of the dual degree program: all courses required in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

Students must also complete a minimum of 34 units in the Zelikow School of Jewish Nonprofit Management at Hebrew Union College - Jewish Institute of Religion to complete the MA in Jewish Nonprofit Management.

Sample Student Program

Summer I: Hebrew Union College required courses

Fall I, Spring I: MBA required courses and one Hebrew Union College elective

Summer II: MBA and Hebrew Union College required courses

Fall II: Hebrew Union College required courses and MBA electives

Spring II: Hebrew Union College required courses, MBA GLOBE, and MBA elective courses

Fall, Spring III (optional): MBA electives

The MBA and the MA degrees are awarded simultaneously upon completion of their respective degree requirements.

Master of Business Administration/Master of Real Estate Development (MBA/MRED)

The Master of Business Administration/Master of Real Estate Development dual degree program enables students to expand their skills in planning, land development, marketing, decision sciences, accounting, management, finance and economics. A more sophisticated real estate market makes this diversity of training essential for many students pursuing careers in real estate finance and development.

Completion of the MRED portion of the program requires that students have use of an approved laptop computer and demonstrate calculator and spreadsheet skills; a calculator and/or spreadsheet class is offered online.

Application

Students must apply to both the Marshall School of Business and the USC Price School of Public Policy. Please consult the Admission section of each school for specific requirements.

Program Requirements

A total of 82 units is required. Required courses include:

- all "required" courses in a Marshall MBA program (Full-Time, MBA Program for Professionals and Managers, International MBA, Executive MBA, Online MBA, Management Science MBA, International Management Science, MBA)
- FBE 565 Economics of Urban Land Use: Feasibility Studies Units: 3
- FBE 588 Advanced Real Estate Law Units: 3
- additional graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48
- policy, planning, and development courses (34 units)

Additional Information

Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

Comprehensive Examination: Students are required to complete a comprehensive examination administered by faculty members from both the Marshall School of Business and the USC Price School of Public Policy.

See Master of Real Estate Development/Master of Business Administration (MRED/MBA) for MRED course requirements.

The MBA and the MRED degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Science in Gerontology (MBA/MS)

The MBA/MS dual degree program combines knowledge of the older population with the skills of business management. The program prepares graduates for a number of roles in both public and private sector organizations including the marketing of products or services to seniors, human resource development with older workers and retirement benefits.

Application

Applicants to the MBA/MS in Gerontology should apply to both schools simultaneously.

Gerontology Requirements

The Master of Science in Gerontology requires 30 units of course and fieldwork, which cover the core content of the MS program. See the USC Leonard Davis School of Gerontology page for course requirements.

Business Administration Requirements

The Master of Business Administration component requires 48 units of credit. Required courses include:

- all required courses in an MBA program;
- MOR 548 Competitive Advantage Through People;
- one of the following marketing electives: MKT 512 Consumer Insights and Analysis, MKT 525 Consumer Behavior, MKT 560 Marketing Strategy;
- additional graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

Dual degree candidates may not count courses taken outside the Marshall School of Business for the 48 units.

The MBA and MS degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Science in Industrial and Systems Engineering (MBA/MS)

The Marshall School of Business in conjunction with the Daniel J. Epstein Department of Industrial and Systems Engineering offers a program leading to the degrees of Master of Business Administration/Master of Science in Industrial and Systems Engineering.

Application

Applicants to the MBA/MS, Industrial and Systems Engineering program should apply to both schools simultaneously.

Program Requirements

This alternative requires 66 units for graduates of industrial and systems engineering undergraduate curricula and leads to both a Master of Science in Industrial and Systems Engineering and the Master of Business Administration.

The total number of units required for the MBA portion of the program is 48.

Required business courses include all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

Dual degree program students may not count courses taken outside the USC Marshall School of Business toward the 48 units.

See Master of Science, Industrial and Systems Engineering/ Master of Business Administration (MS/MBA) for industrial and systems engineering course requirements.

The MBA and the MS degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Science, Systems Architecting and Engineering (MBA/MS)

The Marshall School of Business in conjunction with the Viterbi School of Engineering offers a dual degree program leading to the degrees of Master of Business Administration and Master of Science in Systems Architecting and Engineering.

Application

Applicants to the MBA/MS, Systems Architecting and Engineering program should apply to both schools simultaneously. Applicants must satisfy the admission requirements of both the MBA program selected and the MSSAE program. For this program GRE scores are preferred.

Program Requirements

This alternative requires at least 72 units and leads to both a Master of Business Administration and a Master of Science in Systems Architecting and Engineering.

The total number of units required for the MBA portion of the program is at least 48.

Required business courses include all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

Dual degree program students may not apply courses taken outside the USC Marshall School of Business to the MBA requirements.

See Master of Science, Systems Architecting and Engineering/ Master of Business Administration (MS/MBA) for systems architecting and engineering course requirements.

The MBA and the MS degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Social Work (MBA/MSW)

The Master of Business Administration/Master of Social Work dual degree program develops knowledge and skills in working with individuals, families and groups, as well as organizational dynamics, marketing, decision sciences, accounting and human relations. Students interested in working in the management of human services and not-for-profit organizations will develop knowledge of human resources, philanthropic and corporate social responsibility, organizational development and information management.

Application

Prospective students must apply to both the Marshall School of Business and the USC Suzanne Dworak-Peck School of Social Work.

Program Requirements

The MBA/MSW degree program requires completion of a total of 96 units (48 in the Marshall School of Business and 48 in the Suzanne Dworak-Peck School of Social Work).

Course requirements in the Marshall School of Business include all courses required for an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units. See the Suzanne Dworak-Peck School of Social Work section for Social Work (MSW) course requirements.

The MBA and the MSW degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Urban Planning (MBA/MUP)

The Marshall School of Business in conjunction with the USC Price School of Public Policy offers a program leading to the degrees of Master of Business Administration and Master of Urban Planning.

The Master of Business Administration/Master of Urban Planning dual degree program enables students to understand the conduct and requirements of business, accounting, corporate and strategic planning, real estate marketing and finance. Students also gain expertise in public policy, city planning and the interpretation of government regulations. Exposure to both fields becomes an educational as well as professional asset for careers in either public service or private enterprise.

Application

Applicants to this program should apply to both schools simultaneously.

Program Requirements

A total of 84 units is required for the dual degree: 48 units of work in the Marshall School of Business and 36 units from the USC Price School of Public Policy. Students can complete the program on either a full- or part-time basis. The program normally requires five semesters of full-time study in residence.

Required courses that must be taken in the Marshall School of Business include: all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

See the USC Price School of Public Policy for Master of Urban Planning course requirements.

The MBA and MUP degrees are awarded simultaneously upon completion of all program requirements.

Master's Degree

Business Administration (MS)

The Master of Science in Business Administration (MS) is designed to provide those who have already completed an MBA with an opportunity to pursue further study in an area of specialization currently available to Marshall MBA students. The degree is available only to those holding MBA degrees from institutions accredited by the Association to Advance Collegiate Schools of Business (AACSB). It may be completed on either a full- or part-time basis. Classes applicable to the degree are offered during both daytime and evening hours.

Prospective applicants are encouraged to visit the MS in Business Administration Website at *marshall.usc.edu/ms-busad* for more information about this very flexible curriculum.

Admission Requirements

Applicants may apply for admission to begin the program in the summer term or the fall or spring semesters. Application deadlines vary by semester, citizenship and registration goals. Details are available under the Calendar tab at *marshall.usc.edu/ms-busad*.

Successful applicants should have earned a GPA of 3.3 or greater in their MBA course work, scored at least as well as an average Marshall MBA student on the GMAT or the GRE and have significant full-time work experience.

Application Procedure

Submit an online application to the MS program through the USC Graduate Admissions Website (*gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website (*gradadm.usc.edu/apply/international-students/*).

- Current USC students and USC MBA alumni are not required to submit an application fee, new test scores or transcripts to verify degrees earned prior to their attendance at USC.
- Applicants who completed the MBA at an institution other than USC must submit all application documentation identified in the online application instructions including the application fee, official GMAT or GRE scores and transcripts.

For additional information, visit *marshall.usc.edu/msba*.

Program Structure and Unit Requirements

MS in Business Administration applicants are invited to consider areas of specialization available to Marshall MBA students. While the student identifies an area of interest as part of the application process, final determination of course work requirements is made under the guidance of and subject to approval by a faculty adviser. The academic department reviewing the application recommends a faculty adviser for the new student, but applicants may request a specific faculty adviser from among the faculty of the Marshall School of Business.

Together the student and the faculty adviser determine which courses the student must complete. An evaluation of work previously completed determines if prior work needs updating to prepare for new course work. If it is determined that preliminary courses are needed, the number of units needed to complete the Master of Science degree will increase. The student's program is then documented on an official program of study and filed with the MS program adviser.

Completion of the Master of Science degree requires a minimum of 24 graduate units for all candidates.

None of the GSBA prefixed classes required for completion of a Marshall MBA program may be applied toward the Master of Science in Business Administration unless they are required to update prior work and are added to the 24-unit total.

No courses numbered lower than 500 may be included in this program. No more than two courses or 8 units may be taken in graduate course work outside the Marshall School of Business.

Business Analytics (MS)

The Master of Science in Business Analytics provides students with the skill and knowledge to become experts in business analytics and to advance their careers in the area of data analytics. Students in the program acquire the statistical and optimization tools necessary to analyze large and unstructured data sets and make optimal decisions to improve the performance of their organization. In addition, students develop the ability to effectively present complex data to high-level decision-makers. This program concentrates on business applications across different industries and functions including marketing, finance, operations management, retail, manufacturing, banking and health care.

Admission Requirements

Applicants must satisfy most of the admission requirements for all Marshall master's degree programs. A few years of work experience is preferred, but not required. GMAT or GRE scores are required. For international applicants TOEFL, IELTS or PTE scores required.

Application Procedure

Prospective students may apply to begin the program in the fall semester only. Applications are submitted online through the USC graduate admissions website at *gradadm.usc.edu*. International applicants are advised to see the instructions for international students published in the USC Graduate Admissions website (*gradadm.usc.edu/apply/international-students/*).

A complete application includes the online application form, an application fee, test scores, responses to several short-answer questions, and transcripts from all institutions attended since the applicant last applied to USC.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted) or transcripts to verify degrees earned prior to their attendance at USC.
- All other applicants must submit all documentation identified in the online application instructions.

For additional information, visit *marshall.usc.edu/msba* or write to msba@marshall.usc.edu.

Degree Requirements

The Master of Science in Business Analytics degree requires 33 units. The program may be completed full-time (3-5 courses per semester) or part-time.

Students who have taken one or more of the required courses elsewhere may petition to replace these courses with courses from the electives list and/or appropriately related courses offered by the Marshall School of Business or the Viterbi School of Engineering. Such a replacement must be approved by the program director prior to registration for the course.

Required Courses

- DSO 510 Business Analytics Units: 1.5, 3
  (normally 3 units)
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3
- DSO 552 SQL Databases for Business Analysts Units: 1.5
- DSO 553 NoSQL Databases in Big Data Units: 1.5
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3
- DSO 595 Internship in Data Sciences or Operations Units: 0.5, 1, 1.5, 2
  (Curricular Practical Training) (maximum 1.5 units)
- GSBA 542 Communication for Management Units: 1.5
- GSBA 545 Data Driven Decision Making Units: 1.5

At least one from the following:

- DSO 556 Business Models for Digital Platforms Units: 3
- DSO 573 Data Analytics Driven Dynamic Strategy and Execution Units: 3
- DSO 574 Using Big Data: Challenges and Opportunities Units: 3

Electives

Complete courses from the following list sufficient to total the 33 units required to complete the program.

- Any 500-level DSO course not completed as a requirement (above)
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 556 User Experience Design and Strategy Units: 4
- FBE 551 Quantitative Investing Units: 3
- MKT 512 Customer Insights and Analysis Units: 3
- MKT 536 Pricing Strategies Units: 3
- MKT 566 Marketing Analytics Units: 3
- MKT 567 Marketing Metrics for Business Decisions Units: 3

Business for Veterans (MBV)

This program is offered in an intensive format for veterans who wish to gain formal business knowledge and develop critical thinking skills to manage or grow a business. Significant project and course work is completed primarily through residential sessions with supplemental content delivered via distance learning. Class sessions meet over 20 full-day sessions each semester for two semesters with minimal interruption to the careers of working veterans. The program is offered on the University Park Campus in downtown Los Angeles.

Applications are due by May 20 for a program start date in mid-July. Application information is available online at marshall.usc.edu/MBV. For additional information, contact the Master of Business for Veterans office at (213) 740-5719 or by email at *mbv@marshall.usc.edu*.

This program requires 25 units that will be taken in lockstep fashion. These courses are thematic semesters that are interdisciplinary in nature.

Fall

- BAEP 553 Cases in New Venture Management Units: 1.5, 3
- GSBA 561 Evaluating Market Performance Units: 9

Spring

- BAEP 549 The Entrepreneurial Journey Units: 2
- GSBA 572 Strategic Planning for Growth Units: 11

Total units: 25

Business Research (MS)

The Master of Science in Business Research is an alternative available to only Marshall PhD students.

Admission

Marshall does not accept applications for admission to this program. A student admitted to the Marshall PhD program may later request conversion or be invited by the faculty to complete the master's degree in lieu of the PhD. Requests for conversion are subject to approval by the Marshall vice dean who oversees the PhD program.

For more information, contact the PhD program office for a referral to the MSBR adviser.

Program Requirements

The degree requires a minimum of 30 graduate units for all candidates.

Upon admission to the PhD program, the student works with a faculty adviser who oversees the selection of course work, taking into account the student's prior academic preparation. The curriculum requires completion of PhD program core courses focusing on research methods and theory in an area of specialization. Additional courses are drawn from the Marshall School of Business and other participating departments at USC including economics, psychology, mathematics, sociology, engineering, communication and others.

No courses numbered lower than 500 may be applied in this program. All courses applied to the degree must be letter-graded and completed in residence at USC. No transfer units or graduate units from a degree previously completed at USC can be applied to the MS in Business Research.

Entrepreneurship and Innovation (MS)

The Master of Science in Entrepreneurship and Innovation is designed to develop the entrepreneurial knowledge, skill sets and decision-making frameworks required to recognize and evaluate business opportunities and to create and guide a new entrepreneurial entity either individually or within a larger organization. The curriculum focuses on topics such as entrepreneurial decision-making, business model formulation, feasibility analysis, leading innovation and change, and how to access and deploy capital and other resources for the successful launch of a new venture. The degree can be completed on either a full- or part-time basis, and classes are offered primarily at night to accommodate the needs of working professionals.

Admission Requirements

To qualify for admission to the MSEI program, prospective students must hold a four-year bachelor's degree, or equivalent. Applicants in the process of finishing an undergraduate degree may apply, with acceptance contingent on finishing the undergraduate degree. Admission decisions are based on consideration of the applicant's previous academic record, résumé, letters of recommendation and responses to several essay questions. Full-time work experience is encouraged but not required. International applicants are required to submit TOEFL, IELTS or PTE scores. This requirement is waived for students who have completed their entire bachelor's degree program at a regionally accredited university located in the United States or officially recognized university in another country where English is both the language of instruction and the only officially recognized language of the country. Proof of financial support is required of admitted international applicants.

Application Procedure

Applications are accepted for fall semester enrollment only. Submit an online application to the program through the USC admissions website here.

A complete application includes the online application form, test scores for international applicants, responses to several questions, an application fee, two letters of recommendation and copies of transcripts from all institutions attended.

- Current USC students and USC alumni are not required to submit an application fee or transcripts to verify degrees earned prior to their attendance at USC.
- All other applicants must submit all documentation identified in the online application instructions.

For additional detailed information visit *marshall.usc.edu/MSEI* or write to MS.EI@marshall.usc.edu or call (213) 821-0877.

Degree Requirements

The Master of Science in Entrepreneurship and Innovation requires 27 units.

Required Courses

- BAEP 549 The Entrepreneurial Journey Units: 2
  or
- BAEP 551 Introduction to New Ventures Units: 3
- BAEP 552 Venture Feasibility Units: 3
- BAEP 554 Venture Initiation Units: 3
- BAEP 555 Founder's Dilemmas: Anticipate and Avoid Startup Pitfalls Units: 3
- BAEP 558 The Entrepreneurial Advisor: Problem Solving for Early-Stage Companies Units: 1.5, 3
  (3 units required)

Elective Courses

Select 12-13 units from the following to total 27 units.

- BAEP 553 Cases in New Venture Management Units: 1.5, 3
- BAEP 557 Technology Commercialization Units: 3
- BAEP 559 Investing in New Ventures Units: 3
- BAEP 560 Acquiring Your Own Business or Opportunity Units: 3
- BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences Units: 1.5
- BAEP 562 Entrepreneurship in eCommerce Units: 1.5
- BAEP 563 Corporate Entrepreneurship Units: 3
- BAEP 565 Venture Lab Units: 3
- BAEP 575 Entrepreneurship in the Media and Entertainment Industry Units: 1.5
- BAEP 585 Seminar: The Entrepreneurial Mindset Units: 1.5
- BAEP 591 Social Entrepreneurship Units: 2, 3
- BAEP 599 Special Topics Units: 1.5, 2, 2.5, 3
- BUCO 503 Advanced Managerial Communication Units: 1.5, 3
- CE 576 Invention and Technology Development Units: 3

- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- FBE 527 Entrepreneurial Finance: Financial Management for Developing Firms Units: 3
- ISE 545 Technology Development and Implementation Units: 3
- MKT 528 Sales Management: The Art and Science of Sales Units: 3
- MKT 530 New Product Development Units: 3
- MKT 533 Branding Strategy Units: 1.5, 3
- MKT 556 Internet Marketing Units: 3
- MOR 554 Leading Innovation and Change Units: 3
- MOR 567 Interpersonal Influence and Power Units: 3
- MOR 569 Negotiation and Deal-Making Units: 3
- MOR 570 Leading Effective Teams Units: 3
- MOR 579 The Business of Sports Entertainment Units: 3

Total units: 27

Finance (MS)

The Master of Science in Finance (MS) is designed to provide individuals with the necessary skills and knowledge to become experts in finance and thus advance their careers. The program provides individuals with tools, ideas and frameworks that will aid them in applying finance principles to businesses.

The program lays the groundwork with core courses in accounting, economics, finance and statistics. The foundation is supplemented with courses on the role of finance in corporations, investment analysis and portfolio theory, and forecasting and risk. In addition, students personalize their degree with a choice of elective courses covering topics like real estate, mergers and acquisitions, and hedge funds.

Admission Requirements

Applicants must satisfy most, but not all of the general admission requirements for Marshall graduate programs. GMAT or GRE scores are required. Full-time work experience is not required for admission to the MS, Finance.

Admission decisions are based on consideration of the applicant's previous academic record, resume, test scores (if provided), letter of recommendation and responses to several questions included in the application. Individuals who are admitted must have completed the equivalent of a four-year U.S. bachelor's degree prior to the start of classes.

Application Procedure

Applications are submitted online through the USC Graduate Admissions website at *gradadm.usc.edu/*. International applicants are advised to see the instructions for international students published in the USC Graduate Admissions website (*gradadm.usc.edu/apply/international-students/*).

A complete application includes the online application form, an application fee, responses to several questions, test scores (if applicable), one letter of recommendation, and transcripts from all institutions attended since the applicant last applied to USC. (Current USC students and USC alumni are not required to submit an application fee or transcripts from institutions attended prior to USC. Applicants who have never applied for admission to USC must submit official transcripts from all institutions of higher education attended.) For additional information, including application deadlines, visit *marshall.usc.edu/MSF*.

Degree Requirements

The Master of Science in Finance degree requires 36 units.

Students who have taken (at USC or elsewhere) one or more of the required "core" courses (at the graduate/post-baccalaureate level) may petition to waive out of the duplicate courses. It is expected that individuals holding accredited graduate degrees in related fields may be able to waive out of some or all four core courses, reducing the total number of units required to earn the degree to as few as 24. Waivers must be requested in an attachment to the application for admission and approved by the academic director prior to the start of the program.

A cumulative GPA of at least 3.0 for all course work applied to the degree and an overall graduate GPA at USC of at least 3.0 are required for graduation.

Required "Core" Courses

- FBE 506 Quantitative Methods in Finance Units: 3
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
  (3 units for this program)
- GSBA 511 Microeconomics for Management Units: 1.5, 3
  (3 units for this program)
- GSBA 548 Corporate Finance Units: 2, 3
  (3 units for this program)

Additional Required Courses

- FBE 524 Money and Capital Markets Units: 3
- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 531 Corporate Financial Policy and Corporate Governance Units: 1.5, 3
  (3 units for this program)
- FBE 543 Forecasting and Risk Analysis Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3
- FBE 595 Internship in Finance or Business Economics Units: 0.5, 1, 1.5, 2
  (maximum 1.5 units for this program)

Electives

Complete courses from the list below sufficient to total the units required to complete the program.

- FBE ELECTIVES: Any 500-level FBE course not completed as a requirement (above)
- ACCT 532 Financial Accounting for Mergers and Acquisitions Units: 1.5
- ACCT 533 Mergers and Acquisitions: Tax Planning and Strategy Units: 1.5
- ACCT 559 Strategy and Operations Through CFO Lens Units: 3
- ACCT 572 Corporate Accounting and Reporting Units: 3
- ACCT 581 Financial Statement Analysis Units: 3
- DSO 510 Business Analytics Units: 1.5, 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3
- MOR 542 Strategic Issues for Global Business Units: 3
- MOR 559 Strategic Renewal and Transformation Units: 3
- MOR 562 Strategic Choice and Valuation Analysis Units: 3
- MOR 569 Negotiation and Deal-Making Units: 3
- MOR 588 Corporate Strategy and Competitive Dynamics Units: 1.5, 3

Total Units: 36

Food Industry Leadership (MS)

The food industry is rapidly changing, and future executives will need new tools and innovative solutions for how to be both proactive and reactive to new food trends, new consumer demands and new paradigms for how food is developed, sourced, acquired and consumed.

The Master of Science in Food Industry Leadership provides tools, concepts, frameworks and practical hands-on projects in areas such as new/current technologies, strategic planning and managing change as a senior leader. This unique curriculum integrates the functional areas of business with cutting-edge theory and practical application to help students understand how all of the pieces of an entire organization fit together and work dynamically to support the success of local and global businesses.

The Food Industry Leadership program builds a cohort-based learning environment and includes both on-campus and online components.

Admission Requirements

In addition to the general USC admission requirements, applicants should have 10-15 years of work experience in the food industry and specific expertise in retail, consumer manufactured goods, wholesale, broker and/or other food distribution verticals. Alternatively, candidates may have management/leadership experience and have recently switched careers to join the industry. Candidates must demonstrate meaningful and progressive administrative or management responsibilities from employment, committees, or volunteer activities.

GMAT or GRE test scores are not required. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores. For USC's admissions policy related to English language competency, see https://gradadm.usc.edu/lightboxes/international-students-english-proficiency/. Successful applicants will submit TOEFL scores no lower than 100 or IELTS scores no lower than 7.0.

Application Procedure

Applications are submitted online through the USC Graduate Admissions Website (*http://gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website (*http://gradadm.usc.edu/apply/international-students/*).

A complete application includes the online application form, an essay, an application fee, two letters of recommendation, and official copies of transcripts from all institutions attended since high school.

For additional information, visit marshall.usc.edu/fil, email fil@marshall.usc.edu, or call 213-740-8948.

Degree Requirements

The online Master of Science in Food Industry Leadership degree requires 30 units.

- BUCO 534 Unconscious Bias, Diversity and Inclusion Units: 1
- FIM 529 Financial Analysis and Valuation in the Food Industry Units: 2
- FIM 550 Perspectives on the Food Industry Units: 1
- FIM 554 Leading Change in the Food Industry Units: 1
- FIM 560 Decision Making in the Food Industry Units: 1
- FIM 564 Innovation in the Food Industry Units: 1
- FIM 567 Influence and Power in the Food Industry Units: 1
- FIM 569 Negotiation in the Food Industry Units: 1
- FIM 571 Leadership in the Food Industry Units: 1
- FIM 574 Food Industry for the Future Units: 1
- FIM 591 Food Industry Leadership Capstone Project Units: 3
- GSBA 507 Organizational Behavior Units: 2
- GSBA 513 Interpersonal and Team Communication Units: 1
- GSBA 514 Leadership Communication Styles and Strategies Units: 1
- GSBA 515 Communicating Professional Presence Units: 1
- GSBA 529 Strategic Formulation for Competitive Advantage Units: 3
- GSBA 536 Accounting for Management Decision Making Units: 2
- GSBA 546 Strategic Marketing Management Units: 2
- MKT 546 Digital Marketing Units: 1
- MOR 563 Advanced Strategy: Competing in Dynamic Environments Units: 3

Total Units: 30

Global Supply Chain Management (OnCampus/Residential) (MS)

The residential Master of Science in Global Supply Chain Management provides individuals with the necessary skills and knowledge to become experts in the area of supply chain management and thus advance their careers. The program focuses on topics like strategic procurement, outsourcing, logistics and distribution, the role of information technology in managing global supply chains and how these impact the process of developing new products. The aim is to provide the students with a framework that integrates different topics and an understanding of the trade-offs and relationships between these topics. Two experiential courses provide natural settings to study, understand and appreciate the complex nature of this field.

Admission Requirements

Applicants to this program are required to satisfy the general Marshall admission requirements. Admission decisions are based on consideration of the applicant's previous academic record, résumé, letters of recommendation, responses to several essay questions and an interview video presentation. A few years of work experience is preferred, but not required. GMAT or GRE scores are required. For international applicants TOEFL, IELTS or PTE scores are required.

Application Procedure

Prospective students may apply to begin the program in the fall semester only. Applications are submitted online through the USC Graduate Admissions website at *gradadm.usc.edu/*. International applicants are advised to also consult the instructions for international students published in the USC Graduate Admissions Application website (*gradadm.usc.edu/apply/international-students/*).

A complete application includes the online application form, an application fee, test scores, responses to several short-answer questions, two letters of recommendation and transcripts from all institutions of higher education attended.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted) or transcripts to verify degrees earned prior to their attendance at USC.
- Individuals who have applied for admission to a USC graduate program before but were not admitted may not have to submit new test scores or original transcripts.
- All other applicants must submit all documentation identified in the online application instructions.

For additional information, email MS.GSCM@marshall.usc.edu.

Degree Requirements

The Master of Science in Global Supply Chain Management degree requires 30 units including at least 20 units of required course work plus up to 10 units of course work chosen from a list of electives.

Individuals who have taken (at USC or elsewhere) one or more of the required courses may petition to replace these courses with selections from the list of electives or appropriately related courses offered by the Marshall School of Business or the Viterbi School of Engineering. Such a replacement must be approved by the program director prior to registration for the alternate course.

Required Courses

- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- DSO 549 Application of Lean Six Sigma Units: 3
- DSO 557a Global Supply Chain Management in International Settings Units: 1.5
- DSO 557b Global Supply Chain Management in International Settings Units: 1.5
- DSO 581 Supply Chain Management Units: 3
- DSO 595 Internship in Data Sciences or Operations Units: 0.5, 1, 1.5, 2
  (maximum 1.5 units applicable to this degree)
- GSBA 534 Operations Management Units: 2, 3 *
- GSBA 542 Communication for Management Units: 1.5
- ISE 583 Enterprise Wide Information Systems Units: 3
  **Must be completed in the first semester (3 units).*

Electives

Select courses from the following list to total the 30 units required to complete the program.

- Any 500-level DSO course not completed as a requirement (above)

- CE 589 Port Engineering: Planning and Operational Analysis Units: 4
- ISE 506 Lean Operations Units: 3
- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- ISE 544 Leading and Managing Engineering Teams Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- MOR 569 Negotiation and Deal-Making Units: 3
- MOR 557 Strategy and Organization Consulting Units: 3

Total units: 30

Global Supply Chain Management for Executives (MS) (Online)

The online Master of Science in Global Supply Chain Management program is designed to facilitate the needs of professionals and executives in the United States and around the world who wish to expand their knowledge of the rapidly changing world of global supply chain management.

Courses are transmitted from studio classrooms via an extensive Internet-delivery system to enable the students to access their classes from anywhere. Lectures are made accessible for the entire semester, allowing students to review a complex lesson or prepare for exams. All classes are taught in English. Using the Internet, students are required to work in teams and are encouraged to interact with the instructors and their classmates.

Two international travel experiences to global distribution hubs are included in the program. Participation in both trips is required for graduation. Some courses may require in-person midterm and final examinations. These exams will be administered in cities near student population concentrations, requiring that students travel to reach these locations.

Admission Requirements

In addition to the general Marshall admission requirements, applicants should have at least three years of full-time work experience. Admission decisions are based on consideration of the applicant's previous academic record, résumé, letters of recommendation, responses to several essay questions and an interview video presentation. TOEFL, IELTS or PTE scores and GMAT or GRE test scores are not required for this program.

Application Procedure

Submit an online application to the program through the USC graduate admissions website at *gradadm.usc.edu*. International applicants are advised to view the information for international students published at *gradadm.usc.edu/apply/international-students/*.

Deadlines and other application details can be found at marshall.usc.edu/msgscm/admissions.

- Current USC students and USC alumni are not required to submit an application fee or transcripts to verify degrees earned prior to their attendance at USC.
- Individuals who have applied for admission to a USC graduate program before but were not admitted may not have to submit new test scores or original transcripts.
- All other applicants must submit all documentation identified in the online application instructions including the application fee and copies of transcripts.

For additional information, visit *marshall.usc.edu/msgscm or* email MS.GSCM@marshall.usc.edu .

Degree Requirements

The online Master of Science in Global Supply Chain Management degree requires 30 units.

Individuals who have taken (at USC or elsewhere) one or more of the required courses may petition to replace these courses with selections from the list of electives or appropriately related courses offered by the Marshall School of Business or the Viterbi School of Engineering. Such a replacement must be approved by the program director prior to registration for the alternate course.

Required Courses

- DSO 520 Logistics Management Units: 3
- DSO 549 Application of Lean Six Sigma Units: 3
- DSO 557a Global Supply Chain Management in International Settings Units: 1.5
- DSO 557b Global Supply Chain Management in International Settings Units: 1.5
- DSO 580 Project Management Units: 3
- DSO 581 Supply Chain Management Units: 3
- GSBA 534 Operations Management Units: 2, 3 *
- GSBA 542 Communication for Management Units: 1.5
- ISE 583 Enterprise Wide Information Systems Units: 3

** Must be completed before or in the first semester (3 units).*

Electives

Select courses from the following list to total the 30 units required to complete the program.

- Any 500-level DSO course not completed as a requirement (above).
- ISE 506 Lean Operations Units: 3
- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- ISE 544 Leading and Managing Engineering Teams Units: 3
- ISE 585 Strategic Management of Technology Units: 3

Total units: 30

Library and Information Science (MMLIS)

The Master of Management in Library and Information Science is designed to educate professional librarians for leadership from every level of the enterprise in academic, public and corporate environments. Graduates will identify and analyze critical issues and leverage resources and expertise to build community and organizational assets.

The program provides a solid foundation of course work followed by elective options culminating in the capstone project. Each semester students enroll in a two-unit course in which they investigate critical issues, connect with leaders, undertake research with faculty and otherwise extend their learning and understanding.

The capstone project provides an opportunity for students to demonstrate their learning during the MMLIS experience and achievement of the core competencies for the program.

Courses are offered entirely online each fall and spring semester and during the summer. The program is offered through small cohorts.

Application

To qualify for admission to the MMLIS program, prospective students must hold a bachelor's degree from an accredited institution and have earned an undergraduate GPA of at least 3.0. (Neither the GMAT nor the GRE is required for application/admission to this program.) International applicants are required to submit a TOEFL score and must have earned a score of at least 100, with at least 20 in each section. (Students who have completed their entire bachelor's degree program at regionally accredited universities located in the United States or in another country in which English is both the language of instruction and the official language of the country are exempt.) Proof of financial support is required of admitted international applicants.

Applicants will also submit a professional résumé, a statement of purpose, three letters of recommendation and transcripts from each institution of higher education attended.

For more information write to MMLIS.Program@marshall.usc.edu or contact the program administrator at (213) 640-4034.

Curriculum

The MMLIS degree requires 40 semester units — 28 units of foundation and other required courses, 9 units of electives, and 3 units of Capstone.

Required Foundation Courses (18 units)

Must be completed prior to taking electives.

- GSBA 502 Management Communication for Leaders Units: 3
- GSBA 509 Marketing Management Units: 1.5
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
  (1.5 units)
- LIM 500 Fundamentals of Library and Information Science Units: 3
- LIM 502 Collection Development and Management Units: 3
- LIM 503 Information Description, Organization, and Retrieval Units: 3
- LIM 504 Research Methods in Library and Information Management Units: 3

Other Required Courses (10 units)

- LIM 535 Library Information Sources and Services Units: 2
- LIM 536 Library Project Management Units: 2
- LIM 537 Legal, Ethical and Strategic Fundamentals for Library Managers Units: 2
- LIM 593 Independent Research in Library and Information Management Units: 2
- LIM 595 Internship in Library and Information Management Units: 2
  Students may repeat LIM 593 for 2 units in lieu of completing an internship.

Electives (9 units)

Elective offerings vary from semester to semester.

Capstone (3 units)

- LIM 598 Capstone in Library and Information Management Units: 3

Total units required for the degree: 40

Management Studies (MMS)

The Master of Management Studies (MMS) is designed to provide those who have already completed the equivalent of the first year of an accredited traditional two-year MBA with an opportunity to pursue further study in an area of specialization currently available to Marshall graduate students.

Completion of the Master of Management Studies degree requires a minimum of 26 graduate units for all candidates.

Courses applicable to the degree are offered during both daytime and evening hours. The degree may be completed on either a full- or part-time basis. International students should expect to complete the program within two semesters.

Prospective applicants are encouraged to review the full list of specialized master's programs offered by the Marshall School of Business (*marshall.usc.edu/masters*) before applying for admission to this program. Also, visit the Master of Management Studies website at *marshall.usc.edu/mms* for more information about this very flexible curriculum. Information about the areas of concentration offered to Marshall graduate students is available at *marshall.usc.edu/ecg*.

Admission Requirements

Applicants may apply for admission to begin the program in the summer term or the fall or spring semesters. Application deadlines vary by semester, citizenship and registration goals. Details are available under the Dates and Deadlines tab at *marshall.usc.edu/mms*.

The equivalent of a four-year bachelor's degree is required for admission. Additionally, applicants must have completed the equivalent of the first year of a traditional two-year MBA accredited by the AACSB, EQUIS, ACBSP, AOCTE, IACBE or AMBA. Successful applicants should have earned a GPA of 3.3 or greater in their graduate business course work and scored in at least the 80th percentile on the GMAT or the GRE.

Application Procedure

Submit an online application to the MMS program through the USC Graduate Admissions Website (*http://gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Application *(http://gradadm.usc.edu/apply/international-students/)*.

For additional information, visit *marshall.usc.edu/mms*.

Program Structure and Unit Requirements

Master of Management Studies applicants are urged to consider areas of specialization available to Marshall graduate students published at marshall.usc.edu/ecg. The applicant is asked to identify areas of interest as part of the application process, but is free to choose course work from the full range of graduate electives offered by Marshall.

An evaluation of work previously completed determines if specific content areas are missing. If it is determined that preliminary courses are needed, the number of units needed to complete the Master of Management Studies degree will increase.

Completion of the Master of Management Studies degree requires a minimum of 26 graduate units.

None of the GSBA-prefixed classes required for completion of a Marshall MBA program may be applied toward the Master of Management Studies unless they are required to update prior work and are added to the 26-unit total.

No courses numbered lower than 500 may be included in this program. No more than two courses or eight units may be taken in graduate course work outside the Marshall School of Business.

Successful completion of the program is documented on the student's USC transcript and acknowledged by a diploma awarded by the university.

Marketing (Marketing Analytics) (MS)

The Master of Science in Marketing (Marketing Analytics) provides students with tools, concepts, frameworks and critical thinking and innovative skills needed for more effective development, enhancement and refinement of marketing techniques critical to the success of local and global businesses.

Students will develop skills to position themselves as leaders in quantitative marketing methods, gaining exposure to in-demand programming languages such as R and Python for marketers, as well as strategies and techniques for predictive modeling, consumer analysis, customer segmentation and micro-targeting. Practical hand-on projects in areas such as technology, biotechnology, healthcare, entertainment, sports entertainment and marketing start-ups provide students with opportunities to apply the classroom experience to the real world.

Admission Requirements

Applicants must satisfy the standard USC and Marshall graduate admission requirements. At least two years of full-time work experience is preferred. GMAT or GRE scores are required. The GMAT is preferred. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.

Individuals applying for admission to the Graduate Certificate in Marketing should not apply for admission to this program also.

Application Procedure

Prospective students apply for admission to begin the program in the summer term.

Applications are submitted online through the USC Graduate Admissions application Website at gradadm.usc.edu. International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website.

A complete application includes the online application form, official test scores, essays, an application fee, two letters of recommendation and official transcripts from all institutions of higher education attended. Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted) or transcripts to verify degrees earned prior to their attendance at USC.

For additional information, visit marshall.usc.edu/MSMkt.

Degree Requirements

The Master of Science in Marketing requires 30 units including 21 units of required course work and at least 9 units of electives with a GPA of at least 3.0 for all units applied to the degree. The program may be completed on a full-time or part-time basis.

Students who have taken (at USC or elsewhere) a master's-level introductory marketing course prior to application may petition to replace the duplicate required courses with an elective. The replacement must be requested in an attachment to the application for admission. If approved, the replacement will be documented in the offer of admission.

Required Courses (21 Units)

- DSO 510 Business Analytics Units: 1.5, 3 *
  (3-unit version required)
- GSBA 528 Marketing Management Units: 3 *
- GSBA 542 Communication for Management Units: 1.5 *
- GSBA 545 Data Driven Decision Making Units: 1.5
- MKT 556 Internet Marketing Units: 3
- MKT 560 Marketing Strategy Units: 3
  * *Must be taken in the first term/semester or prior to admission.*

At least two from the following:

- MKT 512 Customer Insights and Analysis Units: 3
- MKT 543 Market Demand and Sales Forecasting Units: 3
- MKT 566 Marketing Analytics Units: 3

Elective Courses (9 units)

Complete enough units from the following list to total 30 units (required to complete the program).

- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3
- DSO 574 Using Big Data: Challenges and Opportunities Units: 3
- MKT 512 Customer Insights and Analysis Units: 3 **
- MKT 526 Advertising and Social Media: Strategy and Analytics Units: 3
- MKT 530 New Product Development Units: 3
- MKT 536 Pricing Strategies Units: 3
- MKT 543 Market Demand and Sales Forecasting Units: 3 **
- MKT 566 Marketing Analytics Units: 3 **
- MKT 567 Marketing Metrics for Business Decisions Units: 3
  ** *If not completed as a required course.*

Total Units Required: 30

Marketing (MS)

The Master of Science in Marketing provides students with tools, concepts, frameworks and critical thinking and innovation skills needed for more effective development, enhancement and refinement of marketing techniques critical to the success of local and global businesses.

The degree focuses on theories and applications of consumer behavior in marketing, as well as psychological, social, cultural and ethnic factors influencing consumer behavior. Practical hand-on projects in areas such as technology, biotechnology, healthcare, entertainment, sports and marketing start-ups provide students with opportunities to apply the classroom experience to the real world.

Admission Requirements

Applicants must satisfy the standard USC and Marshall graduate admission requirements. At least two years of full-time work experience is preferred. GMAT or GRE scores are required. The GMAT is preferred. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.

Individuals who are specifically interested in statistical evaluation and marketing analytics should consider applying to the Master of Science in Marketing (Marketing Analytics) program. Individuals applying for admission to the Graduate Certificate in Marketing should not apply for admission to this program also.

Application Procedure

Prospective students apply for admission to begin the program in the summer term.

Applications are submitted online through the Marshall School of Business application website at gradadm.usc.edu. International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website.

A complete application includes the online application form, official test scores, an essay, an application fee, two letters of recommendation and official transcripts from all institutions of higher education attended. Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted) or transcripts to verify degrees earned prior to their attendance at USC.

For additional information, visit *marshall.usc.edu/MSMkt*.

Degree Requirements

The Master of Science in Marketing requires 30 units including 19.5 units of required course work and 10.5 units of electives with a GPA of at least 3.0 for all units applied to the degree. The program may be completed on a full-time or part-time basis.

Students who have taken (at USC or elsewhere) a master's-level introductory marketing course prior to application may petition to replace the duplicate required course with an elective. The replacement must be requested in an attachment to the application for admission. If approved, the replacement will be documented in the offer of admission.

Required Courses (19.5 Units)

- GSBA 528 Marketing Management Units: 3 *
- GSBA 542 Communication for Management Units: 1.5 *
- MKT 525 Consumer Behavior Units: 3
- MKT 543 Market Demand and Sales Forecasting Units: 3
  or
- DSO 510 Business Analytics Units: 1.5, 3
- MKT 556 Internet Marketing Units: 3
- MKT 566 Marketing Analytics Units: 3
- MKT 560 Marketing Strategy Units: 3

Note: * *Must be taken in the first term/semester or prior to admission.*

Elective Courses (10.5 units)

Complete at least 10.5 units of 500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR course work to reach the total number of units required to complete the program. (Enrollment in electives is subject to satisfaction of any prerequisite requirements in addition to the units required for the degree.) Students may petition to apply to the program marketing-related courses offered by other USC Schools. For a list of pre-approved courses, visit the program web page here.

Total Units Required: 30

Social Entrepreneurship (MS)

The Master of Science in Social Entrepreneurship offers students a unique combination of business entrepreneurship skills delivered within the context of achieving both social and financial missions.

The courses focus entirely on the business aspects of social entrepreneurship including feasibility, planning, marketing, management, finance and execution. Social, environmental and health issues are integrated into the readings, cases, teaching, guest lectures, exercises and assignments. The program also includes a for-credit practical capstone project in which students have the option to develop a business plan for a new social enterprise.

This program requires 30 units and can be completed in one year (full time) or two years (part time). Courses are offered in

the evenings and on weekends on the University Park Campus in downtown Los Angeles.

Admission Requirements

Applicants apply online and must fulfill the general Marshall/USC admission requirements for graduate programs. Admission decisions into the MSSE program will be based on an applicant's previous academic record, résumé, a letter of recommendation and a response to an essay question. TOEFL, IELTS or PTE scores will be required for international applicants who have not completed the equivalent of a four-year bachelor's degree (all four years) at an institution in a country where English is the primary official language. GMAT or GRE scores are recommended, but will not be required for this program.

Application Procedure

Submit an online application to the program through the USC Graduate Admissions website (*gradadm.usc.edu/*). International applicants are advised to view the information for international students at *gradadm.usc.edu/apply/international-students/*.

A complete application includes the online application form, an application fee, a response to the essay question, one letter of recommendation and copies of transcripts from all institutions attended since the applicant last applied to USC.

For more information about the program and detailed information about the application requirements and procedures, please visit *marshall.usc.edu/MSSE*, write to SocialEntrepreneur@marshall.usc.edu, or call (213) 740-7587.

Degree Requirements

The Master of Science in Social Entrepreneurship requires 30 units.

Required Courses

- BAEP 564 Investing in Impact Ventures Units: 3
- BAEP 566 Cases in Feasibility Analysis for Social Ventures Units: 3
- BAEP 567 Social Entrepreneurship: Design, Develop, and Deliver Units: 3
- BAEP 571 Social Innovation Design Units: 3
- BAEP 589 Social Entrepreneurship Units: 2
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
  (normally 2 units)
- GSBA 528 Marketing Management Units: 3
- GSBA 529 Strategic Formulation for Competitive Advantage Units: 3
- GSBA 548 Corporate Finance Units: 2, 3
  (normally 2 units)

Elective Courses

Complete at least 6 units of 500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR course work to reach 30 units. (Enrollment in electives is subject to satisfaction of any prerequisite requirements in addition to the 30 units required for the degree.)

Total units: 30

Dual Degree

Master of Science, Social Entrepreneurship/ Master of Public Health (MS/MPH)

The Master of Public Health/Master of Science in Social Entrepreneurship (MPH/MSSE) dual degree program is designed for individuals who wish to create sustainable solutions to public health challenges through the creation of innovative enterprises and organizations. This program combines the business aspects of social entrepreneurship with the knowledge and understanding of public health challenges and how to improve the health of individuals, communities, and populations, locally and globally. It will enable graduates to become agents of change by equipping them with the tools to build innovative enterprises that balance financial sustainability with public health impact, preparing them uniquely to become leaders in the field.

Application and Admission

Applicants to the MSSE/MPH should apply for admission to both schools simultaneously.

Information about the application process and admission requirements for the MSSE degree is available on the MSSE Website at *marshall.usc.edu/msse/admission*.

Information about the application process and admission requirements for the MPH degree is available on the MPH Website at *preventivemedicine.usc.edu*.

Degree Requirements

The total unit requirement for the MPH/MSSE dual degree is 62 units: 24 units for the MSSE degree and 38 units for the MPH degree.

Students are required to complete 24 units, including all "Required Courses," in the Master of Science in Social Entrepreneurship curriculum. Dual degree program students may not count courses taken outside the USC Marshall School of Business toward the MSSE degree. Visit the Social Entrepreneurship (MS) section of this Catalogue for MSSE degree requirements.

Students are required to complete 38 units of MPH specific course work, including 18 units of MPH core course work and 20 units of concentration specific course work. Students may choose from any concentration within the MPH program.

Students must have a cumulative GPA of 3.0 in the MSSE curriculum and a 3.0 in the MPH curriculum, in addition to having a minimum 3.0 cumulative overall GPA in all graduate coursework taken at USC in order to meet graduation requirements.

The MSSE and the MPH degrees are awarded simultaneously upon completion of all program requirements.

Graduate Certificate

Business Analytics Graduate Certificate

The Graduate Certificate in Business Analytics provides students with the tools, ideas and frameworks that will aid them in making business decisions in a scientific manner, based on actual data, to improve the performance of their organization. Students in the program acquire the statistical and optimization tools necessary to analyze large and unstructured data sets and make optimal decisions to improve the performance of their organization.

Admission Requirements

Applicants must satisfy the standard Marshall graduate admission requirements. A few years of work experience is preferred, but not required. GMAT or GRE scores are required. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.

Individuals applying for admission to the Master of Science in Business Analytics should not apply for admission to this program also.

Application Procedure

Prospective students who have not previously taken graduate-level (post-baccalaureate) business statistics must apply to begin the program in the fall semester. Prospective applicants who have taken a graduate-level business statistics course may apply to begin the program in the fall, spring or summer.

Applications are submitted online through the USC Graduate Admissions website (*gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions website (*gradadm.usc.edu/apply/international-students/*).

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted), transcripts to verify degrees earned prior to their attendance at USC, or letters of recommendation.
- All other applicants must submit all documentation identified in the online application instructions.

Degree Requirements

The Graduate Certificate in Business Analytics requires 15 units including required course work and electives. The program may be completed on a full-time or part-time basis.

Students who have taken master's-level managerial statistics at another institution or as part of another program at USC prior to application may petition to replace the managerial statistics requirement with elective units. Such a replacement must be requested as an attachment to the application for admission and, if approved, will be included in the offer of admission.

Required Courses

- GSBA 506a Applied Managerial Statistics Units: 1.5 and
- GSBA 506b Applied Managerial Statistics Units: 1.5
  or
- GSBA 545 Data Driven Decision Making Units: 1.5
  or
- GSBA 524 Data Science for Business Units: 2, 3
- DSO 510 Business Analytics Units: 1.5, 3

Electives - Select from the following to total 15 units.

- DSO 516 Probability and Data Modeling Units: 1.5
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 529 Advanced Regression Analysis Units: 3
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 534 Discrete-Event Simulation for Process Management Units: 1.5
- DSO 536 Monte Carlo Simulation and Decision Models Units: 1.5
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- DSO 548 Emerging Technologies in Supply Chain Management Units: 3
- DSO 552 SQL Databases for Business Analysts Units: 1.5
- DSO 562 Fraud Analytics Units: 3
- DSO 565 Supply Chain Analytics Units: 3
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3
- DSO 572 Strategies for Digital Analytics Units: 1.5
- DSO 573 Data Analytics Driven Dynamic Strategy and Execution Units: 3
- MKT 566 Marketing Analytics Units: 3
  Additional Electives: Up to 6 units may be selected from the following:
- DSO 531 Digital Foundations for Business Innovation Units: 1.5
- DSO 543 Global Business Issues in the Networked Digital Industry Units: 3
- DSO 551 Digital Transformation in the Global Enterprise Units: 3
- DSO 554 Digital Strategies for Sustainability in Global Markets Units: 3
- DSO 556 Business Models for Digital Platforms Units: 3
- DSO 574 Using Big Data: Challenges and Opportunities Units: 3
- DSO 580 Project Management Units: 3

Note:

For current USC graduate students, courses credited to the Graduate Certificate in Business Analytics may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. Current MBA students may apply all 15 units of the graduate certificate program to their MBA degree.

For USC alumni, courses completed in conjunction with the individual's prior degree may not be credited toward the certificate. Appropriate substitutions for required courses will be determined and documented by the program director.

Successful completion of the program is documented on the student's transcript and acknowledged with a certificate (diploma) awarded by the university.

For additional information, visit *marshall.usc.edu/GCRTAnalytics*.

Business Fundamentals Graduate Certificate

The Graduate Certificate in Business Fundamentals is designed to provide students for whom an MBA is not a viable option with a basic graduate-level introduction to successful business policies and practices.

Admission

All certificate students must meet the same admission requirements as degree seeking students.

In addition to the general admission requirements, applicants should have earned an undergraduate GPA of at least 3.4 or a GPA in graduate course work of at least 3.2. GRE or GMAT scores are generally required. A completed graduate degree may be accepted in lieu of test scores at the discretion of the admissions committee.

Prospective students should apply to begin the program and take GSBA 520 in the fall or spring term. Individuals applying for admission while or after completing GSBA 520 may apply for admission in the fall, spring or summer. Applications are submitted online through the USC Graduate Admissions Website at gradadm.usc.edu. A complete application includes the online application form, test scores, responses to essay questions, and official transcripts from all colleges and universities attended, whether a degree was completed or not. Current USC students and alumni need to submit transcripts from only those institutions attended since the applicant last applied to USC. The application fee is not required of current USC students or USC alumni.

For more information, visit marshall.usc.edu/BFNBP.

Program Requirements

The program requires successful completion of the following 16-unit program with a minimum cumulative GPA of at least 3.0 for all course work applied to the certificate and an overall graduate GPA at USC of at least 3.0.

Required (13 Units)

- ACCT 509 Concepts of Financial and Management Accounting Units: 4
- GSBA 520 Business Fundamentals for Non-Business Professionals Units: 3, 4
- GSBA 528 Marketing Management Units: 3
  or 3 units of MKT courses selected from a list of electives published on the program Website
- GSBA 543 Managerial Perspectives Units: 3 or 3 units of MOR courses selected from a list of electives published on the program Website

Elective (3 Units)

Select one additional course from those identified above or from a list of elective options published on the program Website and available from the program adviser. The elective selected may not duplicate prior graduate course work and must be approved by the program director. Enrollment in some courses may require additional preparatory course work to satisfy prerequisites, subject to approval of the instructor.

Note:

For current USC graduate students, courses credited to the Graduate Certificate in Business Fundamentals for Non-Business Professionals may be completed in conjunction with course work required for a program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department.

For USC alumni, courses completed in conjunction with an individual's prior degree may not be credited toward the certificate.

Appropriate substitutions for required courses will be determined and documented by the program director.

Successful completion of the program is acknowledged by a certificate awarded by the university.

Financial Analysis and Valuation Graduate Certificate

The Graduate Certificate in Financial Analysis and Valuation program is designed to enhance the individual's graduate education through a concentrated curriculum in financial accounting, financial analysis, valuation, credit analysis, and financial instruments and markets.

Admission

To qualify for admission to the program, individuals must have completed basic graduate-level (post-baccalaureate) courses in microeconomics, macroeconomics, and corporate finance comparable to the first-year MBA curriculum while earning a minimum graduate GPA for those courses (combined) of 3.5.

Prospective students may apply to begin the programs in the fall, spring or summer term. Applications are submitted online at *http://gradadm.usc.edu/*. A complete application includes the online application form, responses to several essay and additional information questions, letters of recommendation and transcripts from any institutions attended since the applicant last applied to USC. (The application fee is not required of current USC students and USC alumni. Letters of recommendation are not required of current USC MBA students and USC MBA alumni.)

For more information, visit *marshall.usc.edu/fav*.

Program Requirements

The program requires successful completion of 15 units. Students select one of the following options. Some courses are offered for either 1.5 units or 3 units in a given semester. Individuals who elect to take a 1.5-unit class must make up the other 1.5 units with a course selection from the same option. Earning the certificate requires a combined GPA of at least 3.6 for all courses applied to the certificate.

Corporate Finance Option

Required

- ACCT 572 Corporate Accounting and Reporting Units: 3
- FBE 529 Financial Analysis and Valuation Units: 3

At least two of the following:

- ACCT 581 Financial Statement Analysis Units: 3
- FBE 531 Corporate Financial Policy and Corporate Governance Units: 1.5, 3
- FBE 532 Corporate Financial Strategy Units: 3

At least one of the following:

- ACCT 581 Financial Statement Analysis Units: 3
- FBE 523 Venture Capital and Private Equity Units: 3
- FBE 527 Entrepreneurial Finance: Financial Management for Developing Firms Units: 3
- FBE 531 Corporate Financial Policy and Corporate Governance Units: 1.5, 3
- FBE 532 Corporate Financial Strategy Units: 3
- FBE 558 Law for Structuring, Financing, and Managing Businesses Units: 3
- FBE 559 Management of Financial Risk Units: 3
- FBE 560 Mergers and Acquisitions Units: 3

Investment Management Option

Required

- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3

At least one of the following:

- ACCT 572 Corporate Accounting and Reporting Units: 3
- ACCT 581 Financial Statement Analysis Units: 3

At least two of the following:

- ACCT 572 Corporate Accounting and Reporting Units: 3
- ACCT 581 Financial Statement Analysis Units: 3
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
- FBE 540 Hedge Funds Units: 3
- FBE 543 Forecasting and Risk Analysis Units: 3
- FBE 554 Trading and Exchanges Units: 3
- FBE 559 Management of Financial Risk Units: 3
- FBE 589 Mortgages and Mortgage-Backed Securities and Markets Units: 3

Student Investment Fund Program

Under the auspices of the Center for Investment Studies is the Student Investment Fund (SIF) program. During this year-long seminar in applied portfolio management, a select group of students learn the theory and practice of investment management by managing actual USC endowment funds.

Students who are selected to participate in the Marshall Student Investment Fund (SIF) program are required to complete the following:

Required

- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 553a Applied Portfolio Management Units: 3 *
- FBE 553b Applied Portfolio Management Units: 3 *
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3

At least one of the following:

- ACCT 572 Corporate Accounting and Reporting Units: 3
- ACCT 581 Financial Statement Analysis Units: 3

Notes:

**Prerequisite required.*
If a course in the SIF option is taken for 1.5 units, the remaining units may be completed with a course selected from the Investment Management option above to reach the 15 units required to complete the program.

Note

For current USC graduate students, courses credited to the Graduate Certificate in Financial Analysis and Valuation may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. Current MBA students may apply all 15 units of the graduate certificate program to their MBA degree. For USC alumni, courses completed in conjunction with the individual's prior degree may not be credited toward the certificate. Appropriate substitutions for required courses will be determined and documented by the program director.

Successful completion of the program is acknowledged by a certificate awarded by the university.

Library and Information Management Graduate Certificate

The Graduate Certificate in Library and Information Management is designed to provide specialized knowledge in library management and leadership for information professionals who are current holders of the equivalent MLIS degree looking for career advancement. The certificate is offered entirely online.

Admission

To qualify for admission to the Graduate Certificate program, prospective students must hold a bachelor's degree from a regionally accredited institution and have earned an undergraduate GPA of at least 3.0. Prospective students must also hold a master's degree from an American Library Association accredited program.

Neither the GMAT nor the GRE is required for application/admission to this program. International applicants are required to submit a TOEFL score and must have earned a score of at least 100, with at least 20 in each section. Students who have completed their entire bachelor's degree program at regionally

accredited universities located in the United States or in another country in which English is both the language of instruction and the official language of the country are exempt. Proof of financial support is required of admitted international applicants.

Applicants will also submit a professional resume, a statement of purpose, three letters of recommendation and transcripts from each institution of higher education attended.

For more information write to mmlis.program@marshall.usc.edu or contact the program administrator at 213-640-4034.

Program Requirements

The Graduate Certificate in Library and Information Management requires 16 units. Each student will develop an individual academic plan and course of study under a faculty member's guidance, subject to the program director's approval.

LIM electives Units: 12

- LIM 536 Library Project Management Units: 2
- LIM 593 Independent Research in Library and Information Management Units: 2

Notes:

For current USC graduate students, courses credited to the Graduate Certificate in Library and Information Management may be completed in conjunction with course work required for a program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department.

Successful completion of the program is acknowledged by a certificate awarded by the university.

Management Studies Graduate Certificate

The Graduate Certificate in Management Studies is designed to provide those who have already completed the equivalent of the first year of a traditional two-year MBA with an opportunity to pursue further study in an area of specialization currently available to Marshall graduate students.

Completion of the Graduate Certificate in Management Studies requires a minimum of 12 graduate units for all candidates — usually four, 3-unit courses.

The certificate may be completed on either a full- or part-time basis. Classes applicable to the certificate are offered during both daytime and evening hours.

Prospective applicants are encouraged to visit the Graduate Certificate in Management Studies Website at *marshall.usc.edu/gcms* for more information about this very flexible curriculum. Applicants interested in accounting or taxation should consider applying for admission to the Master of Accounting or the Master of Business Taxation program offered by the USC Leventhal School of Accounting. Information about the areas of concentration offered to Marshall graduate students is available at *marshall.usc.edu/ecg*.

Admission Requirements

Applicants may apply for admission to begin the program in the summer term or the fall or spring semesters. Application deadlines vary by semester, citizenship and registration goals. Details are available under the Calendar tab at *marshall.usc.edu/gcms*.

The equivalent of a four-year bachelor's degree is required for admission. Additionally, applicants must have completed the equivalent of the first year of a traditional two-year MBA accredited by the AACSB, EQUIS, ACBSP, AOCTE. IACBE or AMBA. Successful applicants should have earned a GPA of 3.3 or greater in their graduate business course work and scored at least as well as an average Marshall MBA student on the GMAT.

Application Procedure

Submit an online application through the USC Graduate Admissions Website (*http://gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website (*http://gradadm.usc.edu/apply/international-students/*).

For additional information, visit *marshall.usc.edu/gcms*.

Program Structure and Unit Requirements

Applicants are urged to consider areas of specialization available to Marshall graduate students published at *marshall.usc.edu/ecg*. The applicant is asked to identify areas of interest as part of the application process, but is free to choose course work from the full range of graduate electives offered by Marshall.

An evaluation of work previously completed determines if specific content areas are missing. If it is determined that preliminary courses are needed, the number of units needed to complete the Graduate Certificate in Management Studies certificate will increase.

Completion of the Graduate Certificate in Management Studies certificate requires a minimum of 12 graduate units for all candidates.

None of the GSBA-prefixed classes required for completion of a Marshall MBA program may be applied toward the certificate unless they are required to update prior work and are added to the 12-unit total.

No courses numbered lower than 500 may be included in this program. All courses applied toward the certificate must be taken within the Marshall School of Business. Acceptable course prefixes include ACCT, BAEP, BUCO, FBE, GSBA, IOM or DSO, MKT and MOR.

Successful completion of the program is acknowledged by a certificate awarded by the university.

Marketing Graduate Certificate

The Graduate Certificate in Marketing provides students with the tools, ideas and frameworks that will aid them in making business decisions in an application-based manner, based on actual case studies and relevant projects, to improve the performance of their organization. Students in the program acquire the marketing principles, techniques and tools necessary to analyze marketing situations and develop effective integrated strategic marketing plans to improve the performance of their organization.

Admission Requirements

Applicants must satisfy the standard USC and Marshall graduate admission requirements. Two years of fulltime work experience is preferred. GMAT or GRE scores are required. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.

Individuals applying for admission to the Master of Science in Marketing should not apply for admission to this program also.

Application Procedure

Prospective students who have not previously taken a master's/graduate-level (post-baccalaureate) introductory marketing course must apply to begin the program in the summer term. Prospective applicants who have taken a master's/graduate-level marketing course may apply to begin the program in the fall, spring or summer.

Applications are submitted online through the USC Graduate Admissions Website at *http://gradadm.usc.edu/*. International applicants are advised to see the instructions for international students at *http://gradadm.usc.edu/apply/international-students/*.

A complete application includes the online application form, test scores, an essay, an application fee, two letters of recommendation and official transcripts from all institutions attended since the applicant last applied to USC.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted), transcripts to verify degrees earned prior to their attendance at USC, or letters of recommendation.
- All other applicants must submit all documentation identified in the online application instructions.

Degree Requirements

The Graduate Certificate in Marketing requires 15 units including one required course and 500-level MKT electives

with a GPA of at least 3.0 for all units applied to the certificate. The program may be completed on a full-time (3-5 courses per semester) or part-time basis.

Students who have taken a master's-level introductory marketing course at another institution prior to application may petition to replace Marketing Management with an elective. Such a replacement must be requested as an attachment to the application for admission and, if approved, will be included in the offer of admission.

Required Courses

- GSBA 509 Marketing Management Units: 1.5
  or
- GSBA 528 Marketing Management Units: 3

Electives: Complete successfully sufficient units of 500-level MKT course work to total 15 units.

No more than 3 units of CR/NC course work can be applied to the certificate.

Note:

For current USC graduate students, courses credited to the Graduate Certificate in Marketing may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. Current USC MBA students may apply all 15 units of the graduate certificate program to their MBA degree.

For USC alumni, courses completed in conjunction with the individual's prior degree may not be credited toward the certificate. An appropriate substitution for the required course will be determined and documented by the program director.

Successful completion of the program is documented on the student's transcript and acknowledged with a certificate (diploma) awarded by the university.

For additional information, visit marshall.usc.edu/GCRTMarketing.

Optimization and Supply Chain Management Graduate Certificate

The Graduate Certificate in Optimization and Supply Chain Management is offered by the Marshall School of Business in partnership with the Viterbi School of Engineering. The program offers individuals opportunities to expand their knowledge of the rapidly expanding uses of technology in the management of global supply chains.

The certificate may be completed on either a full- or part-time basis. Most classes applicable to the program are offered during both daytime and evening hours. Many of the courses included in the curriculum are available online.

Admission

Applicants should have a foundational knowledge (academic or experiential) of statistics and operations management.

Prospective students may apply to begin the programs in the fall, spring or summer term. Applications are submitted online at *gradadm.usc.edu*. A complete application may include the online application form, responses to several essay and additional information questions, test scores, transcripts from all institutions attended since high school, and an application fee. For more information, visit *marshall.usc.edu/oscm*.

The graduate certificate requires successful completion of 15 units with a minimum GPA of at least 3.0 for all units (combined) applied to the certificate.

Required Courses

- DSO 565 Supply Chain Analytics Units: 3
  or
- DSO 581 Supply Chain Management Units: 3
  or
- DSO 505 Sustainable Supply Chains Units: 1.5 and
- DSO 506 Sourcing and Supplier Management Units: 1.5
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
  or
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3
  or
- ISE 530 Optimization Methods for Analytics Units: 3

Electives

Complete 9 units from the list below (if not completed as a required course).

- CE 589 Port Engineering: Planning and Operational Analysis Units: 4
- DSO 505 Sustainable Supply Chains Units: 1.5 *
- DSO 506 Sourcing and Supplier Management Units: 1.5 *
- DSO 520 Logistics Management Units: 3
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3 *
- DSO 548 Emerging Technologies in Supply Chain Management Units: 3 Units: 3
- DSO 549 Application of Lean Six Sigma Units: 3
- DSO 565 Supply Chain Analytics Units: 3 Units: 3 *
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3 *
- DSO 580 Project Management Units: 3 or
- ISE 515 Engineering Project Management Units: 3
- DSO 581 Supply Chain Management Units: 3
- DSO 582 Service Management: Economics and Operations Units: 3
- DSO 583 Operations Consulting Units: 3
- GSBA 504a Operations Management Units: 1.5 and
- GSBA 504b Operations Management Units: 1.5
  or
- GSBA 534 Operations Management Units: 2, 3
- ISE 506 Lean Operations Units: 3
- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3 *
- ISE 580 Performance Analysis with Simulation Units: 3
- ISE 583 Enterprise Wide Information Systems Units: 3

* If not applied as a required course.

Note:

For current USC graduate students, courses credited to graduate certificate programs may be completed in conjunction with course work required for a graduate degree program in which the student is already enrolled. Applicability of courses to the student's primary degree program is determined by the student's home department. For USC alumni, courses applied to the individual's previously completed degree may not be credited toward a certificate.

Successful completion of a graduate certificate program is acknowledged by a certificate awarded by the university.

Strategy and Management Consulting Graduate Certificate

The Strategy and Management Consulting graduate certificate provides students with the tools, concepts and frameworks that will aid them in leading the process of strategy development and management consulting to improve business performance. Evidence-based frameworks and hands-on projects will enhance students' skill sets in diagnosing strategic issues in complex settings. Different types of intervention strategies and contingency frameworks will provide students with an extensive and robust toolkit that can be applied in multiple industry settings.

Admission Requirements

Applicants must satisfy the standard Marshall graduate admission requirements. A few years of work experience is preferred, but not required. GMAT or GRE scores are required. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.

Application Procedure

Applications are submitted online through the USC Graduate Admissions Website at *gradadm.usc.edu/*. International applicants are advised to see the instructions for international students at *gradadm.usc.edu/apply/international-students/*.

A complete application includes the online application form, an application fee, test scores, an essay and official transcripts from all institutions attended since the applicant last applied to USC.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted), or transcripts to verify degrees earned prior to their attendance at USC.
- All other applicants must submit all documentation identified in the online application instructions.

Degree Requirements

The graduate certificate in Strategy and Management Consulting requires 15 units. The program may be completed on a full-time (8-15 units per semester, depending on course availability) or part-time basis.

Required Course

- MOR 557 Strategy and Organization Consulting Units: 3

Electives

Complete 12 units from the following:

- DSO 583 Operations Consulting Units: 3
- MOR 542 Strategic Issues for Global Business Units: 3
- MOR 554 Leading Innovation and Change Units: 3
- MOR 555 Designing High Performance Organizations Units: 3
- MOR 559 Strategic Renewal and Transformation Units: 3
- MOR 560 Managerial Judgment and Decision-Making Units: 3
- MOR 561 Strategies in High-Tech Businesses Units: 3
- MOR 562 Strategic Choice and Valuation Analysis Units: 3
- MOR 564 Strategic Innovation: Creating New Markets Units: 3
- MOR 565 Alliances and Cooperative Strategy Units: 3
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3
- MOR 570 Leading Effective Teams Units: 3
- MOR 588 Corporate Strategy and Competitive Dynamics Units: 1.5, 3

Note

For current USC graduate students, courses credited to the graduate certificate in Strategy and Management Consulting may be completed in conjunction with course work required for the program in which the student is already enrolled. The student's home department determines applicability of these courses to the student's primary degree program. Current Marshall MBA students may apply all 15 units of the graduate certificate program to their MBA degree.

Courses completed in conjunction with a previously completed/awarded degree may not be credited toward the certificate. Appropriate substitutions for required courses will be determined and documented by the program director.

Successful completion of the program is documented on the student's transcript and acknowledged with a certificate (diploma) awarded by the university.

For additional information, visit marshall.usc.edu/GCRTSMC or write to GCRT.SMC@marshall.usc.edu.

Sustainability and Business Graduate Certificate

Business is increasingly involved in social and environmental issues. On the one hand, government and civil society are exerting increasing pressure on the business sector to help address the world's pressing social and environmental sustainability challenges. On the other hand, a growing number of businesses are seeking to respond proactively to these challenges. The Sustainability and Business Graduate Certificate prepares students to help shape solutions to social and environmental sustainability challenges, both from within and from outside the business sector.

The program was designed with several audiences in mind: current Marshall graduate students already strong on the business side, current graduate students outside Marshall who may have strength on the sustainability side but want more strength on the business side, and individuals not yet enrolled but eager to deepen their understanding of the field.

Admission

Applicants must meet the same Marshall School of Business admissions requirements as degree seeking students. Some exceptions are made for current USC students and USC alumni. Visit *marshall.usc.edu/SUSB* for details.

Applicants may apply for admission to begin the program in the fall or spring semesters as well as in the summer, depending on course availability. Applications are submitted online through the USC Graduate Admissions Website at *gradadm.usc.edu/*. International applicants are advised to see the instructions for international students published at *gradadm.usc.edu/apply/international-students/*.

Program Requirements

The program requires completion of 15 units.

Core: Complete at least 6 units from the following:

- BAEP 589 Social Entrepreneurship Units: 2 or
- BAEP 591 Social Entrepreneurship Units: 2, 3
- BAEP 564 Investing in Impact Ventures Units: 3
- DSO 505 Sustainable Supply Chains Units: 1.5
- DSO 506 Sourcing and Supplier Management Units: 1.5
- DSO 554 Digital Strategies for Sustainability in Global Markets Units: 3
- FBE 557 Business Law and Ethics Units: 3
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3

Electives: Complete 0-9 units from the following to total 15 units:

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 576 Sustainable Design for Healthy Indoor Environments Units: 3
- ARCH 579 Sustainable Building and Environment using LEED Metrics Units: 3
- CHEM 581 Current Topics in Sustainable Energy Generation and Storage Units: 2
- CMGT 577 Communicating Corporate Social Responsibility Units: 4
- DSO 586 Global Healthcare Operations Management Units: 3
- ENE 502 Environmental and Regulatory Compliance Units: 4
- ENE 505 Energy and the Environment Units: 4
- ENST 520 Environmental Law and Policy Units: 4 or
- LAW 655 Environmental Law Units: 2, 3, 4
- ENST 530 Environmental Risk Analysis Units: 4 or
- PPD 587 Risk Analysis Units: 4
- GEOL 525 The Science of Climate Change Units: 4
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- PM 555 Environmental Health, Policy and Practice Units: 4
- PM 557 Global Environmental Health Units: 4

- PPD 568 Environmental Governance and Sustainability Units: 2
- PPD 621 Environmental Impacts Units: 4
- PPD 644 Shaping the Built Environment Units: 4
- PPD 688 Business and Public Policy Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPD 692 Transportation and the Environment Units: 4
- PPDE 632 Sustainable Cities Units: 4
- PPDE 634 Methodology, Methods and Tools for Urban Sustainability Units: 2, 3, 4
- PPDE 644 Land Use and Transportation Planning Units: 4
- PPDE 660 Environmental Policy Design and Analysis Units: 4
- PPDE 662 China from a US Policy Perspective Units: 4
- PSYC 456 Conservation Psychology Units: 4
- SAE 515 Sustainable Infrastructure Systems Units: 4
- SOWK 684 Community Practice for Social Innovation Units: 3

Note:

Given the growing number of courses relevant to this certificate at USC, students may petition the director to include courses not listed here. Petitions must be received and approved prior to registration for the course to be applied to the certificate.

Students may also earn credit toward the certificate electives with up to 4 units of Independent Study (e.g., Marshall 592 or 593) or Directed Research (590 in non-Marshall departments) subject to approval by the faculty directors.

For current USC graduate students, courses credited to the Graduate Certificate in Sustainability and Business may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. For USC alumni, courses completed in conjunction with a previously conferred degree may not be credited toward the certificate.

Successful completion of the program is acknowledged by a certificate (diploma) awarded by the university.

For more information, please visit *marshall.usc.edu/SUSB*.

Technology Commercialization Graduate Certificate

The Graduate Certificate in Technology Commercialization is designed to let students experience the entire spectrum of the commercialization process — invention, product development, technical and market feasibility analysis, intellectual property acquisition, business planning and venture funding.

This program is particularly well suited to master's and PhD candidates in science, engineering and business, but we encourage students from other disciplines who are interested in technology businesses to apply. Also, you do not need to be a matriculated student at USC to undertake the program. Any individual who holds an undergraduate degree equivalent to a four-year U.S. bachelor's degree is welcome to apply.

Prospective students may apply to begin the program in the fall, spring or summer term. Applications are submitted online via *gradadm.usc.edu/apply/*. For details, visit *marshall.usc.edu/tccm*.

Two required courses and 6 units of electives (for a total of 12 units) must be completed to earn the certificate.

Required Courses

- BAEP 556 Technology Feasibility Units: 3
- BAEP 557 Technology Commercialization Units: 3

Electives - Select a minimum of 6 units from the following.

- BAEP 553 Cases in New Venture Management Units: 1.5, 3
- BAEP 554 Venture Initiation Units: 3
- BAEP 555 Founder's Dilemmas: Anticipate and Avoid Startup Pitfalls Units: 3
- BAEP 559 Investing in New Ventures Units: 3
- BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences Units: 1.5
- BAEP 562 Entrepreneurship in eCommerce Units: 1.5
- BAEP 563 Corporate Entrepreneurship Units: 3
- BAEP 565 Venture Lab Units: 3
- BAEP 575 Entrepreneurship in the Media and Entertainment Industry Units: 1.5
- CE 576 Invention and Technology Development Units: 3
- ISE 515 Engineering Project Management Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- MOR 564 Strategic Innovation: Creating New Markets Units: 3

Notes:

For current USC graduate students, courses credited to the Graduate Certificate in Technology Commercialization may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. For USC alumni, courses completed in conjunction with the individual's prior degree may not be credited toward the certificate.

Successful completion of the program is acknowledged by a certificate awarded by the university.

Doctoral Degree

Business Administration (PhD)

The Doctor of Philosophy program in business administration is designed to produce research-oriented graduates who, from positions in academia, can advance the state-of-the-art of business practice and enhance the contributions that business can make to the larger community. These goals can be advanced through research contributions in theory, concepts, methods and practices, and contributions to the education of the next generation of business leaders. USC Marshall offers the PhD in Business Administration in the following five departments: Accounting, Finance and Business Economics, Data Sciences and Operations, Management and Organization, and Marketing.

All students admitted to the Marshall PhD degree program are supported by graduate assistantships or fellowships that require a full-time commitment to the program. No part-time or evening programs are available. PhD students begin their program in early August and are expected to be in residence 12 months each year throughout the program. Until the time the student is granted permission to take the qualifying examination, successful completion of at least six units per consecutive semester is required.

This degree is awarded under the jurisdiction of the Graduate School. Students should also refer to The Graduate School section of this catalogue. All courses applied toward the degree must be accepted by the Graduate School and relevant to the student's program of study. In most cases, the PhD degree takes five years to complete.

Admission

The PhD program in Business Administration welcomes applications from students with high intellectual aptitude who plan to pursue academic careers in research and teaching. Students with strong backgrounds in mathematics, psychology, the social sciences, engineering, computer science and the other sciences are encouraged to apply for admission. A master's degree or MBA is not a requirement for entry into the PhD program; students may enter with only a bachelor's degree. Prior academic research experience is desirable.

Students who wish to apply for admission to the PhD program should visit *marshall.usc.edu/phd* to obtain additional information about the PhD program and an online application. Only online applications are accepted. Students with additional questions that are not covered on the Website may contact the Marshall School PhD Program office at (213) 740-0676 or phd@marshall.usc.edu.

Applicants should secure three letters of recommendation. The PhD committee prefers that all recommendations be written by academics who are familiar with the applicant's scholastic and research capabilities. An applicant who has been away from

an academic environment for a significant period of time may substitute one academic reference with a non-academic reference. Applicants also provide transcripts, GRE or GMAT scores, TOEFL or IELTS scores (if appropriate) and a statement of purpose. Applicants are encouraged to send a statement of research experience and a research writing sample, if available.

Consideration is given to the rigor of the undergraduate and master's curricula, academic performance, scores on the GRE or GMAT, the quality of the statement of purpose, fit with the department, the applicant's oral and written communication skills and letters of recommendation.

Campus interviews for top applicants may be initiated by the departments. In cases where in-person interviews cannot be arranged, alternative arrangements will be made.

Funding

All admitted students receive a fellowship or graduate assistantship, full tuition, health and dental insurance and payment of mandatory student health center fee for a minimum of five years dependent on continued satisfactory academic progress. This progress is assessed by the PhD program based on students maintaining at least the minimum enrollment, a GPA of at least 3.0, and satisfactory performance in graduate assistant assignments. Teaching and teaching assistant assignments are made only after a student has passed the qualifying examination. For research assistant assignments, students are engaged with a faculty member in a businessrelated, applied-learning, scholarly activity to learn the skills necessary to conduct independent research.

Degree Requirements

The Doctor of Philosophy in business administration is based on a program of study and research culminating in the completion of a dissertation in the major field of study. A minimum of 60 units of course work beyond the baccalaureate is required for the PhD degree, including research courses and a minimum of 4 units and a maximum of 8 units of GSBA 794a Doctoral Dissertation, GSBA 794b Doctoral Dissertation, GSBA 794c Doctoral Dissertation, GSBA 794d Doctoral Dissertation and GSBA 794z Doctoral Dissertation. For students who already possess an advanced graduate degree, a minimum of 40 semester units of course work beyond that degree is required, of which a maximum of 4 units may be GSBA 794a Doctoral Dissertation, GSBA 794b Doctoral Dissertation, GSBA 794c Doctoral Dissertation, GSBA 794d Doctoral Dissertation and GSBA 794z Doctoral Dissertation. Doctoral students are subject to disqualification at any time that the Marshall School of Business determines that they are deficient in academic achievement. All students must maintain a 3.0 GPA at all times.

Screening Procedure

In addition to the papers and examinations assigned in first-year courses, a screening process will occur in May. This process will include a review of each student's grades, an analysis of competence in written communications and reports from faculty members who have had in-class or other responsibility for the student. In most departments, a screening exam is required. The nature of the exam varies by department. Generally, a screening examination or other procedure designated by the department (Accounting, Finance and Business Economics, Data Sciences and Operations, Management and Organization, and Marketing) is to be administered before the student has taken more than 24 units (including research courses). However, the Accounting and Finance and Business Economics departments require their students to take the departmental course requirements until the end of the second year; students must take up to 36 units before the departmental screening procedure is administered. Based upon this review, the PhD committee will determine whether the student should continue in the PhD program. Students who have not performed satisfactorily will be dropped from the program. The review shall normally be completed and results communicated to students by July 1. In some cases a first-year summer project may be taken into account in determining whether a student should continue in the program.

Qualifying Exam Committee and Dissertation Committee

Students are responsible for finding a qualifying exam committee chair among the student's home department faculty by the fall semester of the second year. The qualifying exam committee should be established within the student's home department at least two semesters prior to taking the qualifying examination and after the student has passed the screening procedure. The qualifying exam committee comprises a minimum of five tenured, tenure-track and non-tenure track USC faculty, three of whom must be from the student's home department. At least one faculty member from the home department must be tenured. One member must be from outside the student's home department (within or outside of Marshall). The qualifying exam committee advises the student on courses during the first two years and oversees and grades the qualifying examination.

Within 90 days of passing the qualifying exam, the dissertation committee chair must be identified. The dissertation committee must be appointed within six months after the qualifying examination has been passed and a dissertation topic approved. The committee should be appointed at least one month before the dissertation defense. The appointment of dissertation committee form, available on the Graduate School Website, is used to establish the dissertation committee. The dissertation committee is normally composed of three members, although additional members may be included at the student's and committee chair's discretion. The committee chair and at least one additional member must be affiliated with the student's home department. Faculty eligible to serve as committee members include tenured and tenure-track faculty, and nontenure track faculty of outstanding stature who have a documented record of exceptional expertise and superior achievement in a field relevant to the dissertation. At least two members of the committee should be tenured or tenure-track, including the committee chair.

The Marshall School of Business PhD program requires an outside member for both the qualifying exam committee and dissertation committee. The outside member may be a faculty member from another department within Marshall or from another school within USC. Students may also include a person from a different university as an additional member with the permission of the associate dean; however, this person cannot substitute for the required outside member.

Course Requirements

Each student must successfully complete one course in microeconomics or behavioral sciences, one course in statistics and one course in research design plus the core courses in his or her field of specialization. Advanced course work is specified by the student's guidance committee in preparation for the qualifying examinations in the area of specialization. The areas are: accounting, data sciences and operations, finance and business economics, management and organization, and marketing.

Qualifying Examination

The examination qualifying a student for candidacy may be comprehensive in nature. It is designed to determine the student's competence in the area of specialization.

The qualifying examination consists of two sections: written and oral. The written section must be passed before the oral section; if a student does not pass the written examination, the oral examination need not be administered.

In preparing for the qualifying examination, students form a qualifying exam committee. This committee helps the student prepare for the exam and also administers the written and oral section of the examination. See also The Graduate School section of this catalogue.

Dissertation

The final phase of the program is the completion of a dissertation. The dissertation must be based on an original investigation that makes a substantive contribution to knowledge and demonstrates the student's capacity for independent, scholarly research. The quality of the dissertation should meet the standards for publication in leading academic journals in the field.

Typically, research in business administration involves studies that advance the body of knowledge concerned with issues and solution of problems confronting managers and administrators. As a result, a dissertation will (1) develop or extend theories, techniques or models relevant to managerial problems; (2) demonstrate original applications or adaptations of existing theories, techniques or models to managerial problems in a specific area; (3) develop innovative formulations and analyses of complex managerial problems and propose creative approaches to their solution; and/or (4) employ scientific research methodology to test empirically the validity of existing theories, techniques or models and their application to specific types of managerial problems.

A dissertation committee chair shall be requested by the student and appointed by the dean of the PhD program within 90 days after the student has passed the qualifying examination. The remaining faculty on the dissertation committee shall be appointed within six months after the student has passed the qualifying exam.

The dissertation committee must consist of at least three tenured or tenure-track faculty, two of whom must be from the student's home department. At least one faculty member from the home department must be tenured.

One member must be from outside the student's department and the Marshall School of Business. Students may add additional faculty to the committee, especially those who might provide valuable expertise that improves the dissertation. It is important that the student select faculty members who are committed and interested in serving on the committee, since a quality dissertation requires extensive interaction with and a sizable time commitment from individual faculty members. See also the Qualifying Exam Committee and Dissertation Committee section above for further details.

Defense of the Dissertation

When the dissertation committee agrees that the candidate has essentially completed the research and a satisfactory draft of the dissertation has been written, a final oral examination is held. This examination is open to all members of the faculty of the school and the university. Final judgment of the dissertation and the oral defense is rendered by the members of the dissertation committee. The dissertation must be accepted unanimously by the dissertation committee. Further information on procedures is contained in The Graduate School section of this catalogue.

USC School of Cinematic Arts

The USC School of Cinematic Arts (SCA) is one of the nation's preeminent centers for the creation, study, research and development of film, television and interactive media. With nearly 200,000 square feet of facilities, the school confers degrees ranging from the bachelor's to the doctorate. SCA is composed of seven divisions: the John C. Hench Division of Animation + Digital Arts; the Division of Cinema and Media Studies; Film and Television Production; Interactive Media and Games; Peter Stark Producing Program; the John Wells Division of Writing for Screen and Television; and Media Arts + Practice. The school also has two organized research units — the Institute for Multimedia Literacy and the Entertainment Technology Center.

Since its founding in 1929 as the first course of study in film at any college or university in the United States, USC's cinema program has consistently set academic and professional standards for excellence. In addition, the school has a record-breaking number of endowed chairs in the discipline; production facilities that rival industry counterparts and extraordinary faculty and staff.

Thanks to SCA's location in Los Angeles, students have access to the country's leading film, television, animation and video game producers; world-class literary and talent agencies; libraries and archives brimming with research materials; and alumni that support the school and the men and women in its academic body. The school is also home to USC's Trojan Vision television station.

The USC School of Cinematic Arts recognizes that a student can only truly excel in his or her chosen area of expertise after exposure to all elements of the art form. Consequently, there is an emphasis on cross-disciplinary course work that ensures writers get behind the camera; cinema and media studies scholars edit footage; and production majors examine the canon from a rigorous academic perspective.

Administration
Elizabeth M. Daley, PhD, *Dean*
Akira Mizuta Lippit, PhD, *Vice Dean of Faculty*
Michael Renov, PhD, *Vice Dean, Academic Affairs*
Andreas Kratky, PhD, *Associate Dean, Research*
Evan Hughes, MA, *Assistant Dean of Diversity and Inclusion*
Office of Student Services
(213) 740-8358
Email: admissions@cinema.usc.edu;
studentaffairs@cinema.usc.edu
cinema.usc.edu
The John C. Hench Division of Animation + Digital Arts
Teresa Cheng, *Division Chair*
School of Cinematic Arts - SCB 210
(213) 740-3986*
FAX: (213) 740-5869
The Division of Cinema and Media Studies
Priya Jaikumar, *Division Chair*
School of Cinematic Arts - SCA 320
(213) 740-3334*
Film and Television Production
Gail Katz, *Division Chair*
Susan Arnold, *Vice Chair*
School of Cinematic Arts - SCA 434
(213) 740-3317*
Interactive Media and Games Division
Danny Bilson, *Division Chair*
School of Cinematic Arts - SCI 201M
(213) 821-4472*
FAX: (213) 821-2665
Media Arts + Practice
Holly Willis, *Division Chair*
Elizabeth Ramsey, *Vice Chair*
School of Cinematic Arts - SCI 101
(213) 821-5700*
The Peter Stark Producing Program
Ed Saxon, *Division Chair*
Nina Yang Bongiovi, *Producer-in-Residence and Associate Chair*
School of Cinematic Arts - SCA 366
(213) 740-3304*
The John Wells Division of Writing for Screen and Television
David Isaacs, *Division Chair*
School of Cinematic Arts - SCA 335
(213) 740-3303*
FAX: (213) 740-8035
Summer Program
David Weitzner, *Director*
School of Cinematic Arts - SCA 250
(213) 740-3327*
**For information regarding admission, call (213) 740-8358.*

Faculty
Steven J. Ross/Time Warner Endowed Dean's Chair in Cinema-Television: Elizabeth M. Daley, PhD
Dana and Albert "Cubby" Broccoli Endowed Chair in Producing: John Watson, MA
The Mark Burnett Summer Program Endowed Chair: David Weitzner, BA
The Joseph Campbell Endowed Chair in Cinematic Ethics: Theodore Braun, MFA
The Sergei Eisenstein Endowed Chair in Cinematic Design: Bruce A. Block, MFA
Electronic Arts Endowed Chair in Interactive Entertainment: Tracy Fullerton, MFA
Hugh M. Hefner Endowed Chair for the Study of American Film: Tara McPherson, PhD
The John C. Hench Endowed Division Chair: Teresa Cheng, BA
The Michael Kahn Endowed Chair in Editing: Nancy Forner, BA
The Mona and Bernard Kantor Endowed Chair in Production: Mark J. Harris, BA
The George Méliès Endowed Chair in Visual Effects: Michael Fink, MFA
William Cameron Menzies Endowed Chair in Production Design: Alex McDowell, BFA
John H. Mitchell Endowed Chair in the Business of Entertainment: Bonnie Chi, BA
Stephen K. Nenno Endowed Chair in Television Studies: Ellen Seiter, PhD
Jack Oakie Chair in Comedy: Jack Epps Jr., BA
Mary Pickford Endowed Chair: Gail Katz, MBA
The Katherine and Frank Price Endowed Chair for the Study of Race and Popular Culture: Todd Boyd, PhD
Kay Rose Endowed Chair in the Art of Sound and Dialogue Editing: Midge Costin, MA
Charles S. Swartz Endowed Chair in Entertainment Technology: Richard Weinberg, PhD
The T.C. Wang Family Endowed Chair in Cinematic Arts: Akira Mizuta Lippit, PhD
The Haskell Wexler Endowed Chair in Documentary: Michael Renov, PhD
The Robin Williams Endowed Chair in Comedy: Barnet Kellman, PhD
Dino and Martha De Laurentiis Endowed Professorship: Mary Sweeney, MA
Presidential Professor of Cinematic Arts: George Lucas, BA
Judge Widney Professor: Robert Zemeckis, BFA
Provost Professor of Communication, Journalism, and Cinematic Arts: Henry Jenkins, PhD
Distinguished Professor: Mark J. Harris, BA
Professors: Tom Abrams, MFA; Danny Bilson, BA; Bruce Block, MFA; Don Bohlinger, MFA; Mark Bolas, MS; Todd Boyd, PhD; Ted Braun, MFA; Teresa Cheng, BA; Midge Costin, MA; Elizabeth M. Daley, PhD; Jack Epps Jr., BA; Michael Fink, MFA; Scott S. Fisher, MS; Tracy Fullerton, MFA; Mark J. Harris, BA; David Howard,

MFA; Aniko Imre, PhD; David Isaacs, BA; Priya Jaikumar, PhD; Henry Jenkins, PhD; Jeremy Kagan, MFA; Gail Katz, MBA; Barnet Kellman, PhD; Scott Kroopf, BA; Lisa Leeman, BA; Akira Mizuta Lippit, PhD; David Macmillan; Tara McPherson, PhD; Christine Panushka, MFA; Amanda Pope, BA; Jason Reisig, BFA; Michael Renov, PhD; Howard A. Rodman, BA; Ellen Seiter, PhD; Tom Sito, BFA; Kathy Smith, BA; Sheila M. Sofian, MFA; Mary Sweeney, MA; Michael Taylor, BA; Robert Townsend, DFA: John Watson, MA; Holly Willis, PhD

Associate Professors: Linda Brown, MFA; J. D. Connor, PhD; Pamela Douglas, MA; Lan Duong, PhD; Nitin Govil, PhD; Helaine Head, BA; Georgia Jeffries, BA; Andreas Kratky, PhD; Richard Lemarchand, BA; Everett Lewis, MFA; Andrew Nealen, PhD; Laura Isabel Serna, PhD; Peter Sollett, BFA; Stephanie Spray, PhD

Assistant Professor: Giancarlo Cornejo, PhD

Professors of Practice: David Balkan, BA; Irving Belateche, MA; Gordon Bellamy, BA; Peter Brinson, MFA; Vicki Callahan, PhD; Christopher Chomyn, MFA; Stephen Flick, BA; Nancy Forner, BA; Pablo Frasconi, BFA; Brenda Goodman, BS; Eric Hanson, BA; James Huntley, MS; Virginia Kuhn, PhD; Elisabeth Mann, MFA; Alexander McDowell, BFA; Thomas Miller, MD, MFA; Barbara Nance, BA; Maks Naporowski, BA; Michael Patterson, BFA; Candace Reckinger, MFA; John Rosenberg, MFA; Mark Shepherd, MFA; Sonja Warfield, BA; David Weber, MFA; William Yahraus, MA

Associate Professors of Practice: Steve Albrezzi, BA; Susan Arnold; Kiki Benzon, PhD; Michael Bodie, MFA;Richard Burton, BA; Reine-Claire Dousarkissian, MA; Dianne Farrington, MA; Marientina Gotsis; MFA; DJ Johnson, MFA; Suhail Kafity; Angelo Pacifici, BArch; Michael Provart, MFA; Elizabeth Ramsey, PhD; Michael Uno, MFA; Jesse Vigil, MFA; Jennifer Warren, BA; Shelly Wattenbarger, MFA; Tristan Whitman, MFA

Assistant Professors of Practice: George Carstocea, PhD; Jeremy Deneau, BA; Evan Hughes, MA; Margaret Moser, MFA

Research Adjunct Associate Professor: Perry Hoberman

Part-time Faculty: Bayo Akinfemi; Albert Albaladejo; Jesse Albert; Ioan Allen; Kate Amend; Yvette Amirian; Kari Antholis; Jordan Ariel; Andrew Balis; David Baron; Deborah Baron; Craig Barron; Maurice Bastian; Janet Batchler; Catherine Bell; Diego Berdakin; Sandra Berg; Alan Berger; Fred Bernstein; Dick Block; Mitch Block; Skye Borgman; John Bowman; Elizabeth Brauer; John Brennan; Paul Bricault; Musa Brooker; Michael Broukhim; Robert Brown; Bonnie Bruckheimer; Ed Callahan; Trey Callaway; John Carpenter; Will Carter; Susan Cartsonis; Phil Casnoff; Michael Cassutt; Julian Cautherly; Ramiro Cazaux; Bonnie Chi; Peter Chung; Jacque Cofer-Edmonds; Simon Coke; Michael Connors; Akela Cooper; Ken Cosby; Sean Covel; Tim Curnen; Martin Daniel; Kristen W. Davis; Johanna Demetrakas; Dariush Derakhshani; Annie DeSalvo; Heather Desurvire; Vincent Diamante; Jon Dudkowski; James Egan; David Fain; Siavash Farahani; Ben Fast; Ron Fernandez; Bruce Finn; Paul Foley; Eric Freiser; Bonnie Garvin; Paul Gerard; Jeffrey Glaser; Karl Gnass; David Goetsch; Eric Goldberg; Jane Goldenring; Jarrett Golding; Richard Goldsmith; Margie Goodspeed; Ian Goodwin; Janet Graham-Borba; Mimi Gramatky Stradling; Amanda Green; Sharon Greene; Jordan Halsey; Jeffrey Hammer; Suzanne Hargrove; Martin Havran; Pete Hawkes; Chevon Hicks; John Hight; Liz Hinlein; Joe Hoffman; Todd Hoffman; Alan Holzman; Sean Hood; Caroline Hu; Joan Hyler; Jason Inouye; Alex Jablonski; Brandon Jeffords; Jeanne Jo; Toni Ann Johnson; Juli Juteau; Aaron Kaplan; Roeban Katz; Thomas Kemper; Liz Keyishian; Tim Kirkman; Randal Kleiser; Michael Kontopoulos; Jeffrey Korchek; Paul Kowalski; Stu Krieger; Jon Kroll; Mark Kulakoff; Lucas Kuzma; Morgan Land; Sheldon Larry; Clifford Latimer; Ken LaZebnik; Domin Lee; Elizabeth Lee; Robert Levin; Andrew Licht; Dan Lupovitz; John Mahoney; Laird Malamed; Leonard Maltin; Carolyn Manetti; David Maquiling; Peter Marx; Frank McAdams; Jim McGinn; Rebekah McKendry; Mary McNamara; Bill Mechanic; Dagen Merrill; Chris Morocco; Tatiana Mulry; Robert Nashak; Rob Nederhorst; Sahand Nikoukar; Fredrik Nilsson; Joseph Nussbaum; Dave O'Brien; Jim O'Keeffe; Sev Ohanian; Joseph Olin; Bob Osher; Joel Parker; Rick Parks; Joe Peracchio; Rod Perth; Brian Peterson; Paul Petschek; Wendy Phillips; Mary Posatko; Anne Postman; Kate Powers; Wayne Powers; Bill Prady; Ross Putman; Robert Ramsey; Phil Ramuno; Gary Randall; Amy Reed; Sandy Reisenbach; Silvia Rigon; Vincent Robert; Peter Robinson; Jason Rosenfield; Roland Rosenkranz; Torrie Rosenzweig; Jeremy Royce; Kendra Ryan; Nina Sadowsky; Leander Sales; Mike Saltzman; Jimena Sarno; James Savoca; Julie Sayres; Nevin Schreiner; Phil Schwartz; Matthew Scott; Debby Seibel; Joselito Seldera; Bita Shafipour; Rick Shaine; Toi Juan Shannon; Bobby Smith, Jr.; Jim Staahl; Josh Staub; Katherine Steinbach; Noah Stern; Sean Stewart; Scott Sturgeon; Danny Sussman; Neely Swanson; Beth Sweeney; Ella Taylor; Aaron Thomas; John Underkoffler; Marcel Valcarce; Pam Veasey; Ligiah Villalobos; Jeffrey Vlaming; Gary Wagner; Dahvi Waller; Gene Warren III; Miles Watkins; Jordan Weisman; David Weitzner; Nicole West; William Whittington; Tyger Williams; Chase Winton; Russ Woody; Frank Wuliger; Chris Wyatt; Qianqian Ye; Maureen Yeager; Ashley York; Gil Zimmerman

University Professor Emerita: Marsha Kinder, PhD

Professor Emerita: Doe Mayer, MA

Professors Emeriti: Drew Casper, PhD; Ron Curfman, MFA; Trevor Greenwood, MA; Richard Harber, MA; David E. James, PhD; Richard Jewell, PhD; Edward Kaufman, PhD; Woody Omens, MA; Morton Zarcoff, MA

Associate Professors Emeriti: Robert Miller, PhD; Dennis Wixon, PhD

Research Professor Emeritus: Richard Weinberg, PhD

Professor Emeritus of the Practice of Cinematic Arts: Jason Squire, MFA

Degree Programs

The USC School of Cinematic Arts offers professional and academic degree programs at the bachelor's, master's and doctoral levels.

Bachelor of Arts — Animation and Digital Arts

This program combines a broad liberal arts background with specialization in a profession. The degree is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. The degree requires 128 units. For more information, see full program description.

Bachelor of Fine Arts — Animation and Digital Arts

This is a program designed for students who wish to receive intensive training in all aspects of pre-production and production to ideate, design and create animated works. The BFA in Animation and Digital Arts is granted through the School of Cinematic Arts. The degree requires 128 units. For more information, see full program description.

Bachelor of Arts, Cinema and Media Studies

This degree is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts and requires 128 units. For more information, see full program description.

Bachelor of Arts, Cinematic Arts, Film and Television Production

This degree is a two-year program for transfer students. The BA is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts and requires 128 units. For more information, see full program description.

Bachelor of Fine Arts, Cinematic Arts, Film and Television Production

This degree is a four-year program only available to incoming freshmen. The BFA in Cinematic Arts, Film and Television Production is granted through the School of Cinematic Arts and requires 128 units. For more information, see full program description.

Bachelor of Fine Arts — Game Art

Dedicated to creating beautiful art assets for interactive media and technologies, this program focuses on Games with concentrations that might include character animation, environmental design, visual effects, 3-D pipelines and interactive animation. Students study within the framework that combines a broad liberal arts background with specialization in a profession. The Bachelor of Fine Arts in Game Art is granted through the the School of Cinematic Arts. The degree requires 128 units. For more information, see full program description.

Bachelor of Arts — Interactive Entertainment

Dedicated to immersive experience design and emerging technologies, this program is for students who are driven to innovate at the intersection of traditional media, games, and whatever happens next. The Bachelor of Arts in Interactive Entertainment is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. The degree requires 128 units. For more information, see full program description.

Bachelor of Arts — Media Arts and Practice

This program is for students who want to harness the power of digital storytelling and media design to communicate across diverse fields beyond the entertainment industry. This degree is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. The degree requires 128 units. For more information, see full program description.

Bachelor of Fine Arts — Writing for Screen and Television

This is a unique program designed for students who wish to receive intensive training for non-fiction and fiction writing for screen and television. The BFA in Writing for Screen and Television is granted through the School of Cinematic Arts. The degree requires 128 units. For more information, see full program description.

Bachelor of Science in Business Administration (Cinematic Arts)

This program offers a unique coupling of the USC Marshall School of Business and the School of Cinematic Arts in a four-year interdisciplinary degree. In addition to the Marshall School of Business core classes, the students will also take a total of 24 units from the School of Cinematic Arts. This competitive program is offered to freshmen admitted to the Marshall School of Business as Business Scholars. Upon completion of all requirements, students will receive a Bachelor of Science in Business Administration (Cinematic Arts). See the Marshall School of Business for course requirements.

Master of Arts, Cinema and Media Studies

This degree is granted by the USC Graduate School in conjunction with the School of Cinematic Arts. This program requires 36 units. For more information, see full program description.

Master of Arts, Cinematic Arts (Media Arts, Games and Health)

This program requires 36 units. For more information, see full program description.

Master of Fine Arts, Cinematic Arts, Film and Television Production

This professional degree requires 52 units. For more information, see full program description.

Master of Fine Arts, Writing for Screen and Television

This program requires 44 units. For more information, see full program description.

Master of Fine Arts, Animation and Digital Arts

This program requires 50 units. For more information, see full program description.

Master of Fine Arts, Interactive Media

This program requires 50 units. For more information, see full program description.

Master of Fine Arts, Interactive Media (Games and Health)

This program requires 50 units. For more information, see full program description.

Master of Fine Arts, Producing for Film, Television, and New Media

The Peter Stark Producing Program requires 44 units. For more information, see full program description.

Doctor of Philosophy, Cinema and Media Studies

The PhD is based on a program of study and research culminating in the completion of a dissertation in the major field of study. A minimum of 68 semester units (exclusive of dissertation registration) beyond the baccalaureate is required. Applicants who have completed a Bachelor of Arts or Master of Arts degree in Cinematic Arts, or a closely related field, may apply to the PhD program. The doctoral degree is granted by the Graduate School in conjunction with the School of Cinematic Arts. For more information, see full program description.

Doctor of Philosophy, Cinematic Arts (Media Arts and Practice)

The PhD in Media Arts and Practice program offers a rigorous and creative environment for scholarly innovation as students explore the intersection of design, media and critical thinking while defining new modes of research and scholarship for the 21st century. Core to the program is its transdisciplinary ethos; after completing foundational course work, students design their own curricula, drawing on expertise across all divisions and research labs within the School of Cinematic Arts. The doctoral degree is granted by the Graduate School in conjunction with the School of Cinematic Arts. For more information, see full program description.

Writing for Screen and Television Certificate

The Writing for Screen and Television Certificate provides an established writer, domestic or international, with a one-year program of study. It is meant to accommodate a writer who has already attained significant recognition and would like to learn the craft of screenwriting. Sixteen units are required. For more information, see full program description.

Graduate Certificate in the Business of Entertainment

This certificate program provides graduate-level education in various aspects of the business of film, television and new media. It requires 16 units. For more information, see full program description.

Graduate Certificate in Cinematic Arts Archiving and Preservation

This certificate program is designed specifically for students and practitioners who want to use their education and skills for advancing the knowledge of film, television and interactive media through the preservation and dissemination of the historical artifacts that form the underpinnings of scholarship in

the performing arts. Through this program, students will gain the knowledge, tools and skills necessary to preserve the materials that make up the history of entertainment and to lead scholars through the research maze to the completion of books or media in their fields of study. This certificate requires 12 units. For more information, see full program description.

Graduate Certificate in Digital Media and Culture

This certificate program is for graduate students from across the USC campus who want to explore the shifting nature of scholarly expression, pedagogical practice and research in the 21st century. It combines seminars with hands-on, lab-based workshops devoted to basic image manipulation, video editing, social media and Web design to facilitate sophisticated critical thinking and practice in and through multimedia. The program requires 12 units. For more information, see full program description.

General Requirements

Acceptance of Transfer Units

The School of Cinematic Arts does not accept courses taken in film and/or television production at other institutions to fulfill degree and minor requirements. Basic film or television history courses can sometimes be accepted for transfer credit.

No transfer credit will be accepted in lieu of CTPR 290, CTPR 294, CTPR 295, CTPR 310, CTPR 507 and CTPR 508 and any advanced production courses.

No transfer credits are accepted for the Peter Stark producing track, the graduate programs in animation and digital arts, screenwriting and interactive media.

Transfer policy for the PhD requires advisement and approval of the division chair.

Waiver of Course Requirements

Under special circumstances waivers and substitutions are granted; check with the Cinematic Arts Office of Student Affairs. All course waivers and substitutions are reviewed by committee and must be approved by the associate dean of academic affairs.

The following courses cannot be waived for students majoring in Film and Television Production: CTIN 584a, CTIN 584b, CTIN 584c, CTIN 584z, CTPR 290, CTPR 294, CTPR 295, CTPR 310, CTPR 480, CTPR 507, CTPR 508, CTPR 546L, CTPR 547L, CTPR 581a, CTPR 581b, CTPR 581c, CTPR 581z, CTPR 582a, CTPR 582b, CTPR 582z, CTPR 583, CTPR 587a, CTPR 587b, CTPR 587c, CTPR 587z.

Student Advisement

Each program has its own advisement system. Check with the program administrator or with the Cinematic Arts Office of Student Affairs. Cinematic Arts student affairs counselors are available to answer questions about degree programs, grades, advisement and other matters.

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses in order to progress to the next course level. Students may attempt to improve a grade lower than a C (2.0) only one time by registering and retaking the specific course. Departmental approval is required in order to retake a School of Cinematic Arts course.

In addition, a minimum grade point average must be achieved to earn all cinematic arts degrees (see the individual program descriptions). For example, undergraduates and graduates must earn a minimum grade of C (2.0) in all required cinematic arts courses. However, graduate students must also achieve a B (3.0) average in all courses required for the degree.

Undergraduate students in the film and television production program who achieve a grade lower than a C (2.0) in CTPR 290 (BFA only), CTPR 294, CTPR 295 or CTPR 310, and graduate students in the production program who earn a grade lower than a C (2.0) in CTPR 507 or CTPR 508 may petition to retake the required sequence only once. Permission to retake any prerequisite or core production courses requires prior departmental committee approval.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

Tuition and Fees (Estimated)

Students in the School of Cinematic Arts' graduate programs pay differential tuition (see the Tuition and Fees section for current tuition rates). Undergraduate programs are assessed the university-wide tuition rate. In addition, some classes are charged lab fees, as noted in the *Schedule of Classes*, and insurance fees. The university reserves the right to assess new fees or charges. The rates listed are subject to change without notice by action of the Board of Trustees.

Attendance Policy

The School of Cinematic Arts curriculum relies heavily on in-class participation and interaction between faculty and students. Many of our courses are taught in a collaborative workshop environment and our theoretical lectures are driven through in-depth classroom discussion and analysis. We hold collaboration and constructive criticism as foundational to all of our learning environments and essential to the methodologies of our instruction. Student attendance is not only fundamental, but mandatory for the structure and success of our program for both the individual student and the educational experiences of other students within our community.

Minors, International Programs and Summer Program

Minor in Animation and Digital Arts

The minor in animation offers students an introduction to the theory and practice of animation, including its relationship to the history of art and cinema, creative writing, and basic film production. It provides students with an opportunity to create both personal and collaborative work in a wide range of genres, from traditional character to contemporary experimental and computer animation. The program requires 24 units. For more information, see full program description.

Minor in Cinematic Arts

A minor in cinematic arts is available to USC undergraduate students in all schools and departments. The minor provides the opportunity for students to become familiar with various aspects of media study. The program requires 20 units. For more information, see full program description.

Minor in Comedy

The minor in comedy is designed to train students in the creation of comedic entertainment in film, television and new media. The program utilizes both analysis courses and creative workshops to train students in comedic theory and practice. Through elective choices students may focus their studies on a number of cinematic disciplines as they pertain to the creation of comedic content, including writing sit-coms, directing comedic actors and producing sketch comedy. The program requires 16 units. For more information, see full program description.

Minor in Digital Studies

The minor in digital studies explores the rich potential of digital media for critical analysis and creative discovery. Learning the exciting and dynamic potential of a broad array of tools and technologies, students create innovative projects, from photo essays to web-based documentaries, from interactive videos to sophisticated Websites, and from typography in motion to 3-D visualizations. The program requires 20 units. For more information, see full program description. Minor students may also choose to earn an Honors designation by completing 6 additional units of course work, culminating in a capstone thesis during the student's final year.

Minor in Documentary

The minor in documentary is designed to train students in the preparation and production of documentary media. Courses are designed to give students insight into the history of documentary as well as experience with both the traditional and emerging forms of the genre. For more information, see full program description.

Minor in Entertainment Industry

The minor in entertainment industry provides students interested in media content creation with a focused curriculum that will give them insight into the economic factors and professional practices that influence the creative process, and how they interact with social, historical, technical and aesthetic elements. For more information, see full program description.

Minor in Future Cinema

The minor in Future Cinema explores the frontier of audiovisual storytelling building on the cutting edge research within the School of Cinematic Arts. Students will explore the creative and technological transformations of an industry in transition as cinema becomes live, playable, immersive, mobile, virtual, crowdsourced and more. The program requires 20 units. For more information see full program description.

Minor in Game Animation

The skills of the modern animator, visual effects artist, motion capture professional and many others are of great value in the games industry when paired with an understanding of how these assets can be used in games and systems. The game animation minor provides an educational path that teaches both systems thinking and the skills and creativity of an animator. The program requires 24 units. For more information, see full program description.

Minor in Game Audio

Game audio professionals must not only be competent in one area (e.g., expressly in music composing or in audio recording), but also in other areas of audio and in theories of procedurality and interaction. This minor provides a grounding in game design and systems thinking, while providing a theoretical backing and skills in audio design and composition to prepare students to design successful audio for the games industry. The program requires 24 units. For more information, see full program description.

Minor in Game Design

Design for games is a young, exciting field applicable to media artists working all over the world, in different aspects of the industry and with many different tools. The game design minor teaches basic iterative design and prototyping skills while providing students the opportunity to explore design for new technologies and the skills of user assessment and usability testing. The program requires 24 units. For more information, see full program description.

Minor in Game Entrepreneurism

The modern media, technology and entertainment fields are built on the backs of new businesses and new ideas. To start a successful business, you need skills and knowledge of the processes for setting up a business, finding investment and turning your creative project from prototype to finished project. The game entrepreneurism minor provides an educational path that teaches hard business thinking for creative entrepreneurs. The program requires 24 units. For more information, see full program description.

Minor in Game Studies

Games are a major cultural form, with game sales now exceeding box office revenue in the United States. Attention to games and interactive media is growing, and it has become necessary to understand them as meaningful systems, reflect on their cultural influence, and to help guide their evolution with insightful criticism. The game studies minor prepares students with fundamental underpinnings in media criticism and games. For more information, see full program description.

Minor in Game User Research

Game and interaction design are deeply dependent upon human-computer interaction and the ability to use research methods to improve player experience. This minor is designed to give students an underpinning in game design, interface design and research methods, while teaching a full set of skills for playtesting and usability practice. The program requires 24 units. For more information, see full program description.

Minor in Immersive Media

The minor in immersive media is designed to train students to create projects in virtual reality, augmented reality, and other immersive media formats. The core program requirements provide the solid fundamentals needed to understand, conceive of, and create immersive work. Through elective choices students may focus their studies on theory, on specific fields of immersive, on creative expression, or on building technology. The program requires 24 units. For more information, see full program description.

Minor in Media and Social Change

The minor in media and social change provides the opportunity for students who are interested in media content creation and research to take classes in a focused curriculum on the various aspects of media for change. Students will gain insight into the professional practices of creating media content, analyzing existing content, and learning how they can influence the future by integrating social issues into the work they are doing in related fields. The program requires 20 units. For more information, see full program description.

Minor in Science Visualization

The minor in science visualization offers an introduction to science visualization methodology and practice focused in an area of relevant research. The minor is structured to provide the skills and knowledge needed in science visualization, and will culminate in a capstone project under the close supervision of faculty in both animation and science. The program requires 16 units. For more information, see full program description.

Minor in Screenwriting

The minor in screenwriting provides thorough training in the craft of writing for screen and television. Students learn the fundamentals of character, conflict and scene structure and build on their skills through each course as they write feature and television scripts in all genres and explore areas of their interest. Students may apply in the spring or fall semester. The program requires 16 units. For more information, see full program description.

Minor in Themed Entertainment

From cruise ships to casinos to immersive educational retreats, themed entertainment design involves submerging a real, live human being into a story in a truly robust, physical way. As new tools for entertainment and education develop, they continually push toward enabling players to completely become the heroes and heroines of their own stories. The themed entertainment minor focuses on history, theory and skills of themed entertainment design. The program requires 24 units. For more information, see full program description.

Minor in 3-D Animation in Cinematic Arts

The minor in 3-D animation in cinematic arts offers an introduction to basic animation principles and history, as well as creative and skill-based instruction in 3-D computer animation. Through elective choices students may focus their studies on their specific area of interest, including visual effects, motion capture, virtual reality, modeling, or character animation. The program requires 16 units. For more information, see full program description.

Minor in Cinema-Television for the Health Professions

This 24-unit minor is designed for students who plan to enter careers or professional programs in medicine after graduation and are interested in working with film and television producers to disseminate accurate health information to the public. See the Keck School of Medicine of USC for course requirements.

Minor in Video Game Design and Management

The video game design minor integrates theoretical concepts and practical skills to prepare students for a career in interactive entertainment, specifically the video game industry. Through integration of two major disciplines (cinematic arts and information technology), students will be exposed to a variety of design concepts related to creating video games. See the Information Technology Program for course requirements. For specific information on admission and application procedures, contact the School of Cinematic Arts at (213) 821-2515 or the Information Technology Program at (213) 740-4542.

Minor in Performing Arts Studies

The minor in Performing Arts provides an interdisciplinary inquiry into the nature and aesthetics of the performing arts. It combines the disciplines of cinematic arts, dance, music and theatre. The minor is a unique course of study that looks at how the performing arts contribute to a culturally literate society. See USC School of Dramatic Arts for requirements.

International Programs

Global Exchange Workshop

"The Global Exchange Workshop" is an intensive, seven-week workshop in documentary filming that pairs graduate students from the USC School of Cinematic Arts and the Communication University of China (CUC) to make short documentaries on Los Angeles and/or Beijing as global cities. Participating students enroll in CTPR 515 Global Exchange Workshop (2 units).

With faculty guidance from both universities, the students must negotiate cultural differences both in front of and behind the camera. In the process, both students and faculty directly experience the other culture and learn how it defines globalism in general, sees its own city in global terms, combines theory and practice, and processes a new set of perceptions and lived experience.

Interested students should contact Professor Pablo Frasconi of the division of Film and Video Production at pfrasconi@cinema.usc.edu.

Summer Program

The USC School of Cinematic Arts Summer Program is a six-week program that offers classes from different facets of the entertainment industry, all for college credit. Participants from around the world have an opportunity to attend intensive, creatively demanding and satisfying filmmaking courses. Please note: the SCA Summer Program consists of collegiate-level courses and is not a continuing education or certificate earning program.

Minor

3-D Animation in Cinematic Arts Minor

The minor in 3-D animation in cinematic arts offers an introduction to basic animation principles and history, as well as creative and skill-based instruction in 3-D computer animation. Through elective choices students may focus their studies on their specific area of interest, including visual effects, motion capture, virtual reality, modeling or character animation. The program requires 16 units.

To be eligible for the 3-D animation in cinematic arts minor, a student must be in good academic standing and have a declared major. To declare the minor a student must submit a Change of Major/Minor form to the John C. Hench Division of Animation and Digital Arts in SCB 210.

Core Requirements (6 units)

- CTAN 330 Animation Fundamentals Units: 2
- CTAN 451 History of Animation Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2

Electives (10 Additional Units)

- CTAN 420 Concept Design for Animation Units: 2
- CTAN 432 The World of Visual Effects Units: 2
- CTAN 443L Character Development for 3-D Animation and Games Units: 2
- CTAN 455L Organic Modeling for Animation Units: 2
- CTAN 460 Character Design Workshop Units: 2
- CTAN 462 Visual Effects Units: 2
- CTAN 463L Creative Workflow in Visual Effects Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2
- CTAN 465L Digital Effects Animation Units: 2
- CTAN 485L Pipeline and Character Modeling for Animation Units: 2
- CTAN 497L Procedural Animation Units: 2
- CTAN 502L Experiments in Immersive Design Units: 2
- CTAN 504L Creative Production in Virtual Reality Units: 2
- CTAN 508L Live Action Integration with Visual Effects Units: 2
- CTAN 563 Advanced Character Animation Performance Units: 2
- CTAN 564L Motion Capture Fundamentals Units: 2
- CTAN 565L Motion Capture Performance Units: 2

Enrollment in 500-level courses requires special permission.

Grade Point Averages

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Animation and Digital Arts Minor

The minor in animation offers students an introduction to the theory and practice of animation, including its relationship to the history of art and cinema, creative writing and basic film production. It provides students with an opportunity to create both personal and collaborative work in a wide range of genres, from traditional character to contemporary experimental and computer animation. This includes painting, cel, stop motion, collage, mixed media, 2- and 3-D computer animation software and interactive digital media. Successful completion of a final project is required.

Most students will enter the minor in animation program in their sophomore year at USC.

A student enrolled on the undergraduate level at USC may apply to minor in animation if he or she is maintaining normal degree progress.

Animation minor applications are reviewed by a panel of faculty members, with admissions made for the fall semester only. A maximum of 12 students will be admitted per year.

Application Procedures

To be considered for admission to the minor in animation, the applicant is required to submit the following materials: (1) Cinematic Arts departmental application, (2) academic records including current USC transcripts, (3) personal statement, (4) two letters of recommendation, and (5) portfolio (prints, slides, CD, DVD, film and/or video). Applications and admission information can be obtained from the USC School of Cinematic Arts, Animation and Digital Arts Program Office, (213) 740-3986 or online at cinema.usc.edu.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Course Requirements

The following courses are to be taken in a prescribed sequential order. Twenty-four units are required.

In addition, CTAN 450c is a capstone production class. It is a very time intensive class that will require a very large amount of work. The film project undertaken under CTAN 450c must be completed by the end of the semester enrolled in CTAN 450c in order to pass the class and receive the minor. It is recommended that you do not take a heavy course load during the semester that you enroll in CTAN 450c.

Please note that by the time you enroll in CTAN 450c, you must have completed all of the other minor requirements before requesting access to CTAN 450c.

Courses

Year One

- CTCS 190g Introduction to Cinema Units: 4
- CTAN 448 Introduction to Film Graphics — Animation Units: 4
- CTAN 451 History of Animation Units: 2

Year Two

- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4
- CTAN 436 Writing for Animation Units: 2
- CTAN 450a Animation Theory and Techniques Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 max 4

Year Three

- CTAN 450b Animation Theory and Techniques Units: 2
- CTAN 450c Animation Theory and Techniques Units: 2

Cinematic Arts Minor

The minor in cinematic arts combines an introduction to this exciting and influential field with a diversified set of classes in critical studies, production, screenwriting, the entertainment industry, animation and interactive media. The curriculum is purposely flexible; students may choose to sample different areas in their upper-division courses or emphasize a single primary interest, such as production.

To be eligible for the cinematic arts minor, a student must be in good academic standing and have a declared major. To declare the cinematic arts minor a student must submit a Change of Major/Minor form to Cinematic Arts Office of Student Services, SCB 105.

Course Requirements for the Minor

A total of 20 units is required for the minor in cinematic arts, one 4-unit lower-division course and 16 upper-division units.

Lower-division Requirement

- CTCS 190g Introduction to Cinema Units: 4 * or
- CTCS 191 Introduction to Television and Video Units: 4

Note:

**Gateway course*

Upper-division Requirement

8 units from the following:

- CTAN 432 The World of Visual Effects Units: 2
- CTAN 450a Animation Theory and Techniques Units: 2
- CTAN 450b Animation Theory and Techniques Units: 2
- CTAN 450c Animation Theory and Techniques Units: 2
- CTAN 451 History of Animation Units: 2
- CTAN 462 Visual Effects Units: 2
- CTCS 303 Japanese Anime Units: 2
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 466 Theatrical Film Symposium Units: 4
- CTCS 467 Television Symposium Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTIN 482 Designing Social Games Units: 2
- CTPR 327 Motion Picture Cinematography Units: 3
- CTPR 335 Motion Picture Editing Units: 3
- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4
- CTPR 409 Practicum in Television Production Units: 1, 2, 4
- CTPR 460 Film Business Procedures and Distribution Units: 2 or 4
- CTPR 461 Managing Television Stations and Internet Media Units: 2
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTWR 409 Fundamentals of Screenwriting: Character, Conflict and Story Units: 4
- CTWR 411 Television Script Analysis Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2
- CTWR 432 Television Writers and Their Work Units: 2

Plus 8 additional upper-division units of Cinematic Arts electives

Additional Requirements

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Comedy Minor

The minor in comedy is designed to train students in the creation of comedic entertainment in film, television and new media.

Application Procedures

To apply to the minor in comedy, a student must be in good academic standing, have a declared major, and be currently enrolled in or have completed with a passing grade CTWR 404 Foundations of Comedy.

Applicants are required to submit the following materials: (1) Cinematic Arts departmental application, (2) curriculum vitae highlighting comedy experience, and (3) a personal statement of 250 words or less. Applications and admission information can be obtained from the USC School of Cinematic Arts, Writing for Screen and Television division, (213) 740-3303.

Course Requirements for the Minor

A total of 16 units is required to complete the comedy minor.

Required Course (2 Units)

- CTWR 404 Foundations of Comedy Units: 2

Elective Courses (14 Units from the Following)

- CTWR 324 Introduction to Half-Hour Television Writing Units: 2 *
- CTWR 403 Writing the Narrative Podcast Series Units: 2
- CTWR 407 Creating the Comedic Character Units: 2
- CTWR 409 Fundamentals of Screenwriting: Character, Conflict and Story Units: 4
- CTWR 430 Comedy Writers and Their Work Units: 2 max 6
- CTWR 431 Screenwriters and Their Work Units: 2 max 6
- CTWR 432 Television Writers and Their Work Units: 2 max 6
- CTWR 434 Writing the Half-Hour Comedy Series Units: 2 max 6*
- CTWR 437 Writing the Original Situation Comedy Pilot Units: 4 max 8*
- CTWR 438 Linked Narrative Storytelling for the Web Units: 2, 4 max 8
- CTWR 477 Staff Writing the Sketch Comedy Show Units: 2 max 6*
- CTWR 487 Staff Writing the Multi-Camera Television Series Units: 4 max 8*
- CTWR 497 Staff Writing the Single-Camera Half-Hour Series Units: 4 *
- CTPR 371 Directing for Television Units: 4

- CTPR 464 Directing the Television Sketch Comedy Show Units: 2 max 4
- CTPR 476 Directing The Comedic Scene Units: 2
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4 max 8
  *Prerequisite required

Note:

**Prerequisite required.*

Grade Point Averages

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Digital Studies Minor

The minor in digital studies explores the rich potential of digital media for critical analysis and creative discovery. Learning the exciting and dynamic potential of a broad array of tools and technologies, students create innovative projects, from photo essays to Web-based documentaries, from interactive videos to sophisticated Websites, and from typography in motion to 3-D visualizations. Elective courses explore media for social change, tangible computing, transmedia expression and more, allowing students to use media in pursuit of their own interests and to enhance their major.

All digital studies courses combine theory and practice in lab-based seminars featuring hands-on tutorials to support students in producing sophisticated media-rich work. Participants in this minor gain powerful skills useful in future endeavors within or beyond academia, where the ability to work effectively with media is a crucial job skill.

Information about courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

Program Requirements

A minimum of 20 units is required to complete the minor. All courses must be taken for a letter grade.

Introductory Courses

- IML 104 Introduction to Digital Studies Units: 2 and
- IML 140 Workshop in Multimedia Authoring Units: 2 or
- IML 201 The Languages of Digital Media Units: 4

Media Arts Platform Courses

Choose 12 units from the following courses:

- IML 230 Fundamentals of Media Design Units: 4
- IML 288 Critical Thinking and Procedural Media Units: 4
- IML 300 Reading and Writing the Web Units: 4
- IML 328 Sonic Media Art Units: 2
- IML 335 Digital Narrative Design I Units: 2
- IML 354 Introduction to 3-D Modeling Units: 2
- IML 400 Creative Coding for the Web Units: 4 *
- IML 404 Tangible and Spatial Computing Units: 4 *
- IML 428 Exploring and Creating Sonic Environments Units: 4 *
- IML 430 Visual Communication and Experience Design Units: 4 *
- IML 435 Digital Narrative Design II Units: 4 *
- IML 436 Hypercinemas Studio Units: 4 *
- IML 454 Advanced Techniques of Spatial Representation Units: 4 *
- IML 481 Mixed Realities: Histories, Theories and Practices Units: 4
  *Prerequisite required.

Media Arts Electives

Choose 4 units from the following courses:

- IML 309 Integrative Design for Mobile Devices Units: 4
- IML 310 Professionalism for Media Arts Units: 2 *
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 340 Remixing the Archive Units: 4
- IML 365 Future Cinema Units: 4
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 419 Emotion in Digital Culture Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 422 Information Visualization Units: 4
- IML 450 Critical Play and Documentary Games Units: 4
- IML 456 Nature, Design and Media Units: 2
- IML 458 The Embedded Story: Designing Digital Landscapes and Languages Units: 2 *
- IML 466 Digital Studies Symposium Units: 2
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- IML 499 Special Topics Units: 2, 3, 4
  *Prerequisite required.

Honors Thesis Track

Students who wish to pursue the honors track must submit an application to their minor adviser. If approved, students will complete a capstone thesis project during their senior year in order to earn an honors designation. Students must enroll in the following thesis courses:

- IML 346 Methods in Digital Research Units: 2 *
- IML 440 Thesis Project Units: 4 *
  *Prerequisite required.

Documentary Minor

The minor in documentary is designed to train students in the preparation and production of documentary media. Courses are designed to give students insight into both the history of documentary as well as access to new and emerging forms of the media.

To be eligible for the documentary minor, a student must be in good academic standing and have a declared major. To declare the cinematic arts minor a student must submit a Change of Major/Minor form to Cinematic Arts Office of Student Services, SCB 105.

Core Requirement

- CTCS 400 Non-Fiction Film and Television Units: 4

Electives

Take 12 units from the following courses:

- CTAN 470 Documentary Animation Production Units: 2
- CTIN 479 Documentary and Activist Games Units: 2
- CTPR 431 Developing the Documentary Production Units: 2
- CTPR 474 Documentary Production Units: 4
- IML 340 Remixing the Archive Units: 4
- IML 450 Critical Play and Documentary Games Units: 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- IML 520 Non-Fiction Cinematic Practice I Units: 2 *
- IML 521 Non-Fiction Cinematic Practice II Units: 2 * +

Note:

* Taking graduate-level courses requires special permission.
\+ Prerequisite required.

Entertainment Industry Minor

The minor in the entertainment industry provides students interested in media content creation with a focused curriculum that will give them insight into the economic factors and professional practices that influence the creative process, and how they interact with social, historical, technical and aesthetic elements. To be eligible for the entertainment industry minor, a student must be in good academic standing, have a declared major, and have completed CTCS 190g Introduction to Cinema or CTCS 191 Introduction to Television and Video with a C or better. To declare the minor, a student must submit a Change of Major/Minor form to Cinematic Arts Student Services, SCB 105.

Course Requirements for the Minor

A total of 18 upper-division units is required for the minor in the Entertainment Industry.

Courses

- CNTV 375 Breaking Into the Entertainment Industry Units: 2
- CNTV 440 The Business of the Entertainment Industry: Motion Pictures, Television, Animation, Video Games, and Interactive Entertainment Units: 2
- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4 (2 units)
- CTPR 458 Organizing Creativity: Entertainment Industry Decision Making Units: 2

One of the following:

- CTCS 466 Theatrical Film Symposium Units: 4
- CTCS 467 Television Symposium Units: 4
- CTIN 463 Anatomy of a Game Units: 4
- CTPR 386 Art and Industry of the Theatrical Film Units: 4

One of the following:

- CTWR 411 Television Script Analysis Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2

Four units from:

- CNTV 457 The Entertainment Entrepreneur: Getting Your First Project Made Units: 2
- CNTV 474 Digital DNA: Media Redefined Units: 2
- CTAN 432 The World of Visual Effects Units: 2
- CTAN 451 History of Animation Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTPR 410 The Movie Business: From Story Concept to Exhibition Units: 2
- CTPR 425 Production Planning Units: 2
- CTPR 438 Practicum in Producing Units: 2 *
- CTPR 460 Film Business Procedures and Distribution Units: 2 or 4
- CTPR 461 Managing Television Stations and Internet Media Units: 2
- CTPR 496 The Film Industry: Career Challenges and Choices for Women Units: 2
- CTWR 417 Script Coverage and Story Analysis Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2
- CTWR 432 Television Writers and Their Work Units: 2
- IML 466 Digital Studies Symposium Units: 2

Note:

* Prerequisite required.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Future Cinema Minor

The minor in future cinema explores the frontier of audiovisual storytelling, building on the cutting edge research within the School of Cinematic Arts. Students will explore the creative and technological transformations of an industry in transition as cinema becomes live, playable, immersive, mobile, virtual, crowdsourced and more.

Combining history, theory and practice, the minor prepares students to engage with new forms of cinematic expression with an awareness of critical context and a methodology for understanding the changing roles of storytelling in the 21st century.

Information about declaring the minor, courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

Program Requirements

A total of 20 units is required to complete the minor. All courses must be taken for a letter grade.

Introductory Courses

Choose 8 units from the following courses:

- IML 365 Future Cinema Units: 4
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4 +

Electives

Choose 12 units from the following courses:

- CNTV 474 Digital DNA: Media Redefined Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 502L Experiments in Immersive Design Units: 2 +
- CTAN 504L Creative Production in Virtual Reality Units: 2 * +
- CTAN 564L Motion Capture Fundamentals Units: 2 * +
- CTCS 482 Transmedia Entertainment Units: 4
- CTWR 405 Storytelling for Virtual and Augmented Reality Units: 2 *
- CTWR 438 Linked Narrative Storytelling for the Web Units: 2, 4 *
- IML 309 Integrative Design for Mobile Devices Units: 4
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 335 Digital Narrative Design I Units: 2
- IML 354 Introduction to 3-D Modeling Units: 2
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 404 Tangible and Spatial Computing Units: 4 *
- IML 436 Hypercinemas Studio Units: 4 *
- IML 454 Advanced Techniques of Spatial Representation Units: 4 *
- IML 456 Nature, Design and Media Units: 2
- IML 458 The Embedded Story: Designing Digital Landscapes and Languages Units: 2 *
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- IML 481 Mixed Realities: Histories, Theories and Practices Units: 4
- IML 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 *

** Prerequisite required.*
+ Enrollment in graduate course work requires special permission.

Game Animation Minor

To create animations for a game requires an understanding that visual art forms one part of a game system or algorithm, and even animation poses and rigging must often be thought of in terms of programming-like logic. The skills of the modern animator, visual effects artist, motion capture professional and many others are of great value in the games industry, but very few of these professionals have both training in visual artistry and the systemic thinking necessary for game design. This minor provides an educational path that teaches both systems thinking and the skills and creativity of an animator.

To be eligible for the game animation minor, a student must be in good academic standing and have a declared major. To declare the game animation minor a student must get permission from the Interactive Media Division (SCA 222) and submit a Change of Major/Minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor

A total of 16 units is required for the game animation minor, including a minimum of 14 upper-division units.

Core Requirements (10 units)

- CTAN 443L Character Development for 3-D Animation and Games Units: 2 *
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2 *
- CTIN 291 Advanced Games Crew Units: 2
- CTIN 401L Interface Design for Games Units: 2

Electives (6 Additional Units)

- CTAN 330 Animation Fundamentals Units: 2
- CTAN 420 Concept Design for Animation Units: 2
- CTAN 432 The World of Visual Effects Units: 2
- CTAN 451 History of Animation Units: 2
- CTAN 460 Character Design Workshop Units: 2
- CTAN 462 Visual Effects Units: 2
- CTAN 465L Digital Effects Animation Units: 2 *
- CTAN 564L Motion Capture Fundamentals Units: 2 * +

- CTAN 565L Motion Capture Performance Units: 2 * +
- CTIN 485 Advanced Game Development Units: 2 *

Note:

**Prerequisite required.*
+Enrollment in CTAN 564 and CTAN 565 requires special permission.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game Audio Minor

To implement audio into a game requires an understanding that audio forms one part of a game system or algorithm, and even composition must often be thought of in terms of programming-like logic. Game audio professionals must not only be competent in one area (e.g., expressly in music composing, or in audio recording), but in other areas of audio as well. This minor provides a grounding in game design and systems thinking, while providing a theoretical backing and skills in audio design and composition to prepare students to design successful audio for the games industry.

To be eligible for the Game Audio minor, a student must be in good academic standing and have a declared major. To declare the Game Audio minor a student must get permission from the Interactive Media Division (SCA 222) and submit a Change of Major/Minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor

A minimum of 24 units is required for the Game Audio minor, 6 lower-division units and a minimum of 16 upper-division units.

Lower-division Core Units (6 Units)

- CTIN 101 Fundamentals of Procedural Media Units: 2
- MTEC 277x Introduction to Music Technology Units: 4

Upper-division Core Units (12 Units)

- CTIN 406L Sound Design for Games Units: 2
- CTIN 444 Audio Expression Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 491L Advanced Game Project I Units: 4

Electives (Minimum 6 Additional Units, At Least 4 Upper-division)

- CTIN 483 Introduction to Game Development Units: 4
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTIN 492L Experimental Game Topics Units: 4
- CTIN 493L Advanced Game Project II Units: 2 **
- CTPR 473 Spotting Music for Cinema Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 478 Advanced Multichannel Remix Units: 2 **
- MUCO 221ax Composition for Non-Majors Units: 2
- THTR 336 Introduction to Sound Design Units: 3

Note:

**CTIN 484 and CTIN 489 must be taken concurrently, and require CTIN 483 and CTIN 488 as prerequisites.*
***Prerequisite required.*

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game Design Minor

Game design is the next great design field, and individuals of many professions and skill sets will benefit from understanding how to design for interactivity and new technology. The game design minor teaches basic iterative design and prototyping skills while providing students the opportunity to explore design for new technologies and the skills of user assessment and usability testing.

To be eligible for the game design minor, a student must be in good academic standing and have a declared major. To declare the game design minor a student must get permission from the Interactive Media Division (SCA 222) and submit a Change of Major/Minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor

A total of 24 units is required for the game design minor, 6 lower-division units and 18 upper-division units.

Lower-division Core (6 Units)

- CTIN 101 Fundamentals of Procedural Media Units: 2
- CTIN 190 Introduction to Interactive Entertainment Units: 4

Upper-division Core (12 Units)

- CTIN 483 Introduction to Game Development Units: 4
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 488 Game Design Workshop Units: 4
- CTIN 489 Intermediate Game Design Workshop Units: 2 *

Electives (6 Additional Units)

- CTIN 401L Interface Design for Games Units: 2
- CTIN 404L User Research for Games Units: 2
- CTIN 405L Design and Technology for Mobile Experiences Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTIN 464 Game Studies Seminar Units: 2
- CTIN 482 Designing Social Games Units: 2
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 491L Advanced Game Project I Units: 4
- CTIN 492L Experimental Game Topics Units: 4
- CTIN 493L Advanced Game Project II Units: 2 **

Note:

**CTIN 484 and CTIN 489 must be taken concurrently and require CTIN 483 and CTIN 488 as prerequisites.*
***Prerequisite required.*

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game Entrepreneurism Minor

A minor for students interested in building a business in the games and digital media industry. Building on the business, production and management courses in the Interactive Media Division, this minor culminates in our advanced game project course and provides students with hands-on mentorship in starting actual companies based on the work they are doing in these concurrent classes. The minor provides a basis in theories of design and production for games, as well as a strong grounding in the business knowledge necessary to become an entrepreneur.

To be eligible for the game entrepreneurism minor, a student must be in good academic standing and have a declared major. To declare the game entrepreneurism minor a student must get permission from the Interactive Media Division (SCA 222), and submit a change of major/minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor

A minimum of 16 units is required for the game entrepreneurism minor.

Upper-division Core (10 Units)

- BAEP 450 Fundamentals of Entrepreneurship Units: 4 or
- BAEP 451 The Management of New Enterprises Units: 4
- BAEP 452 Feasibility Analysis Units: 4 *
- CTIN 458 Business and Management of Games Units: 2

Electives (6 Additional Units)

- BAEP 454 Venture Initiation: Launching and Scaling Your Startup Units: 4 *
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 475 Entertainment Entrepreneurship Units: 2
- CTIN 432 Polishing and Publishing Interactive Media Units: 2
- CTIN 459L Game Industry Workshop Units: 4 *
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 482 Designing Social Games Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 497 Interactive Media Startup Units: 1

Note:

**Prerequisite required.*

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game Studies Minor

Games are a major cultural form, with game sales now exceeding box office revenue in the United States. Attention to games and interactive media is growing, and it has become necessary to understand them as meaningful systems, reflect on their cultural influence, and to help guide their evolution with insightful criticism. The game studies minor prepares a student with fundamental underpinnings in media criticism and games.

To be eligible for the game design minor, a student must be in good academic standing and have a declared major. To declare the game design minor a student must get permission from the Interactive Media and Games Division (SCI 201) and submit a Change of Major/Minor form to Cinematic Arts Student Affairs (SCB 105).

Course Requirements for the Minor:

A total of 24 units is required for the game design minor, 6 lower-division units and 18 upper-division units.

Lower-division Core Units (6 Units)

- CTIN 101 Fundamentals of Procedural Media Units: 2
- CTIN 190 Introduction to Interactive Entertainment Units: 4

Upper-division Core Units (10 Units)

- CTIN 462 Critical Theory and Analysis of Games Units: 4
- CTIN 464 Game Studies Seminar Units: 2
- CTIN 488 Game Design Workshop Units: 4

Electives (8 Additional Units)

- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 429 Studies in Art, Science, and Technology Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 475 Ethnographic Film Analysis Units: 4
- COMM 340 The Cultures of New Media Units: 4
- COMM 350 Video Games: Content, Industry, and Policy Units: 4
- CTCS 367 Global Media Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 492L Experimental Game Topics Units: 4
- CTWR 410L Character Development and Storytelling for Games Units: 4
- HIST 380 American Popular Culture Units: 4
- IML 466 Digital Studies Symposium Units: 2
- JOUR 381 Entertainment, Business and Media in Today's Society Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 488mw Theatre in the Community Units: 4

Additional Requirements

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game User Research Minor

Game and interaction design are deeply dependent upon human-computer interaction and the ability to use research methods to improve player experience. Game user research is a critical aspect of game design and development that involves management of playtests and usability tests of the software, technology and rules. Along with the ability to analyze and design for optimal player experience, this field combines the ability to analyze large batches of data, and an understanding of how to build applications that mine data from users; these skills form the backbone of an incredibly valuable team member for digital entertainment products. The Interactive Media and Games Division at the School of Cinematic Arts is a leading facility in the teaching of usability, research, and playtesting practices in this field, and the game user research minor is designed to give students an underpinning in game design, interface design and research methods, while teaching a full set of skills for playtesting and usability practice.

To be eligible for the game user research minor, a student must be in good academic standing and have a declared major. To declare the game design minor a student must get permission from the Interactive Media and Games Division (SCI 201) and submit a Change of Major/Minor form to Cinematic Arts Student Affairs (SCB 105).

Course Requirements for the Minor

A total of 16 units is required for the game user research minor, 2 lower-division units and a minimum of 12 upper-division units.

Lower-division Core Units (2 Units)

- CTIN 291 Advanced Games Crew Units: 2

Upper-division Core Units (8 Units)

- COMM 301Lg Empirical Research in Communication Units: 4
- CTIN 401L Interface Design for Games Units: 2
- CTIN 404L User Research for Games Units: 2

Electives (6 Additional Units)

- CTIN 110 Statistical Analysis for Games: Storytelling with Numbers Units: 4
- CTIN 432 Polishing and Publishing Interactive Media Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 482 Designing Social Games Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CTIN 491L Advanced Game Project I Units: 4 *
- CTIN 493L Advanced Game Project II Units: 2 *
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2 +
- PSYC 301L Cognitive Processes Units: 4 *

Note:

**Prerequisite required.*
+Enrollment in CTIN 510 requires special permission.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Immersive Media Minor

A minor in immersive media is open to all undergraduate students at USC. This interdisciplinary minor provides the opportunity for technically minded students, business and

entrepreneurially driven students, and/or creatively driven students to gain knowledge about the virtual reality industry and how to create content effectively. Students can add depth within a specific area by selecting elective courses within the same area or can add breadth by choosing elective courses from two separate areas.

To be eligible for the immersive media minor, a student must be in good academic standing and have a declared major. To declare the immersive media minor a student must get permission from the Interactive Media Division (SCI 201), and submit a change of major/minor form to Cinematic Arts Student Services (SCB 105).

Lower Division Requirements

- CTIN 290 Digital Media Workshop Units: 4
- ITP 165 Introduction to C++ Programming Units: 2

Upper Division Requirements

- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 483 Introduction to Game Development Units: 4

Capstone Units

- CTAN 502L Experiments in Immersive Design Units: 2 +
- CTAN 504L Creative Production in Virtual Reality Units: 2 * +
- CTIN 492L Experimental Game Topics Units: 4
- IML 436 Hypercinemas Studio Units: 4 *

Electives

- CSCI 420 Computer Graphics Units: 4 *
- CTAN 410 Audio Design for Animation and Immersive Media Units: 2
- CTAN 443L Character Development for 3-D Animation and Games Units: 2 *
- CTAN 462 Visual Effects Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2 *
- CTAN 465L Digital Effects Animation Units: 2 *
- CTAN 485L Pipeline and Character Modeling for Animation Units: 2
- CTAN 495 Visual Music Units: 2
- CTAN 497L Procedural Animation Units: 2 *
- CTAN 508L Live Action Integration with Visual Effects Units: 2 * +
- CTAN 564L Motion Capture Fundamentals Units: 2 * +
- CTIN 404L User Research for Games Units: 2
- CTIN 444 Audio Expression Units: 2
- CTIN 479 Documentary and Activist Games Units: 2
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CTIN 492L Experimental Game Topics Units: 4
- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2 +
- CTWR 405 Storytelling for Virtual and Augmented Reality Units: 2 *
- IML 335 Digital Narrative Design I Units: 2
- IML 354 Introduction to 3-D Modeling Units: 2
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- IML 543 Transdisciplinary Media Design Practicum Units: 4 * +
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4 +
- ITP 380 Video Game Programming Units: 4 *

Note:

*Prerequisite Required.
+Enrollment in graduate-level courses requires special permission.

Media and Social Change Minor

The minor in Media and Social Change provides the opportunity for students who are interested in media content creation and research to take classes in a focused curriculum on the various aspects of media for change. Students will gain insight into the professional practices of creating media content, analyzing existing content, and learning how they can influence the future by integrating social issues into the work they are doing in related fields.

Information about declaring the minor, courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

Program Requirements

A total of 20 units is required to complete the minor. All courses must be taken for a letter grade.

Introductory Courses

Choose 4 units from the following courses:

- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTWR 211g The Television Writer: An Agent of Change Units: 4
- IML 295Lm Race, Class and Gender in Digital Culture Units: 4

Electives, Group I

Choose 12 units from the following courses:

- CTAN 470 Documentary Animation Production Units: 2
- CTIN 479 Documentary and Activist Games Units: 2
- CTPR 474 Documentary Production Units: 4
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 340 Remixing the Archive Units: 4
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 419 Emotion in Digital Culture Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4

Electives, Group II

Choose 4 units from the following courses:

- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 408 Contemporary Political Film and Digital Media Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4

Science Visualization Minor

The minor in science visualization offers an introduction to science visualization methodology and practice focused in an area of relevant research. The minor is structured to provide the skills and knowledge needed in science visualization, and will culminate in a capstone project under the close supervision of faculty in both animation and science. The program requires 16 units.

Most students will enter the minor in science visualization program in their sophomore year at USC.

Application Procedures

To be eligible for the science visualization minor, a student must be in good academic standing, maintaining normal degree progress, and have a declared major. To declare the minor a student must submit the USC Change of Major/Minor form to the John C. Hench Division of Animation and Digital Arts in SCB 210, (213) 740-3986.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Course Requirements

The following courses are to be taken in the prescribed sequential order, starting with CTAN 330 and finishing with CTAN 423, the capstone class. Sixteen units of course work are required.

Courses

- CTAN 330 Animation Fundamentals Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 497L Procedural Animation Units: 2

Four units from the following list:*

- CTAN 432 The World of Visual Effects Units: 2
- CTAN 443L Character Development for 3-D Animation and Games Units: 2 **
- CTAN 450a Animation Theory and Techniques Units: 2
- CTAN 455L Organic Modeling for Animation Units: 2
- CTAN 462 Visual Effects Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2 **
- CTAN 465L Digital Effects Animation Units: 2 **
- CTAN 470 Documentary Animation Production Units: 2
- IML 400 Creative Coding for the Web Units: 4
- IML 456 Nature, Design and Media Units: 2

Note:

**Juniors or seniors with a 3.0 GPA in good standing may elect to take graduate courses CTAN 502L (2), CTAN 504L (2), CTAN 508L (2), CTAN 564L (2) and CTAN 565L (2). **Prerequisite required.*

Four units from the following list:

- AHIS 373g History and Theory of Photography Units: 4
- AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology Units: 4
- AHIS 429 Studies in Art, Science, and Technology Units: 4
- AHIS 477 Studies in Visual and Material Culture Units: 4
- ANTH 472 Visual Techniques in Anthropology: Stills Units: 4
- BISC 307L General Physiology Units: 4 **
- BISC 419L Microbiology for a Sustainable Future Units: 4 **
- BISC 427 The Global Environment Units: 4 **
- BISC 483 Geobiology and Astrobiology Units: 4 **
- ENGL 375 Science Fiction Units: 4
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 450L Geosystems Units: 4 **
- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4
- PSYC 420 Animal Behavior Units: 4 **

Two-unit capstone course:

- CTAN 423L Principles of Digital Animation: Visualizing Science Units: 2

Note:

***Prerequisite required.*

Screenwriting Minor

The minor in screenwriting is designed to train students in the creatively challenging field of writing for screen and television. Students learn the fundamentals of writing for film and television with the opportunity to specialize in writing feature length screenplays, teleplays in both drama and comedy, or analysis of the craft of screenwriting.

Application Procedures

To apply to the minor in screenwriting, a student must be in good academic standing, have a declared major, and have previously completed with a passing grade CTWR 409 Fundamentals of Screenwriting: Character, Conflict, and Story.

Applications and information can be obtained at the Writing Division office, SCA 336, (213) 740-3303 and online at cinema.usc.edu.

Course Requirements for the Minor

The minor in screenwriting is a specialized course of study for students who desire a solid foundation in the craft of screenwriting. A total of 16 units is required to complete the screenwriting minor, 10 units from fundamental courses and 6 units of electives.

Fundamentals And Feature Development (10 Units)

- CTWR 409 Fundamentals of Screenwriting: Character, Conflict and Story Units: 4
- CTWR 321 Introduction to Hour-Long Television Writing Units: 2 * or
- CTWR 324 Introduction to Half-Hour Television Writing Units: 2 *
- CTWR 415a Advanced Writing Units: 2 *
- CTWR 416 Motion Picture Script Analysis Units: 2

*Prerequisite Required.

Total units: 10

Additional Electives (6 Units)

- CTWR 402 Writing and Social Change Units: 2
- CTWR 403 Writing the Narrative Podcast Series Units: 2
- CTWR 404 Foundations of Comedy Units: 2
- CTWR 407 Creating the Comedic Character Units: 2
- CTWR 410L Character Development and Storytelling for Games Units: 4
- CTWR 411 Television Script Analysis Units: 2
- CTWR 415b Advanced Writing Units: 2 *
- CTWR 417 Script Coverage and Story Analysis Units: 2
- CTWR 421 Writing the Hour-Long Dramatic Series Units: 2 max 4 *
- CTWR 422 Creating the Dramatic Television Series Units: 2 max 4
- CTWR 430 Comedy Writers and Their Work Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2 max 6
- CTWR 432 Television Writers and Their Work Units: 2
- CTWR 433 Adaptations: Transferring Existing Work to the Screen Units: 2
- CTWR 434 Writing the Half-Hour Comedy Series Units: 2 max 6 *
- CTWR 435 Writing for Film and Television Genres Units: 2, 3, 4 max 8 *
- CTWR 437 Writing the Original Situation Comedy Pilot Units: 4 max 8 *
- CTWR 438 Linked Narrative Storytelling for the Web Units: 2, 4 max 8
- CTWR 439 Writing the Original Dramatic Series Pilot Units: 4 max 8 *
- CTWR 441 Writing Workshop in Creativity and Imagination Units: 2
- CTWR 449 Rewriting the Original Dramatic Series Pilot Units: 4 max 8*
- CTWR 453 Advanced Feature Rewriting Units: 4 max 8 *
- CTWR 468 Screenwriting in Collaboration Units: 4 max 8 *
- CTWR 477 Staff Writing the Sketch Comedy Show Units: 2 max 6*
- CTWR 487 Staff Writing the Multi-Camera Television Series Units: 4 max 8*
- CTWR 499 Special Topics Units: 2, 3, 4 max 8

*Prerequisite Required

Additional Requirements

Grade Point Averages

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Graduate Courses

Students may not apply more than 16 units of graduate level course work toward their university degree.

Themed Entertainment Minor

Who designs theme parks, museums, fireworks shows, water fountain spectaculars and parades? Themed entertainment designers do. From cruise ships to casinos to immersive educational retreats, they design almost anything that involves submerging a real, live human being into a story in a truly robust, physical way. As new tools for entertainment and education develop, they continually push toward one, common goal: a single place where movies, games, theme parks and museums converge. It is a non-dystopian kind of Westworld where we truly and completely become the heroes and heroines of our own

stories. And it is the ultimate adventure because there is nothing (at least nothing that we notice) between our full, physical selves and the stories we want to live.

To be eligible for the themed entertainment minor, a student must be in good academic standing and have a declared major. To declare the themed entertainment minor a student must get permission from the Interactive Media and Games Division (SCI 201) and submit a Change of Major/Minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor:

A total of 24 units is required for the themed entertainment minor: 4 lower-division units and 20 upper-division units.

Lower-Division Core Units (4 Units)

- CTIN 191 Survey of Themed Entertainment Units: 4

Upper-Division Core Units (14 Units)

- CTIN 452L Themed Entertainment Design Units: 4
- CTIN 488 Game Design Workshop Units: 4
- CTPR 456 Introduction to Art Direction Units: 2
- CTWR 410L Character Development and Storytelling for Games Units: 4

Electives (6 Additional Units)

- COMM 306 Innovation, Entertainment, and the Arts Units: 4
- COMM 430 Global Entertainment Units: 4
- CTAN 420 Concept Design for Animation Units: 2
- CTAN 460 Character Design Workshop Units: 2
- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 404L User Research for Games Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 444 Audio Expression Units: 2
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 492L Experimental Game Topics Units: 4
- CTPR 423 Introduction to Special Effects in Cinema Units: 2
- CTPR 458 Organizing Creativity: Entertainment Industry Decision Making Units: 2
- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Business of Entertainment Graduate Certificate

The graduate certificate in the business of entertainment program provides graduate-level education in various aspects of the business of film, television and new media.

Select 16 units from the following:

Courses (16 Units)

- CNTV 521 The World of the Producer Units: 4
- CNTV 522 The Television Industry: Networks, Cable and the Internet Units: 4
- CNTV 523 Feature Film Financing and the Studio System Units: 4
- CNTV 524 Digital Technologies and the Entertainment Industry Units: 4
- CNTV 525 Entertainment Marketing in Today's Digital Environment Units: 4
- CNTV 561 Publicity for Cinema and Television Units: 4
- CNTV 562 Seminar in Motion Picture Business Units: 4
- CNTV 563 The Business of Representation Units: 4
- CNTV 589 Graduate Film Seminar Units: 2 or 4 (max 8)

Note:

Successful completion of a graduate certificate program is acknowledged by a certificate awarded by the university.

Admission to the graduate certificate in the business of entertainment program is only open to current USC graduate students. Courses credited to graduate certificate programs may be completed in conjunction with course work required for a graduate degree program in which the student is already enrolled. Applicability of courses to the student's primary degree program is determined by the student's home department.

Applicants must have earned an undergraduate degree with at least a 3.0 GPA. For further information contact the School of Cinematic Arts Office of Industry Relations, SCA 235, bset@cinema.usc.edu.

The John C. Hench Division of Animation + Digital Arts

Inspired by one of the most inventive and prolific Disney artists and Imagineers, the John C. Hench Division of Animation + Digital Arts embraces diversity of genre, topics, culture and animation approaches. The program focuses on creative collaboration and critical thinking and attracts top students from around the world who aspire to be the next generation of filmmakers and storytellers.

Bachelor's Degree

Animation and Digital Arts (BA)*

The Bachelor of Arts in Animation and Digital Arts is a unique four-year program granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. Students study within the framework that combines a broad liberal arts background with specialization in a profession. Areas of concentration might include character animation, experimental animation, visual effects, 3-D computer animation, science visualization and interactive animation.

Undergraduate students take their pre-professional courses in the USC Dornsife College of Letters, Arts and Sciences, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including a minimum of 16 lower-division units and a minimum of 26 upper-division units in Cinematic Arts.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education Program for more information.

Required Courses

- ART 110 Drawing for Art and Design Units: 4
- CNTV 101 Reality Starts Here Units: 2
- CTAN 101L Introduction to the Art of Animation Units: 2
- CTAN 102L Introduction to the Art of Movement Units: 2
- CTAN 201L Intermediate Animation Production Units: 3
- CTAN 202L Introduction to 3-D Character Animation Units: 3
- CTAN 301L 3-D Character Performance Animation Units: 3
- CTAN 302L Expanded Concepts in 2-D/3-D Animation Units: 3
- CTAN 305 Professionalism of Animation Units: 2
- CTAN 336 Ideation and Pre-Production Units: 2
- CTAN 401a Senior Project Units: 4

- CTAN 401b Senior Project Units: 4
- CTAN 432 The World of Visual Effects Units: 2
- CTAN 436 Writing for Animation Units: 2
- CTAN 451 History of Animation Units: 2

- CTCS 190g Introduction to Cinema Units: 4 or
- CTCS 201 History of the International Cinema II Units: 4

One course must be taken from the following list:

- CTAN 496 Directed Studies Units: 2
- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4
- CTIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Two units must be selected from the following list:

USC Dornsife College of Letters, Arts and Sciences — Physical Education

- PHED 104a Self-Defense Units: 1
- PHED 104b Self-Defense Units: 1
- PHED 120a Yoga Units: 1
- PHED 120b Yoga Units: 1

USC Kaufman School of Dance

- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2

USC School of Dramatic Arts

- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 216 Movement for Actors Units: 2

One course must be taken from the following list:

- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 482 Transmedia Entertainment Units: 4

Total units: 52

Additional Requirements

Areas of Concentration

Areas of concentration might include character animation, experimental animation, 3-D computer animation, visualizing science, interactive animation and visual effects. Students work in consultation with the undergraduate coordinator and faculty to help them decide their course of study while at USC.

Senior Project

In the spring semester of their third year students develop their senior project through CTAN 336 Ideation and Pre-Production under the guidance of the lecturer. This project will focus on an area of concentration studied throughout the BA by the student. At the end of this class, students present their senior project concepts for review to the Division of Animation and Digital Arts faculty. Progression into CTAN 401a, CTAN 401b is contingent upon faculty committee approval.

In the final year, students concentrate on their senior projects, completing production and post-production. The student's project will be presented to the committee upon completion.

Completion is defined as a fully rendered, animated piece with a completed sound track. In the case of installation work, the piece must be mounted in a suitable space with all sound and animated components completed and functional.

In the case of an interactive work, the piece must be fully functional with completed animation, sound and interactivity.

In addition to completion of the senior project, the student must provide the faculty committee with written and visual documentation of the research. This can be documented as a publishable paper (2,000 words), Website or interactive DVD.

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTAN 101, CTAN 102, CTAN 201, CTAN 202, CTAN 301, CTAN 302 or CTAN 401a, CTAN 401b after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

Registration in graduate level courses (numbered 500) for undergraduate credit requires prior approval from the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an adviser every semester to review their progress. Contact the Cinematic Arts Animation and Digital Arts Division Office, University Park, Los Angeles, CA 90089-2211, (213) 740-3986, or online at *anim.usc.edu*.

International Program

John C. Hench Animation and Digital Arts offers a fall semester abroad at Studio Art Centers International (SACI) in Florence, Italy. BA students will be required to take equivalent classes in animation and digital media while also benefiting from the wide range of liberal arts courses offered at SACI.

Animation and Digital Arts (BFA)

The Bachelor of Fine Arts in Animation and Digital Arts is a unique four-year program, offered by the School of Cinematic Arts that combines a liberal arts background with the practice of animation to prepare students for a professional career in this field. Areas of concentration might include character animation, experimental animation, visual effects, 3-D computer animation, motion graphics, immersive media, interactive animation, documentary animation and science visualization.

Each fall, a class of 16 undergraduate animation and digital arts students is selected to begin the program. A total of 128 units is required for the completion of the Bachelor of Fine Arts degree; 61 of these units taken in a prescribed sequential order. There are no spring admissions.

Applicants must submit a supplemental application and materials to the Undergraduate Animation and Digital Arts Program in Slideroom via the Common Application. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

Four-Year Major Requirements (61 units)

Year One, First Semester

- CNTV 101 Reality Starts Here Units: 2
- CTAN 101L Introduction to the Art of Animation Units: 2

- CTAN 451 History of Animation Units: 2
  Take two units of movement classes from the PHED/DANC/THTR courses listed below
  Total units: 8

Year One, Second Semester

- CTAN 102L Introduction to the Art of Movement Units: 2
- CTAN 110 Design Fundamentals for Animation I Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTCS 150gw Visions of Diversity in the Cinematic Arts Units: 4
  Total units: 10

Year Two, First Semester

- CTAN 210 Design Fundamentals for Animation II Units: 2
- CTAN 220 Introduction to Storyboarding Units: 2
- CTAN 436 Writing for Animation Units: 2
  Total units: 6

Year Two, Second Semester

- CTAN 201L Intermediate Animation Production Units: 3
- CTAN 202L Introduction to 3-D Character Animation Units: 3
- ART 110 Drawing for Art and Design Units: 4
- CTCS 190g Introduction to Cinema Units: 4
  or
- CTCS 201 History of the International Cinema II Units: 4
  Total units: 14

Year Three, First Semester

- CTAN 301L 3-D Character Performance Animation Units: 3
- CTAN 320 Cinematography for Animators Units: 2
  Total units: 5

Year Three, Second Semester

- CTAN 305 Professionalism of Animation Units: 2
- CTAN 336 Ideation and Pre-Production Units: 2
  Take one CTCS course from the list below
  Total units: 8

Year Four, First Semester

- CTAN 401a Senior Project Units: 4

  Take two units from the following:
- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4
- CTAN 496 Directed Studies Units: 2
- CTIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
  Total units: 6

Year Four, Second Semester

- CTAN 401b Senior Project Units: 4
  Total units: 4

Two units must be selected from the following:

USC Dornsife College of Letters, Arts, and Sciences -- Physical Education

- PHED 104a Self-Defense Units: 1
- PHED 104b Self-Defense Units: 1
- PHED 120a Yoga Units: 1
- PHED 120b Yoga Units: 1

USC Kaufman School of Dance

- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2

USC School of Dramatic Arts

- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 216 Movement for Actors Units: 2

One course must be taken from the following list:

- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 482 Transmedia Entertainment Units: 4

Additional Requirements

Areas of Concentration

Areas of concentration might include character animation, experimental animation, 3-D computer animation, visualizing science, interactive animation and visual effects. Students work in consultation with the undergraduate coordinator and faculty to help them decide their course of study while at USC.

Senior Project

In the spring semester of their third year students develop their senior project through CTAN 336 Ideation and Pre-Production under the guidance of the lecturer. This project will focus on an area of concentration studied throughout the BFA by the student. At the end of this class, students present their senior project concepts for review to the Division of Animation and Digital Arts faculty. Progression into CTAN 401a, CTAN 401b is contingent upon faculty committee approval.

In the final year, students concentrate on their senior projects, completing production and post-production. The student's project will be presented to the committee upon completion.

Completion is defined as a fully rendered, animated piece with a completed sound track. In the case of installation work, the piece must be mounted in a suitable space with all sound and animated components completed and functional.

In the case of an interactive work, the piece must be fully functional with completed animation, sound and interactivity.

In addition to completion of the senior project, the student must provide the faculty committee with written and visual documentation of the research. This can be documented as a publishable paper (2,000 words), Website or interactive DVD.

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTAN 101, CTAN 102, CTAN 201, CTAN 202, CTAN 301, or CTAN 401a, CTAN 401b after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

Registration in graduate level courses (numbered 500) for undergraduate credit requires prior approval from the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an adviser every semester to review their progress. Contact the Cinematic Arts Animation and Digital Arts Division Office, University Park, Los Angeles, CA 90089-2211, (213) 740-3986, or online at cinema.usc.edu.

Master's Degree

Animation and Digital Arts (MFA)

The Master of Fine Arts degree in Animation and Digital Arts is a three-year (six semester) graduate program designed for students who have clearly identified animation and digital art as their

primary interest in cinema. The program focuses on animation production, including a wide range of techniques and aesthetic approaches, from hand-drawn character animation to state-of-the-art interactive digital animation. While embracing traditional forms, the program strongly encourages innovation and experimentation, and emphasizes imagination, creativity and critical thinking. Students should graduate with a comprehensive knowledge of animation from conception through realization; an understanding of the history of the medium and its aesthetics; in-depth knowledge of computer animation software and the most important elements of digital and interactive media.

The program requires a minimum of 50 units: 32 units are in prescribed, sequential courses in the School of Cinematic Arts. The other 18 units are cinematic arts electives, 4 of which must be taken in the Division of Cinema and Media Studies. A thesis is required for the MFA degree. Ongoing workshops in new technologies, traditional and digital media provide additional educational opportunities for students.

Admission is granted once a year in the fall; there are no spring admissions. Approximately 14 students will be enrolled in each incoming class. In addition to practical production, the program also provides opportunities for fieldwork experience and internships to facilitate the student's transition into the profession. Prior knowledge of fundamental digital animation concepts and techniques is recommended.

Applicants for the MFA in Animation and Digital Arts must apply online. For specific instructions, including deadline information, please visit *cinema.usc.edu*.

The Graduate School Two-Thirds Rule

The school requires 50 units minimum to graduate from the MFA in Animation and Digital Arts program, and two-thirds must be at the 500 level, not including 4 units of CTAN 594a Master's Thesis CTAN 594b Master's Thesis.

Requirements for the MFA in Animation and Digital Arts

Year One, First Semester

- CTAN 451 History of Animation Units: 2
- CTAN 522 Animation Department Seminar Units: 1
- CTAN 544 Introduction to the Art of Animation Units: 3
- CTAN 577a Fundamentals of Animation Units: 2
- CTAN 579 Expanded Animation Units: 2

Year One, Second Semester

- CNTV 530 Cinematic Ethics Units: 1
- CTAN 536 Storytelling for Animation Units: 2 or
- CTWR 510 Fundamentals of Storytelling for Animation Units: 2
- CTAN 547 Animation Production I Units: 3
- CTAN 577b Fundamentals of Animation Units: 2
- Electives*

Year Two, First Semester

- CTAN 522 Animation Department Seminar Units: 1
- CTAN 555 Animation Design and Production Units: 4
- Electives*

Year Two, Second Semester

- CTAN 505 The Business of Animation Units: 2
- CTAN 522 Animation Department Seminar Units: 1
- CTAN 591 Animation Pre-Thesis Seminar Units: 2
- Electives*

Year Three, First Semester

- CTAN 594a Master's Thesis Units: 2

Year Three, Second Semester

- CTAN 594b Master's Thesis Units: 2

Total required units: 32

**A minimum total of 18 elective units must be taken.*

Cinematic Arts Electives

To complete the 50 units required for the MFA in Animation and Digital Arts, students are required to take a minimum of 18 School of Cinematic Arts elective units. Four of those units must be taken from the following Cinema and Media Studies courses:

Electives

- CTCS 501 World Cinema Before 1945 Units: 2
- CTCS 502 World Cinema After 1945 Units: 2
- CTCS 503 Survey History of the United States Sound Film Units: 2
- CTCS 504 Survey of Television History Units: 2
- CTCS 505 Survey of Interactive Media Units: 2
- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4 max 12
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 517 Introductory Concepts in Cultural Studies Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 569 Seminar in Film and Television Authors Units: 4
- CTCS 585 Seminar in Film/Television Critical Theory and Production Units: 4
- CTCS 587 Seminar in Television Theory Units: 4
- CTCS 673 Topics in Theory Units: 4
- CTCS 678 Seminar in Film Theory and Medium Specificity Units: 4 max 8
- CTCS 679 Seminar in Genre and/or Narrative Theory Units: 4

Additional Requirements

Thesis Project

In order to begin work on the thesis project, students must first successfully propose their project to a committee of MFA animation and digital arts program faculty. Their proposal is prepared during the spring semester of their second year as part of their pre-thesis class CTAN 591.

In order to pass the pre-thesis class, the thesis proposal must be presented and approved by the thesis committee at the end of the fourth semester. Students cannot change their approved thesis project after the completion of CTAN 591. Throughout the pre-thesis and thesis years of study, students will meet regularly with an MFA animation and digital arts faculty adviser(s) and thesis committee to develop and refine the proposal and discuss the progress of their work. The adviser(s) will be a member of the thesis committee.

The proposal itself will include a written treatment of the project with a discussion of similar work in the field and its relationship to the proposed project. It will describe aesthetic issues to be explored and specific techniques to be employed in its realization. It will also include a storyboard or visualization, budget and schedule, in addition to supporting materials created by the student demonstrating his/her ability to pursue the project. The thesis committee will make comments and decide whether the student may go forward with his/her project. Upon acceptance, the student will begin work on the project, otherwise revising the proposal and meeting again with the committee.

A mid-residency review of the thesis project will take place in the first semester of the final year of study. The student must show that deadlines set in the proposal have been met and that progress consistent with the proposal has been made. The committee may, if necessary, suggest modifications to the project, which the student is then obligated to implement.

In the final year, students concentrate on their thesis projects, completing production and post-production. The student's thesis will be presented to the committee upon completion.

Completion is defined as a fully rendered, animated piece with a completed sound track (guide mix acceptable). In the case of live action and visual effects projects, at least 70 percent of the final film must be animated. In the case of installation work, the piece must be mounted in a suitable space with all sound and animated components completed and functional. In the case of an interactive work the piece must be fully functional with completed animation, sound and interactivity.

In addition to completion of the thesis project, the student must provide the thesis committee with written and visual documentation of the research. This will be documented as a Website or interactive DVD. The documentation comprises the following and should include a publishable research paper: synopsis; artist's statement and research paper; learning objectives — focus of research; type of project — animation, installation, interactive, etc.; research presentation in the format/medium in which the project is to be seen; script and storyboard or conceptual drawings if applicable; style approach, including source references for image shot structure, etc.; sound design and references; collaborators — if any; audience — who it is intended for and who will benefit from the research; budget; marketing and distribution plan.

Criteria for successful completion include: 40 percent originality, 40 percent quality of execution and 20 percent quality of research documentation.

Grade Point Average Requirements

A grade point average of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree. Courses below a C must be repeated.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The time limit to complete all requirements is three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree.

The Division of Cinema and Media Studies

The Division of Cinema and Media Studies of the School of Cinematic Arts offers programs leading to the Bachelor of Arts, Master of Arts and Doctor of Philosophy degrees. This comprehensive curriculum includes courses that analyze the power and responsibility of American and international film and television and new media technologies from formal/aesthetic, historical, economic and ideological perspectives.

The division is committed to understanding media texts and practices in relation to the world they represent; it studies not only the meanings of these texts but also the processes by which these meanings are constructed.

Please note: the Cinematic Arts Archiving and Preservation graduate certificate program is currently on hold.

Applicants for the BA or MA or PhD degrees must submit the supplemental application and materials to the Cinema and Media Studies Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358, or online at cinema.usc.edu.

Bachelor's Degree

Cinema and Media Studies (BA)*

The Bachelor of Arts degree in Cinema and Media Studies is granted by the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. Undergraduate students take their preprofessional courses in the USC Dornsife College of Letters, Arts and Sciences, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including 32 lower-division and 24 upper-division units in cinematic arts. A maximum of 40 School of Cinematic Arts upper-division units will apply to the BA degree. Before graduating, cinema and media studies majors are encouraged to take at least one small non-lecture class that emphasizes student critical writing or research papers. This category may include (but is not limited to): CTCS 402, CTCS 411, CTCS 412, CTCS 414, sections of CTCS 464 or CTCS 469 that require a D clearance, CTCS 494, and CTCS 495.

Required Production Course

Undergraduates admitted to the Cinema and Media Studies Program are required to take CTPR 290 Cinematic Communication. CTPR 290 introduces the interrelationship of visuals, sound and editing in cinematic communication. Students participate in directing and producing workshops as well as individual and group projects. Approximately $1,000 should be budgeted for miscellaneous expenses and insurance fees.

Required Courses

- CNTV 101 Reality Starts Here Units: 2
- CTCS 150gw Visions of Diversity in the Cinematic Arts Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 191 Introduction to Television and Video Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- CTCS 473 Film and Media Theory Units: 4
- CTPR 290 Cinematic Communication Units: 4, 6

One course from the following:

- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4

Four courses from the following:

- CTCS 367 Global Media Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 402 Practicum in Film/Television Criticism Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 417 African American Television Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4
- CTCS 494 Advanced Cinema and Media Studies Seminar Units: 4
- CTCS 495 Honors Seminar Units: 4 *

**Honors students only*.

Additional Requirements

Grade Point Average Requirements

A minimum grade of C (2.0) must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not satisfy a major requirement.

Honors Program

Cinema and Media Studies offers an honors track for advanced students. Admission to the honors track is made at the end of the junior year and requires a 3.5 overall GPA. Completion of the honors track is dependent upon successful completion of a designated honors section of CTCS 495 during the senior year. In this course, students will work with faculty in a seminar environment and produce an advanced term paper based on original research and analysis.

Limitations on Enrollment

No more than 40 upper-division units can be taken within the major without prior approval of the Dean, USC Dornsife College of Letters, Arts and Sciences.

Registration in graduate level courses (numbered 500) for undergraduate credit requires prior approval from the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an academic adviser every semester to review their progress. Contact the Cinematic Arts Student Services Office, SCB 105, (213) 740-8358, for an appointment.

Master's Degree

Cinema and Media Studies (MA)

The Master of Arts degree in Cinema and Media Studies is administered through the Graduate School. Candidates for the degree are subject to the general requirements of the Graduate School (see The Graduate School section). Thirty-six units are required at the 400 level or higher, including a comprehensive examination. At least two-thirds of these units must be at the 500 level or higher.

Media Production and Practice Courses

Each graduate student must pass one of the following 4-unit media production and practice classes with a grade of C or better. These courses provide a basic primer in media production and practice considered necessary for graduate studies in the program, so students can have a working knowledge of techniques and methods.

- CTIN 534L Experiments in Interactivity I Units: 4
- CTPR 507 Production I Units: 4
- IML 501L Digital Media Authorship and the Archive Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4 (4 units only)

Required Courses

- CTCS 500 Seminar in Film Theory Units: 4
- CTCS 506 Critical Studies Colloquium/Professional Seminar Units: 2
- CTCS 587 Seminar in Television Theory Units: 4

Three of the following:

- CTCS 501 World Cinema Before 1945 Units: 2
- CTCS 502 World Cinema After 1945 Units: 2
- CTCS 503 Survey History of the United States Sound Film Units: 2
- CTCS 504 Survey of Television History Units: 2
- CTCS 505 Survey of Interactive Media Units: 2

Two of the following:

- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 517 Introductory Concepts in Cultural Studies Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 567 Seminar in Film/Television and a Related Art Units: 4
- CTCS 569 Seminar in Film and Television Authors Units: 4
- CTCS 585 Seminar in Film/Television Critical Theory and Production Units: 4

Note:

In addition, 8 units of cinematic arts electives are required.

Additional Requirements

Comprehensive Examination

As the final requirement for the MA degree, the comprehensive examination will be taken in the final spring semester of course work. There is no thesis option. The examination will consist of written responses to three questions selected from a list of fields, the appropriate fields chosen with the guidance of a faculty adviser.

If the student has completed all course work and is only taking the comprehensive examination, he or she must register in GRSC 810 Studies for Master's Examination.

Grade Point Average Requirements

A grade point average of 3.0 must be maintained in all graduate-level course work. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Policies

The following policies apply to each student admitted to the MA program:

Students must maintain full-time enrollment except in a case of emergency in which the student can petition the department to enroll in fewer units.

Students who do not earn the minimum grade of B (3.0) in CTCS 500 or satisfy the degree requirements after repeating a required course will be disqualified from the program.

Time Limit

Although students are normally expected to complete the degree in two years, the degree must be completed within five years of the beginning of graduate work at USC.

Curriculum Review

At the beginning of their matriculation, and each semester thereafter, each MA candidate will confer with a designated faculty adviser who will monitor the student's progress.

Graduate Certificate

Cinematic Arts Archiving and Preservation Graduate Certificate

The graduate certificate in Cinematic Arts Archiving and Preservation is open to all USC graduate students interested in the history and preservation of film, television and digital media. The certificate is designed specifically for students and practitioners who want to use their education and skills for advancing the knowledge of media through the preservation and dissemination of the historical artifacts that form the underpinnings of scholarship in the performing arts. Through this certificate, students will gain the knowledge, tools and skills necessary to preserve the materials that make up the history of entertainment and to lead scholars through the research process to the completion of books or media in their fields of study.

The Cinema and Media Studies Archiving and Preservation Graduate Certificate consists of 12 units, two 4-unit classes and two 2-unit internships. For more information please contact the Division of Cinema and Media Studies SCA 320, 213-740-3334.

Certificate Requirements

- CTCS 520 Film History Through the Archives and Special Collections Units: 4
- CTCS 521 Media Archiving: History and Practice Units: 4
- CNTV 595 Professional Practicum Units: 1, 2, 4 *

  * CNTV 595 Must be taken twice for 2 units each.

Doctoral Degree

Cinema and Media Studies (PhD)

The degree of Doctor of Philosophy in Cinema and Media Studies is administered through the Graduate School. The PhD program is tailored to the individual student's particular needs and interests. The overall course of study will be designed by the student, the student's designated adviser and, following the screening procedure, the student's qualifying exam committee chair (see Screening Procedure under Media Production and Practice Courses).

Degree Requirements

Each PhD candidate must complete 68 units beyond the bachelor's degree, 43 of which must be at the 500 level or higher. (Up to 30 units may be transferred from graduate work completed

at other institutions.) Dissertation units are not counted toward the 68-unit total. The required units will include seven to 12 courses in cinematic arts and 8 to 16 units in the minor area. The minor will be chosen by the student in close consultation with the adviser and will be in an academic field that supports the student's dissertation topic. Each student must complete the following course work toward the 68-unit total.

These courses should be taken before the screening procedure.

- CTCS 500 Seminar in Film Theory Units: 4
- CTCS 506 Critical Studies Colloquium/Professional Seminar Units: 2
- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4
- CTCS 587 Seminar in Television Theory Units: 4

Media Production and Practice Courses

Each candidate for the PhD must complete one of the following 4-unit courses with a grade of C or better. If the student enters the program with a master's degree in cinematic arts and possesses production experience, the student may request a waiver of this requirement. The waiver requires passing a written examination and submission of films/videos to the production faculty for review. This course should be taken before the screening procedure.

- CTIN 534L Experiments in Interactivity I Units: 4
- CTPR 507 Production I Units: 4
- IML 501L Digital Media Authorship and the Archive Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4 (4 units only)

Two of the following:

- CTCS 673 Topics in Theory Units: 4
- CTCS 677 Cultural Theory Units: 4
- CTCS 678 Seminar in Film Theory and Medium Specificity Units: 4
- CTCS 679 Seminar in Genre and/or Narrative Theory Units: 4
- CTCS 688 Moving Image Histories: Methods and Approaches Units: 4

Screening Procedure

The Graduate School requires that programs administer an examination or other procedure at a predetermined point in the student's studies as a prerequisite to continuation in the doctoral program. This procedure is designed to review the student's suitability for continuing in the chosen PhD program. The School of Cinematic Arts has determined that this procedure will occur no later than the end of the student's third semester of graduate course work at USC beyond the master's degree. The screening procedure process will include the following steps:

1. If the faculty has determined during the admissions process that a comprehensive examination will be required as part of the screening procedure, an examination will be administered as appropriate. If the examination is passed to the faculty's satisfaction, the student may proceed to the next step in the screening procedure process. If the student fails to pass the examination, the faculty will determine if the student will be allowed to retake the examination the following semester before proceeding to the next step in the screening procedure process.
2. The student will be interviewed and his or her progress in the program will be reviewed by the faculty to determine if the student will be approved for additional course work. If approved to continue, a qualifying exam committee chair will be selected by the student, with the approval of the faculty, who will serve as the student's adviser. It is strongly recommended that full-time study be pursued following the successful completion of the screening procedure.

Qualifying Exam Committee

Following a successful screening procedure, the student, in consultation with the qualifying exam committee chair and the Cinema and Media Studies faculty, will formally establish a five-member qualifying exam committee. The composition of the qualifying exam committee will be as specified by the Graduate School. For the PhD in Cinema and Media Studies, the committee is ordinarily composed of four Cinema and Media Studies faculty members and an outside member from the candidate's minor area.

Foreign Language Requirement

The Cinema and Media Studies faculty will advise each student as to whether or not a foreign language is required. This requirement is determined by the student's dissertation topic. The requirement must be met at least 60 days before the qualifying examination.

Dissertation Proposal Presentation

Working closely with the qualifying exam committee chair, the student will prepare to present his or her dissertation proposal to the full faculty. This will be a formal written proposal that will include a statement of the proposed topic, four fields for examination derived from the general dissertation topic area (including a field from the minor area), a detailed bibliography, and an appropriate and comprehensive screening list of film/television titles. Formal presentation of the dissertation proposal will occur no later than the end of the semester prior to taking the qualifying examinations. The qualifying exam committee must approve the dissertation topic. Once the dissertation topic has been approved, the student will complete the Request to Take the PhD Qualifying Examination form available from the program coordinator.

Qualifying Examinations

Written and oral examinations for the PhD are given twice a year, in November and April. Questions for the written portion of the examination will be drafted by members of the qualifying exam committee who will also grade the examination. The qualifying examination comprises four examinations administered one each day for four days during a five-day period.

The oral examination will be scheduled within 30 days after the written examination. All qualifying exam committee members must be present for the oral portion of the qualifying examination.

Admission to Candidacy

A student is eligible for admission to candidacy for the PhD degree after: (1) passing the screening procedure; (2) presenting the dissertation proposal and having it approved; (3) satisfying the language requirement, if applicable; (4) completing at least 24 units in residence; and (5) passing the written and oral portions of the qualifying examination. Admission to candidacy is by action of the Graduate School.

Dissertation Committee

The dissertation committee is composed as specified by regulations of the Graduate School. A dissertation based on original investigation and showing technical mastery of a special field, capacity for research and scholarly ability must be submitted.

CTCS 794

Registration for dissertation units, CTCS 794a and CTCS 794b, in the two semesters following admission to candidacy is the minimum requirement. These units cannot be applied toward the required 68 unit total. The student must register for CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z each semester after admission to candidacy until the degree requirements are completed. No more than 8 units of credit can be earned in CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z.

Defense of Dissertation

An oral defense of the dissertation is required of each PhD candidate. The dissertation committee will decide whether the examination is to take place after completion of the preliminary draft or the final draft of the dissertation. The oral defense must be passed at least one week before graduation.

Policies

The following policies apply to each student admitted to the PhD program.

Residency Requirements

At least one year of full-time graduate study (24 units excluding registration for CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z) must be completed in residence on the main USC campus. The residency requirement may not be interrupted by study elsewhere. Residency must be completed prior to the qualifying examination.

Grade Point Average

An overall GPA of 3.0 is required for all graduate work. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Leaves of Absence

A leave of absence may be granted under exceptional circumstances by petitioning the semester before the leave is to be taken. Refer to "Leave of Absence" in the Graduate and Professional Education section.

Changes of Committee

Changes in either the qualifying exam or dissertation committee must be requested on a form available from the Graduate School Website.

Completion of All Requirements

Everything involved in approving the dissertation must be completed at least one week before graduation. Approval by the dissertation committee, the Office of Academic Records and Registrar, and the thesis editor must be reported and submitted to the Graduate School by the date of graduation.

Time Limits

The maximum time limit for completing all requirements for the PhD degree is eight years from the first course at USC applied toward the degree. Students who have completed an applicable master's degree at USC or elsewhere within five years from the proposed enrollment in a PhD program must complete the PhD in six years. Extension of these time limits will be made only for compelling reasons upon petition by the student. When petitions are granted, students will be required to make additional CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z registrations. Course work more than 10 years old is automatically invalidated and cannot be applied toward the degree.

Cinematic Arts (Critical Studies) (PhD)

The degree of Doctor of Philosophy with an emphasis in Critical Studies is administered through the Graduate School. The PhD program is tailored to the individual student's particular needs and interests. The overall course of study will be designed by the student, the student's designated adviser and, following the screening procedure, the student's qualifying exam committee chair (see Screening Procedure under Graduate Preparation Production Courses).

Admission

A bachelor's or master's degree in cinematic arts, or a closely related field, is required for admission to the PhD program. Applicants with only a bachelor's degree must successfully fulfill all of the USC Critical Studies MA degree requirements as part of the degree program (see Screening Procedure).

Course Requirements

Each PhD candidate must complete 68 units beyond the bachelor's degree, 43 of which must be at the 500 level or higher. (Up to 30 units may be transferred from graduate work completed at other institutions.) Dissertation units are not counted toward the 68-unit total. The required units will include seven to 12 courses in cinematic arts and 8 to 16 units in the minor area. The minor will be chosen by the student in close consultation with the adviser and will be in an academic field which supports the student's dissertation topic. Each student must complete the following course work toward the 68 unit total:

1. *CTCS 500*, *CTCS 506*, *CTCS 510*, *CTCS 587*, *CTPR 507*. These courses should be taken before the screening procedure.
2. *Two of the following: CTCS 673*, *CTCS 677*, *CTCS 678*, *CTCS 679*, *CTCS 688*. These courses should be taken before the qualifying examination.

Graduate Preparation Production Course

Each candidate for the PhD must complete CTPR 507 Production I 4 with a grade of C or better. If the student enters the program with a master's degree in cinematic arts and possesses production experience, the student may request a waiver of this requirement. The waiver requires passing a written examination and submission of films/videos to the production faculty for review.

CTPR 507 Production I 4 is designed to introduce the fundamental principles of motion picture production. The course also introduces students to visual and auditory communication and individual filmmaking. Each student makes several non-dialogue personal projects, serving as writer, producer, director, cinematographer, sound designer and editor and takes a crew role on a collaborative project. Projects are shot on digital cameras and edited on non-linear systems. Approximately $1,200 should be budgeted for miscellaneous expenses, lab and insurance fees. This course should be taken before the beginning of the screening procedure.

Screening Procedure

The Graduate School requires that programs administer an examination or other procedure at a predetermined point in the student's studies as a prerequisite to continuation in the doctoral program. This procedure is designed to review the student's suitability for continuing in the chosen PhD program. The School of Cinematic Arts has determined that this procedure will occur no later than the end of the student's third semester of graduate course work at USC beyond the master's degree. The screening procedure process will include the following steps:

1. If the faculty has determined during the admissions process that a comprehensive examination will be required as part of the screening procedure, an examination will be administered as appropriate. If the examination is passed to the faculty's satisfaction, the student may proceed to the next step in the screening procedure process. If the student fails to pass the examination, the faculty will determine if the student will be allowed to retake the examination the following semester before proceeding to the next step in the screening procedure process.
2. The student will be interviewed and his or her progress in the program will be reviewed by the faculty to determine if the student will be approved for additional course work. If approved to continue, a qualifying exam committee chair will be selected by the student, with the approval of the faculty, who will serve as the student's adviser. It is strongly recommended that full-time study be pursued following the successful completion of the screening procedure.

Qualifying Exam Committee

Following a successful screening procedure, the student, in consultation with the qualifying exam committee chair and the Critical Studies faculty, will formally establish a five-member qualifying exam committee. The composition of the qualifying exam committee will be as specified by the Graduate School. For the PhD in Cinematic Arts (Critical Studies), the committee is ordinarily composed of four Critical Studies faculty members and an outside member from the candidate's minor area.

Foreign Language Requirement

The Critical Studies faculty will advise each student as to whether or not a foreign language is required. This requirement is determined by the student's dissertation topic. The requirement must be met at least 60 days before the qualifying examination.

Dissertation Proposal Presentation

Working closely with the qualifying exam committee chair, the student will prepare to present his or her dissertation proposal to the full faculty. This will be a formal written proposal which will include a statement of the proposed topic, four fields for examination derived from the general dissertation topic area (including a field from the minor area), a detailed bibliography, and an appropriate and comprehensive screening list of film/television titles. Formal presentation of the dissertation proposal will occur no later than the end of the semester prior to taking the qualifying examinations. The qualifying exam committee must approve the dissertation topic. Once the dissertation topic has been approved, the student will complete the Request to Take the PhD Qualifying Examination form available from the program coordinator.

Qualifying Examinations

Written and oral examinations for the PhD are given twice a year, in November and April. Questions for the written portion of the examination will be drafted by members of the qualifying exam committee who will also grade the examination. The qualifying examination comprises four examinations administered one each day for four days during a five-day period.

The oral examination will be scheduled within 30 days after the written examination. All qualifying exam committee members must be present for the oral portion of the qualifying examination.

Admission to Candidacy

A student is eligible for admission to candidacy for the PhD degree after: (1) passing the screening procedure; (2) presenting the dissertation proposal and having it approved; (3) satisfying the language requirement, if applicable; (4) completing at least 24 units in residence; and (5) passing the written and oral portions of the qualifying examination. Admission to candidacy is by action of the Graduate School.

Dissertation Committee

The dissertation committee is composed as specified by regulations of the Graduate School. A dissertation based on original investigation and showing technical mastery of a special field, capacity for research and scholarly ability must be submitted.

CTCS 794

Registration for dissertation units, CTCS 794a and CTCS 794b , in the two semesters following admission to candidacy is the minimum requirement. These units cannot be applied toward the required 68 unit total. The student must register for CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z each semester after admission to candidacy until the degree requirements are completed. No more than 8 units of credit can be earned in CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z.

Defense of Dissertation

An oral defense of the dissertation is required of each PhD candidate. The dissertation committee will decide whether the examination is to take place after completion of the preliminary draft or the final draft of the dissertation. The oral defense must be passed at least one week before graduation.

Policies

The following policies apply to each student admitted to the PhD program.

Residency Requirements

At least one year of full-time graduate study (24 units excluding registration for CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z) must be completed in residence on the main USC campus. The residency requirement may not be interrupted by study elsewhere. Residency must be completed prior to the qualifying examination.

Grade Point Average

An overall GPA of 3.0 is required for all graduate work. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Leaves of Absence

A leave of absence may be granted under exceptional circumstances by petitioning the semester before the leave is to be taken. Refer to "Leave of Absence" in the Graduate and Professional Education section.

Changes of Committee

Changes in either the qualifying exam or dissertation committee must be requested on a form available from the Graduate School Website.

Completion of All Requirements

Everything involved in approving the dissertation must be completed at least one week before graduation. Approval by the dissertation committee, the Office of Academic Records and Registrar, and the thesis editor must be reported and submitted to the Graduate School by the date of graduation.

Time Limits

The maximum time limit for completing all requirements for the PhD degree is eight years from the first course at USC applied toward the degree. Students who have completed an applicable master's degree at USC or elsewhere within five years from the proposed enrollment in a PhD program must complete the PhD in six years. Extension of these time limits will be made only for compelling reasons upon petition by the student. When petitions are granted, students will be required to make additional CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z registrations. Course work more than 10 years old is automatically invalidated and cannot be applied toward the degree.

Film and Television Production

The Division of Film and Television Production of the School of Cinematic Arts offers programs leading to the Bachelor of Arts, the Bachelor of Fine Arts and the Master of Fine Arts degrees.

The primary goals of the degree programs in film and television production are to develop the student's ability to express original ideas on film or video and to instill a thorough understanding of the technical and aesthetic aspects of motion pictures and television. Courses in production provide individual and group filmmaking experiences and the opportunity to learn all aspects of filmmaking in a collaborative environment.

Bachelor's Degree

Cinematic Arts, Film and Television Production (BA)*

The Bachelor of Arts in Cinematic Arts, Film and Television Production is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. Students study within a framework that combines a broad liberal arts background with specialization in a profession. Bachelor of Arts students are enrolled in the USC Dornsife College of Letters, Arts and Sciences, where they take their preprofessional courses, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including 16 lower-division units and 26 upper-division units in Cinematic Arts. A maximum of 40 School of Cinematic Arts upper-division units will apply to the BA degree.

Applicants must submit a supplemental application and materials to the Undergraduate Production Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information, see General Education.

Production Sequence

Candidates for the Bachelor of Arts degree in Cinematic Arts, Film and Television Production are required to take CTPR 294 Directing in Documentary, Fiction and New Media and CTPR 295L Cinematic Arts Laboratory the first semester they are enrolled in the program. These courses are taken in preparation for the next phase of the production sequence, CTPR 310 Intermediate Production.

In CTPR 294, students explore the basic concepts of directing in television, documentary and dramatic narrative by working with actors, documentary production and the creation of short television projects.

In CTPR 295, students study the aesthetics and tools of the major disciplines of cinematic arts: producing, cinematography, sound and editing.

CTPR 310 Intermediate Production is the second phase of the production sequence. In this workshop, students work in small crews, learning to collaborate and explore the expressive principles of visual and audio communication; idea development and realization using image, movement, pace, the spoken word and other sounds. Most equipment and materials are provided by the school; however, approximately $2,000 should be budgeted for miscellaneous expenses and insurance fees.

To qualify for enrollment in CTPR 310, students must fulfill all requirements outlined in the guidelines distributed in CTPR 294.

Following CTPR 310, students must take CTPR 450 The Production and Post-Production Assistant, and refine their areas of interest by taking advanced-level practicum courses within the major disciplines of production: directing, editing, cinematography, sound, producing and production design. Thereafter students complete the final phase of the production sequence by taking one of the following courses: CTPR 480, CTPR 484, CTPR 486 or CTPR 547.

In CTPR 480 Advanced Production Workshop, production students form crews in which directors, producers, cinematographers, editors and sound designers collaborate to produce, shoot, edit and deliver a fictional narrative, documentary or experimental project in one semester.

Equipment and facilities are provided by the school. There are extra personal expenses associated with all production workshops.

To qualify for enrollment in CTPR 480, students must fulfill all requirements outlined in the CTPR 480 guidelines distributed in CTPR 450.

CTPR 484 Advanced Multi-Camera Television Workshop is a class in which students will produce a half-hour situation comedy pilot in one semester.

CTPR 486 Single Camera Television Dramatic Series is an intensive group workshop experience in the collaborative process of producing an episodic television drama.

CTPR 547 is an intensive workshop where students shoot and finish documentary projects up to about 25 minutes in length.

CTPR 310, CTPR 480, CTPR 484, CTPR 486 and CTPR 547L cannot be waived or substituted with another course or transfer credit under any circumstances.

Course Requirements

- CTCS 190g Introduction to Cinema Units: 4
- CTCS 200g History of the International Cinema I Units: 4 or
- CTCS 201 History of the International Cinema II Units: 4
- CTPR 294 Directing in Documentary, Fiction and New Media Units: 4
- CTPR 295L Cinematic Arts Laboratory Units: 4
- CTPR 310 Intermediate Production Units: 4, 6
- CTPR 450 The Production and Post-Production Assistant Units: 2
- CTWR 413 Writing the Short Script I Units: 2

and a choice of:

- CTPR 431 Developing the Documentary Production Units: 2
- CTWR 411 Television Script Analysis Units: 2
- CTWR 414 The Screenplay Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2

One of the following cinema and media studies courses:

- CTCS 367 Global Media Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 402 Practicum in Film/Television Criticism Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 417 African American Television Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4

Three of the following production practicum courses:

- CTPR 421 Practicum in Editing Units: 2
- CTPR 424 Practicum in Cinematography Units: 2
- CTPR 438 Practicum in Producing Units: 2
- CTPR 440 Practicum in Sound Units: 2 max 4
- CTPR 465 Practicum in Production Design Units: 2
- CTPR 478 Practicum in Directing Units: 2

One of the following courses:

- CTPR 480 Advanced Production Workshop Units: 4 max 12
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 486 Straight to Series: Production of Episodic TV Drama Units: 4
- CTPR 547L Production III, Documentary Units: 6 *

Note:

*Enrollment in CTPR 547 requires special permission.

Additional Requirements

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTPR 294, CTPR 295 and CTPR 310 after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

No more than 40 upper-division units can be taken in the major without approval of the dean, USC Dornsife College of Letters, Arts and Sciences.

Registration in graduate level courses (numbered 500) for undergraduate credit requires prior approval of the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an adviser every semester to review their progress. Contact the Cinematic

Arts Student Services Office (SCB 105), (213) 740-8358, for an appointment.

Cinematic Arts, Film and Television Production (BFA)

The Bachelor of Fine Arts in Cinematic Arts, Film and Television Production is a unique four-year program, offered by the School of Cinematic Arts, that combines a liberal arts background with comprehensive specialization in a profession. Students are provided an intensive production experience combined with requirements and electives from other School of Cinematic Arts programs including Cinema and Media Studies, Writing, Animation and Interactive Media. The degree requires 128 units, including 68 units in Cinematic Arts, many of which are taken in a sequential order.

Applicants must submit a supplemental application and materials to the Undergraduate Production Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing.

Production Sequence

Candidates for the Bachelor of Fine Arts degree in Film and Television Production are required to take CTPR 285 Lateral Thinking for Filmmaking Practice, CTPR 290 Cinematic Communication, CTPR 294 Directing in Documentary, Fiction and New Media and CTPR 295L Cinematic Arts Laboratory. These courses are taken in the first two years of the program in preparation for the next phase of the production sequence, CTPR 310 Intermediate Production.

CTPR 285 introduces contemporary concepts of production, emphasizing the variety of contemporary media and significant related concepts. Students will create mini-projects using laptops, phones and networks.

CTPR 290 introduces the interrelationship of visuals, sound and editing in cinematic communication. Students participate in directing and producing workshops as well as individual and group projects. Approximately $1,000 should be budgeted for miscellaneous expenses and insurance fees.

In CTPR 294, students explore the basic concepts of directing in television, documentary and dramatic narrative by working with actors, documentary production and the creation of short television projects.

In CTPR 295, students study the aesthetics and tools of the major disciplines of cinematic arts: producing, cinematography, sound and editing.

CTPR 310 Intermediate Production is the second phase of the production sequence. In this workshop students work in small crews, learning to collaborate and explore the expressive principles of visual and audio communication; idea development and realization using image, movement, pace, the spoken word and other sounds. Most equipment and materials are provided by the school; however, approximately $2,000 should be budgeted for miscellaneous expenses and insurance fees.

To qualify for enrollment in CTPR 310, students must fulfill all requirements outlined in the CTPR 310 guidelines distributed in CTPR 294.

Following CTPR 310, students must take CTPR 450 The Production and Post-Production Assistant, and refine their areas of interest by taking advanced-level practicum courses within the major disciplines of production: directing, editing, cinematography, sound, producing and production design. Thereafter students complete the final phase of the production sequence by taking one of the following courses: CTPR 480, CTPR 484, CTPR 486 or CTPR 547L.

In CTPR 480 Advanced Production Workshop, production students form crews in which directors, producers, cinematographers, editors and sound designers collaborate to produce, shoot, edit and deliver a fictional narrative, documentary or experimental project in one semester.

Equipment and facilities are provided by the school. There are extra personal expenses associated with all production workshops.

To qualify for enrollment in CTPR 480, students must fulfill all requirements outlined in the CTPR 480 guidelines distributed in CTPR 450.

CTPR 484 Advanced Multi-Camera Television Workshop is a class in which students will produce a half-hour situation comedy pilot in one semester.

CTPR 486 Single Camera Television Dramatic Series is an intensive group workshop experience in the collaborative process of producing an episodic television drama.

CTPR 547L is an intensive workshop where students shoot and finish documentary projects up to about 25 minutes in length.

CTPR 285, CTPR 290, CTPR 294, CTPR 295, CTPR 310, CTPR 480, CTPR 484, CTPR 486 and CTPR 547L cannot be waived or substituted with another course or transfer credit under any circumstances.

Course Requirements

- CNTV 101 Reality Starts Here Units: 2
- CTCS 150gw Visions of Diversity in the Cinematic Arts Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- CTPR 285 Lateral Thinking for Filmmaking Practice Units: 2
- CTPR 290 Cinematic Communication Units: 4, 6
- CTPR 294 Directing in Documentary, Fiction and New Media Units: 4
- CTPR 295L Cinematic Arts Laboratory Units: 4
- CTPR 310 Intermediate Production Units: 4, 6
- CTPR 450 The Production and Post-Production Assistant Units: 2
- CTWR 413 Writing the Short Script I Units: 2

One course from the following:

- CTWR 414 The Screenplay Units: 2
- CTPR 431 Developing the Documentary Production Units: 2

and a choice of:

- CTWR 411 Television Script Analysis Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2

One of the following cinema and media studies courses:

- CTCS 367 Global Media Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 402 Practicum in Film/Television Criticism Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 417 African American Television Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4

Three of the following production practicum courses:

- CTPR 421 Practicum in Editing Units: 2
- CTPR 424 Practicum in Cinematography Units: 2
- CTPR 438 Practicum in Producing Units: 2
- CTPR 440 Practicum in Sound Units: 2
- CTPR 465 Practicum in Production Design Units: 2
- CTPR 478 Practicum in Directing Units: 2

One of the following production courses:

- CTPR 480 Advanced Production Workshop Units: 4
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 486 Straight to Series: Production of Episodic TV Drama Units: 4
- CTPR 547L Production III, Documentary Units: 6 * *enrollment in CTPR 547 requires special permission

One course from the following:

- CTPR 458 Organizing Creativity: Entertainment Industry Decision Making Units: 2
- CTPR 466 The Art of the Pitch Units: 2
- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4
- CTPR 496 The Film Industry: Career Challenges and Choices for Women Units: 2

Four units from the following:

- CTAN 436 Writing for Animation Units: 2
- CTAN 448 Introduction to Film Graphics — Animation Units: 4
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 max 4
- CTAN 462 Visual Effects Units: 2
- CTAN 495 Visual Music Units: 2
- CTIN 401L Interface Design for Games Units: 2
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 464 Game Studies Seminar Units: 2 max 4
- CTIN 482 Designing Social Games Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- IML 340 Remixing the Archive Units: 4 max 8
- IML 400 Creative Coding for the Web Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 466 Digital Studies Symposium Units: 2

Additional Requirements

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTPR 285, CTPR 290, CTPR 294, CTPR 295 and CTPR 310 after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

Registration in graduate-level courses (numbered 500) for undergraduate credit requires prior approval from the School of Cinematic Arts.

Curriculum Review

Cinematic Arts majors are expected to meet with an adviser every semester to review their progress. Contact the Cinematic Arts Student Services Office (SCB 105), (213) 740-8358, for an appointment.

Master's Degree

Cinematic Arts, Film and Television Production (MFA)

The Master of Fine Arts, Cinematic Arts, Film and Television Production, requires a minimum of 52 units in cinematic arts at the 400 or 500 level. At least two-thirds (35) of the units must be at the 500 level. A thesis is not required for the MFA degree.

Applications for the graduate production program are accepted for both fall and spring semesters. See a current Graduate Study Application for deadlines. Applicants must submit supplemental applications and materials to the Graduate Production Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

Graduate First Year Production Courses

CTPR 507, which brings together students from other School of Cinematic Arts divisions, introduces the fundamental principles of motion picture production, emphasizing visual and auditory communication. Projects are shot using digital cameras and edited on non-linear systems. Approximately $1,200 should be budgeted for miscellaneous expenses, lab and insurance fees. Production students must take CTPR 507 concurrently with CNTV 530 and CTWR 505 in the first semester.

In CTPR 508, students produce short films in small crews. The primary goal is to communicate effectively through sound/image relationships. Most equipment and materials are provided by the school, but approximately $2,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

Students who earn a grade of C- (1.7) or less in either CTPR 507 or CTPR 508 will be disqualified, and will not be able to continue in the MFA program. In any other required Production course, students earning lower than a C (2.0) may repeat the requirement on a one-time-only basis upon approval of the division chair. Students earning a C- (1.7) or less after being allowed to repeat a required production course will be disqualified from the program, and will not be allowed to continue.

Our program is distinguished by the understanding and hands-on practice our graduates achieve in all mediamaking disciplines; at the same time, each student pursues specialized interests in years two and three. To qualify for the MFA, each must demonstrate mastery of at least one of six disciplines: writing, producing, directing, cinematography, editing or sound. In the discipline chosen, the candidate must register for and complete an advanced project, as well as the defined prerequisites.

CNTV 530, CTPR 502, CTPR 507, CTPR 508, CTPR 546 and CTPR 547 cannot be waived or substituted with transfer credit under any circumstances.

Three-Year Requirements for the MFA in Production

Year One, First Semester

- CTPR 507 Production I Units: 4
- CTWR 505 Creating the Short Film Units: 2
- CNTV 530 Cinematic Ethics Units: 1
- CTPR 502 Collaboration and Creativity Units: 1

Total units: 8

Year One, Second Semester

- CTPR 508 Production II Units: 6
- CTWR 516 Advanced Motion Picture Script Analysis Units: 2

Total units: 8

Year Two, First and Second Semesters

- CTPR 506 Visual Expression Units: 2

At least 6 units from the following cinema and media studies courses:

- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 501 World Cinema Before 1945 Units: 2
- CTCS 502 World Cinema After 1945 Units: 2
- CTCS 503 Survey History of the United States Sound Film Units: 2
- CTCS 504 Survey of Television History Units: 2
- CTCS 505 Survey of Interactive Media Units: 2
- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4 max 12
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 567 Seminar in Film/Television and a Related Art Units: 4

- CTCS 569 Seminar in Film and Television Authors Units: 4
- CTCS 585 Seminar in Film/Television Critical Theory and Production Units: 4
- CTCS 587 Seminar in Television Theory Units: 4

Year Three, First and Second Semesters

Advanced Project Requirement

A minimum of 4 units is required. Students must complete the prerequisites and follow the guidelines for the course(s) chosen:

- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 486 Straight to Series: Production of Episodic TV Drama Units: 4
- CTPR 546L Production III, Fiction Units: 6
- CTPR 547L Production III, Documentary Units: 6

Elective Units

Of the 52 minimum unit requirement for the degree, students can take up to 24 elective units, 16 of which must be CTPR courses.

Additional Requirements

Grade Point Average Requirements

A grade point average of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Graduate Level Course Requirement

At least two-thirds of the 52 units required for the MFA degree must be 500 level. Students are, therefore, allowed to take a maximum of 17 units at the 400 level.

Time Limit

Students must maintain satisfactory progress toward their master's degree at all times. The time limit to complete all requirements is three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree. Students are expected to meet with a faculty adviser every semester.

Graduate Review

One year prior to graduation, students must see their academic adviser for a curriculum and graduation degree check. Contact the Production Faculty Office for forms (213) 740-3317.

Academic Warning and Dismissal of Graduate Students

Faculty advisers and departments take factors other than satisfactory grades and adequate GPAs into consideration in determining a student's qualifications for an advanced degree. A student's overall academic performance, specific skills and aptitudes, and faculty evaluations will be considered in departmental decisions regarding a student's continuation in a master's or doctoral degree program.

Satisfactory progress toward an advanced degree as determined by the faculty is required at all times. Students who fail to make satisfactory progress will be informed by their department or committee chair or school dean. The faculty has the right to recommend at any time after written warning that a student be dismissed from a graduate program for academic reasons or that a student be denied readmission. Procedures on disputed academic evaluations are described in SCampus.

Interactive Media and Games Division

The Interactive Media and Games Division offers a Bachelor of Fine Arts in Game Art, Bachelor of Arts in Interactive Entertainment, a Master of Arts in Cinematic Arts (Media Arts, Games and Health) and two Master of Fine Arts in Interactive Media as well as a number of courses in computer-based entertainment for non-majors. The fundamental philosophy of the division is coherent with that of the school's program, stressing creativity of expression, experimentation and excellence in execution.

Bachelor's Degree

Game Art (BFA)

The Bachelor of Fine Arts in Game Art is a unique four-year program offered by the School of Cinematic Arts. Students study within the framework that combines a broad liberal arts background with specialization in a profession. Areas of concentration might include character animation, environmental design, visual effects, 3-D pipelines and interactive animation.

Undergraduate students take their pre-professional courses in the USC Dornsife College of Letters, Arts and Sciences, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including 52 units in the major.

Applicants must submit a supplemental application and materials to the Interactive Media and Games Division in Slideroom via the Common Application. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

The Bachelor of Fine Arts in Game Art requires a minimum of 128 units.

Required Courses

- ART 207a Two-Dimensional Art Workshop Units: 2
- ART 207b Two-Dimensional Art Workshop Units: 2
- CNTV 101 Reality Starts Here Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 *
  or
- ITP 215L Introduction to 3D Modeling, Animation, and Visual Effects Units: 2
- CTCS 150gw Visions of Diversity in the Cinematic Arts Units: 4
- CTAN 280 Intermediate Character Animation for Games Units: 4
- CTAN 443L Character Development for 3-D Animation and Games Units: 2
- CTAN 480 Advanced Character Animation for Games Units: 2
- CTIN 290 Digital Media Workshop Units: 4
- CTIN 488 Game Design Workshop Units: 4
- CTIN 484L Intermediate Game Development Units: 2
- CTIN 489 Intermediate Game Design Workshop Units: 2
- ITP 351 3D Character Modeling for Games Units: 4
- CTIN 491L Advanced Game Project I Units: 4

  *Students choosing CTAN 452 will need to select CTIN 483 as one of their degree electives in order to qualify for CTIN 484L, a required course.

Electives

At least 6 units must be taken from the following list:

- CSCI 281 Pipelines for Games and Interactives Units: 4
- CSCI 420 Computer Graphics Units: 4 *
- CTAN 420 Concept Design for Animation Units: 2
- CTAN 455L Organic Modeling for Animation Units: 2 *
- CTAN 460 Character Design Workshop Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2 *
- CTAN 465L Digital Effects Animation Units: 2 *
- CTAN 485L Pipeline and Character Modeling for Animation Units: 2
- CTAN 497L Procedural Animation Units: 2 *
- CTAN 564L Motion Capture Fundamentals Units: 2 **
- CTAN 565L Motion Capture Performance Units: 2 **
- CTIN 401L Interface Design for Games Units: 2

- CTIN 483 Introduction to Game Development Units: 4 *
- CTIN 493L Advanced Game Project II Units: 2
- CTWR 410L Character Development and Storytelling for Games Units: 4
- ITP 115 Programming in Python Units: 2
- ITP 361 Character Rigging for Games Units: 4
- ITP 371 Technical Character Animation for Games Units: 4

*Prerequisite required.
**Prerequisite required. Enrollment in graduate courses requires special permission.

Movement

At least 2 units must be taken from the following list:

- DANC 175 Choreography for the Screen Units: 2
- DANC 181a Contemporary Dance Units: 2
- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 216 Movement for Actors Units: 2

Theory

At least 4 units must be taken from the following list:

- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- CTIN 191 Survey of Themed Entertainment Units: 4

Interactive Entertainment (BA)*

The Bachelor of Arts in Interactive Entertainment is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. Students study within a framework, which combines a broad liberal arts background with specialization in a profession. Undergraduate students take their pre-professional courses in the USC Dornsife College of Letters, Arts and Sciences, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including a minimum of 48 units in the major.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See General Education Program for more information.

Required Production Courses

Undergraduates admitted to the Interactive Entertainment Program are required to take CTIN 290 Digital Media Workshop or CTPR 290 Cinematic Communication a filmmaking course.

CTIN 290 and CTPR 290 introduce the interrelationship of visuals, sound and editing in cinematic communication. Students participate in directing and producing workshops as well as individual and group projects. Approximately $1,000 should be budgeted for miscellaneous expenses and insurance fees.

Required Courses

- CNTV 101 Reality Starts Here Units: 2
- ITP 115 Programming in Python Units: 2 or
- CTIN 101 Fundamentals of Procedural Media Units: 2
- CTCS 150gw Visions of Diversity in the Cinematic Arts Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 488 Game Design Workshop Units: 4
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTIN 290 Digital Media Workshop Units: 4 or
- CTPR 290 Cinematic Communication Units: 4, 6

Note:

**Enrollment in CTIN 484 and CTIN 489 is concurrent*

At least 6 units of the following are required:

- CSCI 380 Video Game Programming Units: 4 *
- CSCI 426 Game Prototyping Units: 4 *
- CTAN 443L Character Development for 3-D Animation and Games Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 291 Advanced Games Crew Units: 2
- CTIN 401L Interface Design for Games Units: 2
- CTIN 404L User Research for Games Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 409 Producing Interactive Projects Units: 2
- CTIN 420 Tabletop Roleplaying Games Units: 2
- CTIN 432 Polishing and Publishing Interactive Media Units: 2
- CTIN 452L Themed Entertainment Design Units: 4 *
- CTIN 458 Business and Management of Games Units: 2
- CTIN 464 Game Studies Seminar Units: 2
- CTIN 480 Directing for Games and Interactive Media Units: 2
- CTIN 482 Designing Social Games Units: 2
- CTIN 485 Advanced Game Development Units: 2 *
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 493L Advanced Game Project II Units: 2 *

Note:

**Prerequisite required*

At least one of the following is required:

- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 191 Survey of Themed Entertainment Units: 4
- CTIN 462 Critical Theory and Analysis of Games Units: 4
- CTWR 410L Character Development and Storytelling for Games Units: 4
- IML 420m New Media for Social Change Units: 4 *
- GESM 161g Seminar in Quantitative Reasoning Units: 4

Note:

**Prerequisite required*

At least one of the following is required:

- CTIN 459L Game Industry Workshop Units: 4
- CTIN 491L Advanced Game Project I Units: 4
- CTIN 492L Experimental Game Topics Units: 4

Note:

Two additional upper-division units of Cinematic Arts electives

Additional Requirements

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTIN 190, CTIN 483, CTIN 484, CTIN 488 or CTIN 489 after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

Registration in graduate-level courses (numbered 500) for undergraduate credit requires prior approval of the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an adviser every semester to review their progress. Contact the Interactive Media Program Office, SCA 223, (213) 821-4472, for an appointment.

Master's Degree

Cinematic Arts (Media Arts, Games and Health) (MA)

The Master of Arts in Cinematic Arts with an emphasis in Media Arts, Games and Health is administered by the Graduate School in conjunction with the Creative Media & Behavioral Health Center. The curriculum is based on center crosscutting

initiatives that represent the broadest descriptions of our vision and mission. Students benefit from emerging research, tools and methodologies that converge at the center, as well as the wide range of backgrounds represented by faculty, students and visiting scholars. Research is prioritized based on a combination of factors, including potential impact and benefit to society and overall alignment with center priorities. Some center initiatives include:

- **Sports and Exercise for Wellness:** investigation of novel assessment and treatment techniques using entertainment and technology for improvement of health outcomes related to obesity, nutrition and physical activity;
- **Healthy Brain Architecture:** production and dissemination of innovative storytelling products toward promotion of healthy behavior for brain development and affect regulation during the entire human lifespan;
- **Social and Sensorimotor Play:** investigation of novel assessment and treatment techniques using interactive play for improving social skills, visuospatial navigation and motor coordination in physical space;
- **Games for Health:** promotion, development and assessment of innovative games with behavioral health applications;
- **Storytelling for mHealth** (mobile health): mobile interactive entertainment with general health and wellness applications, or a specific chronic illness focus;
- **The Future of Health Care:** re-imagining the patient/user/player experience within and beyond health care settings.

The goal of the curriculum is to provide integrative research and practice-based training to enable students to combine prior/concurrent education and experience toward design, development and evaluation of health- and wellness-related interventions that incorporate entertainment media experiences (film, games, virtual reality, mobile media, public interactives, transmedia and emerging genres).

Candidates for the degree are subject to the general requirements of the Graduate School (see the Graduate School section). Thirty-six units are required at the 400 level or higher, including an integrative project. At least two-thirds of these units must be at the 500 level or higher.

Required Courses

- IML 543 Transdisciplinary Media Design Practicum Units: 4
- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2
- CTIN 541 Design for Interactive Media Units: 4
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CTIN 593 Integrative Project: Media-based Interventions in Healthcare Units: 2, 4

  Electives (8 units minimum from Cinematic Arts) Units: 16

Units: 36

Sample Schedule (Two Years, Full-time Study)

Year One, First Semester

- CTIN 541 Design for Interactive Media Units: 4
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

  Electives

Units: 10

Year One, Second Semester

- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

  Electives

Units: 8

Year Two, First Semester

- IML 543 Transdisciplinary Media Design Practicum Units: 4

  Electives

Units: 10

Year Two, Second Semester

- CTIN 593 Integrative Project: Media-based Interventions in Healthcare Units: 2, 4

  Electives

Units: 8

Note:

In addition, 18 units of electives related to the student's area of study will be recommended by the student's adviser; at least 8 of these units should be from Cinematic Arts.

Electives**

At least 8 units from the following:

- CTAN 443L Character Development for 3-D Animation and Games Units: 2 *
- CTAN 451 History of Animation Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 *
- CTAN 462 Visual Effects Units: 2
- CTAN 470 Documentary Animation Production Units: 2
- CTAN 495 Visual Music Units: 2
- CTAN 501 Experiments in 2-D Digital Animation Units: 2
- CTAN 502L Experiments in Immersive Design Units: 2
- CTAN 525 Gesture Movement for Animation Units: 2
- CTIN 401L Interface Design for Games Units: 2 *
- CTIN 405L Design and Technology for Mobile Experiences Units: 2 *
- CTIN 406L Sound Design for Games Units: 2
- CTIN 452L Themed Entertainment Design Units: 4 *
- CTIN 458 Business and Management of Games Units: 2
- CTIN 480 Directing for Games and Interactive Media Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 485 Advanced Game Development Units: 2 *
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTIN 499 Special Topics Units: 2, 3, 4
- CTIN 501 Interactive Cinema Units: 2
- CTIN 506 Procedural Expression Units: 2
- CTIN 534L Experiments in Interactivity I Units: 4
- CTIN 544 Experiments in Interactivity II Units: 2 *
- CTPR 455 Survey of Production Design Units: 2
- CTPR 507 Production I Units: 4
- CTWR 518 Introduction to Interactive Writing Units: 2
- IML 501L Digital Media Authorship and the Archive Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 535 Tactical Media Strategies Units: 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4

Note:

**Prerequisite required.*

***Courses not listed may satisfy this requirement with approval of the program chair.*

CTIN 593 Integrative Project

All students are required to complete a project that showcases their integrative mastery of prior and newly acquired knowledge, skills and interests in CTIN 593. It is recommended that preparatory work for this project begins with a directed research proposal in CTIN 590, but the student can begin work sooner. Students are permitted to complete collaborative integrative projects if they can successfully articulate a clear timeline, feasibility, individual contributions and an alternate plan for completion if the collaboration becomes unsustainable. Building upon prior art and research (e.g., MFA thesis projects, sponsored research) is highly recommended because the project will be graded on the merit and impact of the intervention as a whole (vs.

the aesthetic qualities or innovation of a standalone interactive artifact). Students need to form a committee of at least three members (USC faculty member, scientist or health professional, stakeholder). The criteria for successful completion will be set by the program director and the project committee advisers.

The following are examples of integrative projects:

(a) Design/development of an original creative intervention based on rigorous formative research, or

(b) Design adaptation of an existing intervention based on rigorous formative research, or

(c) Deployment and evaluation of an original or adapted intervention.

Grade Point Average Requirement

An overall GPA of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree. A minimum grade of B (3.0) must be earned in all required courses. Students who do not achieve a grade of B (3.0) in the required courses after repeating these requirements will be disqualified from the program. The core courses as well as CTIN 593 cannot be waived or substituted with transfer credits under any circumstances.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The degree must be completed five years from the first course at USC applied toward the Master of Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree. The degree director will review progress toward degree completion on an annual basis. Students who are not making satisfactory progress will be provided a remediation plan with required action deadlines.

Peer Mentoring Requirement

Students are required to provide six hours of peer and/or team mentoring per month to other students via advising, critique or skills workshops. Requests for mentoring will be submitted ad-hoc by students and faculty with a sign-up sheet.

Interactive Media (Games and Health) (MFA)

The Master of Fine Arts in Interactive Media with an emphasis in Games and Health is administered in conjunction with the Creative Media & Behavioral Health Center. The curriculum is based on center crosscutting initiatives that represent the broadest descriptions of our vision and mission. Students benefit from emerging research, tools and methodologies that converge at the center, as well as the wide range of backgrounds represented by faculty, students and visiting scholars. Research is prioritized based on a combination of factors, including potential impact and benefit to society, and overall alignment with center priorities. Some center initiatives include:

- **Sports and Exercise for Wellness:** investigation of novel assessment and treatment techniques using entertainment and technology for improvement of health outcomes related to obesity, nutrition and physical activity
- **Healthy Brain Architecture:** production and dissemination of innovative storytelling products toward promotion of healthy behavior for brain development and affect regulation during the entire human lifespan
- **Social and Sensorimotor Play:** investigation of novel assessment and treatment techniques using interactive play for improving social skills, visuospatial navigation and motor coordination in physical space
- **Games for Health:** promotion, development and assessment of innovative games with behavioral health applications
- **Storytelling for Mobile Health (mHealth):** mobile interactive entertainment with general health and wellness applications, or a specific chronic illness focus
- **The Future of Health Care:** re-imagining the patient/user/player experience within and beyond healthcare settings

This emphasis aims to provide specialized training and hands-on experience to enrolled MFA students toward design, development and evaluation of interactive entertainment for health and happiness. Students will obtain a broad perspective on theory, methods and practice through an intensive overview of core concepts of science with a lifespan perspective on brain development, lifelong resilience, wellness and illness. On a practical level, students will learn how to: (a) perform transdisciplinary formative research (e.g., literature reviews, prior art analyses) in order to establish background data and rationale for design and evaluation; (b) tailor intervention design and program design requirements to target population using transdisciplinary methodologies (e.g., ethnography, surveys, observation studies); (c) iteratively develop and/or adapt existing interventions focused on health and wellness in transdisciplinary team environments; (d) design and administer small studies for ecologically valid assessment of interventions (e.g., feasibility pilots, experimental designs, pilot clinical studies).

The degree requires 50 units.

Requirements for the MFA in Interactive Media (Games and Health)

Year One, First Semester

- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2
- CTIN 534L Experiments in Interactivity I Units: 4
- CTIN 541 Design for Interactive Media Units: 4
- Technical Skill or Electives: 0 - 2 units

Total units: 8 - 12

Year One, Second Semester

- CTCS 505 Survey of Interactive Media Units: 2
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2
- CTIN 544 Experiments in Interactivity II Units: 2
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 or
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4
- CTWR 518 Introduction to Interactive Writing Units: 2

Total units: 10

Year Two, First Semester

- CTIN 532L Interactive Design and Production I Units: 4
- CTPR 506 Visual Expression Units: 2
- IML 543 Transdisciplinary Media Design Practicum Units: 4

Total units: 10

Year Two, Second Semester

- CTIN 542 Interactive Design and Production II Units: 2
- CTIN 548 Preparing the Interactive Project Units: 2
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 or
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4

Technical Skill or Electives: 0 - 2 units

Total units: 8 - 10

Year Three, First Semester

- CTIN 594a Master's Thesis Units: 2

Electives: 2 - 4 units

Total units: 4 - 6

Year Three, Second Semester

- CTIN 594b Master's Thesis Units: 2

Electives: 2 - 4 units.

Total units: 4 - 6

Technical Skill

At least 2 units from the following:

- CTAN 443L Character Development for 3-D Animation and Games Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 485 Advanced Game Development Units: 2
- CTIN 404L User Research for Games Units: 2
- CTIN 583 Game Development for Designers Units: 2

Electives*

At least 4 units from the following:

- CNTV 595 Professional Practicum Units: 1, 2, 4
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 max 4
- CTAN 495 Visual Music Units: 2
- CTAN 525 Gesture Movement for Animation Units: 2
- CTIN 401L Interface Design for Games Units: 2
- CTIN 411 Tabletop Game Mechanics Seminar Units: 2
- CTIN 452L Themed Entertainment Design Units: 4 **
- CTIN 458 Business and Management of Games Units: 2
- CTIN 480 Directing for Games and Interactive Media Units: 2
- CTIN 482 Designing Social Games Units: 2
- CTIN 485 Advanced Game Development Units: 2 **
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 497 Interactive Media Startup Units: 1 max 2
- CTIN 499 Special Topics Units: 2, 3, 4
- CTIN 506 Procedural Expression Units: 2
- IML 500 The Praxis of Sonic and Visual Media Units: 4
- IML 501L Digital Media Authorship and the Archive Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 535 Tactical Media Strategies Units: 4

Notes:

**Courses not listed may satisfy this requirement with approval of the program chair.*

***Prerequisite required.*

Additional Requirements

Grade Point Average Requirement

An overall GPA of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree.

A minimum grade of C (2.0) must be earned in all required courses. Students who do not achieve a grade of C (2.0) in the core courses CTIN 532, CTIN 534, CTIN 542 and CTIN 544 after repeating these requirements will be disqualified from the program. The core courses as well as CTIN 594a, CTIN 594b cannot be waived or substituted with transfer credits under any circumstances.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The degree must be completed three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree.

Graduate Review

One year prior to graduation, students are required to file MFA forms for a curriculum and graduation review. Contact the Interactive Media Program Office for forms.

Interactive Media (MFA)

The Interactive Media Division offers a Master of Fine Arts in Interactive Media as well as a number of courses in computer-based entertainment for non-majors. The fundamental philosophy of the division is coherent with that of the programs of the school, stressing creativity of expression, experimentation and excellence in execution.

The MFA in Interactive Media is a three-year intensive program that requires 50 units of which 26 are requirements and 24 are electives chosen from a number of core area groupings. Students must take at least 6 units of expression studios, studying a breadth of skills involved in creating Interactive Media, at least 2 units of professionalization electives, 2 units of electives building technical skills and another 6 units of electives crafting a specialization in the field. Eight units of electives are totally open for exploration across the university. Two-thirds of the total units applied to the degree must be taken at the 500-level, so at least 12 500-level elective units must be taken. Students are expected to engage in an internship or professional work environment during the summer following their second semester. Students are required to complete an advanced interactive project which they design and produce in CTIN 594a and CTIN 594b Master's Thesis.

Computer and digital production facilities for the program are provided by the school. However, students should budget additional funds for incidental expenses for intermediate and advanced projects. Cost will vary depending on the scope of a student's project. For the first-year production course, approximately $1,000 will be needed for miscellaneous costs, lab and insurance fees.

The program is intended to prepare students for creative careers in the emerging field of interactive entertainment. While the program does not require advanced computer capabilities, familiarity and comfort with computer-based authoring and production/post-production tools is recommended.

The creation of interactive media requires a combination of skills from the traditional media of film and television as well as a deep understanding of the effects of interactivity upon the quality of experience. Therefore, we emphasize and encourage collaboration with students in other Cinematic Arts programs.

Approximately 15 students are admitted in the fall semester (there are no spring admissions).

Applicants for the MFA in Interactive Media must submit a supplemental application and materials to the Interactive Media Program. For specific instructions contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-2911 or online at *cinema.usc.edu.*

Requirements for the MFA in Interactive Media

Year One, First Semester

- CTIN 534L Experiments in Interactivity I Units: 4
- CTIN 541 Design for Interactive Media Units: 4

Expression Studio - 2 units
Electives - 2 units

Total units: 12

Year One, Second Semester

- CNTV 530 Cinematic Ethics Units: 1
- CTCS 505 Survey of Interactive Media Units: 2
- CTIN 544 Experiments in Interactivity II Units: 2

Expression Studio - 2 units
Technical Skill - 2 units
Electives - 0 to 2 units

Total units: 10 - 12

Year Two, First Semester

- CTIN 532L Interactive Design and Production I Units: 4

Expression Studio - 2 units
Electives - 4 to 6 units

Total Units: 10 - 12

Year Two, Second Semester

- CTIN 542 Interactive Design and Production II Units: 2
- CTIN 548 Preparing the Interactive Project Units: 2

Professionalization/Specialization/Electives - 4 to 6 units

Total units: 8 -10

Year Three, First Semester

- CTIN 594a Master's Thesis Units: 2

Specialization - 2 to 4 units

Total units: 4 - 6

Year Three, Second Semester

- CTIN 594b Master's Thesis Units: 2

Specialization - 2 to 4 units

Total units: 4 - 6

Expression Studio

At least 6 units from the following list:

- CTAN 443L Character Development for 3-D Animation and Games Units: 2 *
- CTIN 444 Audio Expression Units: 2
- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2

- CTIN 506 Procedural Expression Units: 2
- CTPR 506 Visual Expression Units: 2 *
- CTWR 518 Introduction to Interactive Writing Units: 2

Note:

*Prerequisite required.

Specialization

At least 6 units from the following list:

- CMGT 537 The Industry, Science and Culture of Video Games Units: 4
- CSCI 426 Game Prototyping Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CTAN 564L Motion Capture Fundamentals Units: 2 *
- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 480 Directing for Games and Interactive Media Units: 2
- CTIN 481 Augmenting Reality: Worldbuilding for Games and Spaces Units: 2 2
- CTIN 482 Designing Social Games Units: 2
- CTIN 492L Experimental Game Topics Units: 4
- CTWR 410L Character Development and Storytelling for Games Units: 4
- CTWR 526 Advanced Storytelling for Interactive Media Units: 2 *
- SCOR 405 Introduction to Scoring Video Games Units: 2

Note:

*Prerequisite required.

**Course requires an undergraduate prerequisite, which may be waived for students with appropriate experience.

Technical Skill

At least 2 units from the following list:

- CTIN 401L Interface Design for Games Units: 2
- CTIN 404L User Research for Games Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 485 Advanced Game Development Units: 2
- CTIN 583 Game Development for Designers Units: 2
- ITP 415 3-D Design and Prototyping Units: 2

Note:

*Prerequisite required.

Professionalization

At least 2 units from the following list:

- CNTV 595 Professional Practicum Units: 1, 2, 4
- CTIN 458 Business and Management of Games Units: 2
- CTIN 497 Interactive Media Startup Units: 1
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2
- CTIN 411 Tabletop Game Mechanics Seminar Units: 2

Additional Requirements

Thesis Project

In order to begin work on the thesis/advanced project, students must first successfully propose their project to a committee of MFA interactive media program faculty. The proposal is prepared during the second year of study in CTIN 548 Preparing the Interactive Project and is submitted at the end of the second year. The proposal itself will include a written treatment of the project with a discussion of similar work in the field and its relationship to the proposed project. It will describe aesthetic issues to be explored and specific techniques to be employed in its realization. It will also include a project visualization, design macro, risk assessment and a polished piece of the experience, equivalent to the milestones associated with the end of the pre production period. The faculty committee will make comments and decide whether the student may go forward with his or her project. Upon acceptance, the student will begin production work on the project, otherwise revising the proposal and meeting again with the committee.

In the third and final year, students concentrate on their thesis projects in CTIN 594a and CTIN 594b Master's Thesis, completing production and post-production. A final review will take place in the second semester of the third year. The committee will meet and the student must show and defend the work. The student does not need to submit a thesis paper in conjunction with this project, though students interested in doing so may take CTIN 510 and prepare a paper for academic publication.

Criteria for successful completion include: 50 percent originality and 50 percent quality of execution.

Internship

Though the Internship class is not required, the division requires all MFA students to do work at an internship or in a professional context while enrolled in the program. The graduate adviser will work with each student to find an appropriate work environment and certify the student's completion thereof.

Grade Point Average Requirement

An overall GPA of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree.

A minimum grade of C (2.0) must be earned in all required courses. Students who do not achieve a grade of C (2.0) in the core courses CTIN 532L, CTIN 534L, CTIN 542 and CTIN 544 after repeating these requirements will be disqualified from the program. Two-thirds of the non thesis units applied to the degree must be taken at the 500 level or above. The core courses as well as CTIN 594a and CTIN 594b cannot be waived or substituted with transfer credits under any circumstances.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The degree must be completed three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree.

Graduate Review

One year prior to graduation, students are required to file MFA forms for a curriculum and graduation review. Contact the Interactive Media Program Office for forms.

Media Arts + Practice

Media Arts + Practice (MA+P) is an interdisciplinary digital storytelling and media design program combining the study of contemporary digital media with hands-on production and research. The program offers a rigorous and creative environment for scholarly innovation as students explore the intersections of cinema, art, design, emerging media and critical thinking while defining new forms of cinematic experience for the 21st century.

Bachelor's Degree

Media Arts and Practice (BA)*

The Bachelor of Arts in Media Arts and Practice offers a robust curriculum centered on the history, theory and practice of digital media in creative and scholarly contexts. Students will study the evolution of media in concert with new cinematic technologies, from the work of early innovators such as Laszlo Moholy-Nagy, through the pioneering experiments in information theory embodied by thinkers such as Claude Shannon, Norbert Wiener and Vannevar Bush, and on to the experiments of artists and designers working with interactivity, immersion, stereoscopy and performance for over a century. Students will also learn how to understand the relationship among media forms, emerging technologies and culture, and how to author in diverse media platforms for both critical and creative practice. The media arts and practice major is ideal for students who are interested in the expanded array of cinematic technologies that can be used for the creative and critical expression of ideas, as well as those who want to develop skills in visual communication for use in diverse fields.

Information about courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education Program for more information.

Program Requirements

A total of 66 units is required to complete the major. All courses must be taken for a letter grade.

Core Studio Courses

- CNTV 101 Reality Starts Here Units: 2
- CTCS 150gw Visions of Diversity in the Cinematic Arts Units: 4
- IML 201 The Languages of Digital Media Units: 4
- IML 202 Media Arts and Practice Studio I Units: 4
- IML 203 Media Arts and Practice Studio II Units: 4
- IML 295Lm Race, Class and Gender in Digital Culture Units: 4
- IML 310 Professionalism for Media Arts Units: 2
- IML 346 Methods in Digital Research Units: 2
- IML 440 Thesis Project Units: 4
- IML 466 Digital Studies Symposium Units: 2

Platform-Specific Courses

- IML 230 Fundamentals of Media Design Units: 4
- IML 288 Critical Thinking and Procedural Media Units: 4
- IML 300 Reading and Writing the Web Units: 4
- IML 328 Sonic Media Art Units: 2
- IML 335 Digital Narrative Design I Units: 2
- IML 354 Introduction to 3-D Modeling Units: 2

Choose 8 units from the following courses:

- IML 400 Creative Coding for the Web Units: 4
- IML 404 Tangible and Spatial Computing Units: 4
- IML 428 Exploring and Creating Sonic Environments Units: 4
- IML 430 Visual Communication and Experience Design Units: 4
- IML 435 Digital Narrative Design II Units: 4
- IML 436 Hypercinemas Studio Units: 4
- IML 454 Advanced Techniques of Spatial Representation Units: 4
- IML 481 Mixed Realities: Histories, Theories and Practices Units: 4

Media Arts Electives

This requirement allows students to expand their inquiry into media arts as a discipline. Choose 8 units from the following courses:

- IML 309 Integrative Design for Mobile Devices Units: 4
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 340 Remixing the Archive Units: 4
- IML 365 Future Cinema Units: 4
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 419 Emotion in Digital Culture Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 422 Information Visualization Units: 4
- IML 450 Critical Play and Documentary Games Units: 4
- IML 456 Nature, Design and Media Units: 2
- IML 458 The Embedded Story: Designing Digital Landscapes and Languages Units: 2
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- IML 499 Special Topics Units: 2, 3, 4

Additional Requirements

Thesis Sequence

The media arts and practice major culminates in a digital thesis project that students research, develop and construct during their senior year. These projects will engage a key issue faced by contemporary media arts practitioners and will represent the convergence of conceptual excellence and digital innovation.

Grade Point Average Requirements

A minimum grade of C (2.0) must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not satisfy a major requirement.

Curriculum Review

Media arts and practice majors are expected to meet with an academic adviser every semester to review their progress. Contact the Media Arts and Practice program at map@cinema.usc.edu for an appointment.

Graduate Certificate

Digital Media and Culture Graduate Certificate

Contemporary scholarship is undergoing profound shifts as new technologies alter how scholars interact, conduct research, author and visualize their work, as well as how they teach. The certificate program in digital media and culture explores the shifting nature of scholarly expression, pedagogical practice and research in the 21st century, combining seminars with hands-on, lab-based workshops in order to facilitate sophisticated critical thinking and practice in and through multimedia.

Open to graduate students interested in emerging modes of creative, networked and media-rich scholarship, the program seeks to provide participants with a sophisticated conceptual framework for considering the emerging landscape of scholarship in the digital age, as well as a broad overview of contemporary scholarly multimedia as it intersects with media art, information design, interactive media and communication studies.

Program Requirements

A total of 12 units is required to complete the graduate certificate.

Introductory Courses

Choose one of the following courses:

- IML 500 The Praxis of Sonic and Visual Media Units: 4
- IML 501L Digital Media Authorship and the Archive Units: 4

Elective Courses

Choose 8 units from the following courses:

- IML 502 Techniques of Information Visualization Units: 4
- IML 520 Non-Fiction Cinematic Practice I Units: 2
- IML 521 Non-Fiction Cinematic Practice II Units: 2
- IML 535 Tactical Media Strategies Units: 4
- IML 543 Transdisciplinary Media Design Practicum Units: 4
- IML 555 Digital Pedagogies Units: 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4
- IML 585 Creative Critical Writing Workshop Units: 2
- IML 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- IML 599 Special Topics Units: 2, 3, 4
- IML 605 Cinema to Post-Cinema and Beyond: History, Theory, Practice Units: 4

Doctoral Degree

Cinematic Arts (Media Arts and Practice) (PhD)

The PhD in Media Arts and Practice program offers a rigorous and creative environment for scholarly innovation as students explore the intersection of design, media and critical thinking while defining new modes of research and scholarship for the 21st century. Core to the program is its transdisciplinary ethos; after completing foundational course work, students design their own curricula, drawing on expertise across all divisions and research labs within the School of Cinematic Arts.

Admission

A bachelor's or master's degree in media arts, or a closely related field, is required for admission to the PhD program. In addition to submitting an application to USC Graduate Admissions, applicants for the PhD must submit the supplemental application and materials to the Media Arts and Practice Division. For specific instructions, contact the School of Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 840-8358, or online at cinema.usc.edu/imap.

Course Requirements

Each PhD candidate must complete 64 units beyond the bachelor's degree, exclusive of IML 794a, IML 794b, IML 794c, IML 794d, IML 794z. (Up to 28 units may be transferred from graduate work completed at other institutions.) At least two-thirds of the units applied towards the degree (including transfer work and not including IML 794a, IML 794b, IML 794c, IML 794d, IML 794z) must be at the 500 level or higher. The required units will include 8 to 16 units in a minor area. The minor will be chosen by the student in close consultation with the adviser and will be in an academic field that supports the student's dissertation topic and project. Each student must complete the following course work:

1. IML 600 4, IML 601 4, IML 602 4, IML 603 1, IML 604 4, IML 605 4. These courses should be taken before the screening procedure.
2. At least 8 units in theory based course work within Cinematic Arts.
3. At least 14 units in practice-based course work within Cinematic Arts. Courses outside of Cinematic Arts will be considered for approval by the student's adviser. The above courses should be taken before the qualifying exam.
4. At least 4, but no more than 8 units of IML 794a 2, IML 794b 2, IML 794c 2, IML 794d 2, IML 794z 0.

Screening Procedure

The Graduate School requires that programs administer an examination or other procedure at a predetermined point in the student's studies as a prerequisite to continuation in the doctoral program. The screening procedure in the School of Cinematic Arts is designed to review the student's suitability for continuing in the chosen PhD program. Two separate screening procedures will measure a student's progress at two points in their work toward the degree. The first screening will occur no later than the end of the student's third semester of graduate course work beyond the master's degree or after 46 units of graduate work beyond the bachelor's degree. The second screening will occur no earlier than one-half of a semester following the first screening. The screening procedure process will include the following steps:

1. **First screening.** Prior to the first screening, the student will select a faculty adviser and formulate a provisional course of study. At the first screening, the student will be interviewed and his or her progress in the program will be reviewed by the faculty to determine if the student will be approved for additional course work. Following a successful first screening, the student, in consultation with the faculty adviser, will formally establish a five-member qualifying exam committee. The composition of the qualifying exam committee will be as specified by the Graduate School. For the PhD in Cinematic Arts (Media Arts and Practice), the committee is ordinarily composed of five faculty members with familiarity with the Media Arts and Practice program.
2. **Second screening.** Working closely with the faculty adviser, the student will prepare to present his or her qualifying exam fields and associated bibliographies and mediographies as well as a dissertation project proposal, to a subcommittee of Media Arts and Practice faculty. This will be a formal written proposal detailing the proposed topic, three fields for examination derived from the general dissertation topic area. Formal presentation of the dissertation project proposal will occur no later than the end of the semester prior to taking the qualifying examinations. The qualifying exam committee must approve the dissertation topic.

Qualifying Exam Committee

Following a successful screening procedure, the student, in consultation with the qualifying exam committee chair and the Media Arts and Practice faculty, will formally establish a five-member qualifying exam committee. The composition of the qualifying exam committee will be as specified by the Graduate School. For the PhD in Cinematic Arts (Media Arts and Practice), the committee is ordinarily composed of four cinematic arts faculty members and an outside member from the candidate's minor area.

Foreign Language Requirement

The Cinematic Arts faculty will advise each student as to whether or not a foreign language is required. This requirement is determined by the student's dissertation topic. The requirement must be met at least 60 days before the qualifying examination.

Qualifying Examinations

Written and oral examinations for the PhD are given twice a year, generally in November and April. Questions for the written portion of the examination will be drafted by members of the qualifying exam committee who will also assess the examination. The qualifying examination comprises three examinations administered one day each for three days over a five-day period. The oral examination will be scheduled within 30 days after the written examination. All qualifying exam committee members must be present for the oral portion of the qualifying examination.

Admission to Candidacy

A student is eligible for admission to candidacy for a PhD degree after: (1) passing the second screening procedure; (2) presenting the dissertation proposal and having it approved; (3) satisfying the language requirement, if applicable, (4) completing at least 24 units in residence; and (5) passing the written and oral portions of the qualifying examination. Admission to candidacy is by action of the Associate Vice Provost for Graduate Programs.

Dissertation Committee

The dissertation committee is composed as specified by regulations of the Graduate School. A dissertation project based on original investigation and showing technical mastery of a special field, capacity of research and scholarly ability must be submitted.

IML 794

Registration for dissertation units, IML 794a IML 794b, in the two semesters following admission to candidacy is the minimum requirement. These units cannot be applied towards the required 64 unit total. The student must register for IML 794a, IML 794b, IML 794c, IML 794d, IML 794z each semester after admission to candidacy until the degree requirements are completed. No more than 8 units of credit can be earned in IML 794a, IML 794b, IML 794c, IML 794d, IML 794z.

Defense of Dissertation

An oral defense of the dissertation is required of each PhD candidate. The dissertation committee will decide whether the examination is to take place after completion of the preliminary draft or the final draft of the dissertation. The oral defense must be passed at least one week before graduation.

Policies

The following policies apply to each student admitted to the PhD program.

Residency Requirements

At least one year of full-time graduate study (24 units excluding registration for IML 794a, IML 794b, IML 794c, IML 794d, IML 794z) must be completed in residence on the main USC campus. The residency requirement may not be interrupted by study elsewhere. Residency must be completed prior to the qualifying examination.

Grade Point Average

An overall GPA of 3.0 is required for all graduate work. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Leave of Absence

A leave of absence may be granted under exceptional circumstances by petitioning the Graduate School the semester before the leave is to be taken.

Change of Committee

Changes to either the qualifying exam or dissertation committee must be requested on a form available from the Graduate School.

Completion of All Requirements

Everything involved in approving the dissertation must be completed at least one week before graduation. Approval by the dissertation committee, the Office of Academic Records and Registrar, and the thesis editor must be reported on the triple card and submitted to the Graduate School by the date of graduation.

Time Limits

The maximum time limit for completing all requirements for the PhD degree is eight years from the first course at USC applied toward the degree. Students who have completed an applicable master's degree at USC or elsewhere within five years from the proposed enrollment in a PhD program must complete the PhD in six years. Extension of these time limits will be made only for compelling reasons upon petition by the student.

When petitions are granted, students will be required to make additional IML 794a IML 794b IML 794c IML 794d IML 794z registrations. Course work more than 10 years old is automatically invalidated and cannot be applied toward the degree.

The Peter Stark Producing Program

Master's Degree

Producing for Film, Television, and New Media (MFA)

The Peter Stark Producing Program is a two-year (four semester) full-time graduate program.

Approximately 24 Peter Stark Program students are enrolled each fall (there are no spring admissions). The curriculum places equal emphasis on the creative and the managerial, to enhance and develop artistic skills and judgment while providing a sound background in business essentials. Each course is continually updated to ensure that the Stark program remains responsive to the needs of our students and the ever-changing film, television and new media landscape, and prepare students for careers as creative decision-makers in those fields.

A minimum of 44 units of 500-level courses is required for the Peter Stark Producing Program leading to the MFA degree. There are no electives; all Stark students take the same classes at the same time in a mandated sequence. In CMPP 541a and CMPP 541b, first-year students get hands-on filmmaking experience, working on collaborative projects in different roles. Projects are shot and edited digitally. Equipment is provided by the school.

The thesis completion requirement is a detailed plan for a film, documentary, television or webseries project comprising a developed script and notes for improvement, a schedule, budget assumptions and a marketing/distribution plan.

Industry experience is an essential component of the Peter Stark Program academic experience; it enhances both their course work and thesis research project. To facilitate as much industry experience as possible, the program endeavors to leave two free days in the students' first year course schedule, and holds all second-year classes in the evening. The Peter Stark Program requires 2,800 hours of entertainment industry internships or work experience over the two-year program, including in the summer semester between the first and second year. Students look for internships, per their own interests. In addition, though the Stark Program cannot guarantee it can procure internships, it does ongoing semester-by-semester internship advocacy for the students at many companies including studios, networks, production companies, and agencies. The Stark Program grants exceptions to the internship/work experience requirement on a case-by-case basis for other equivalent forms of industry experience that may better fit a student's individual career goals – producing projects for film, television or new media, writing or developing screenplays – as long as the student completes at least one internship. At all times, students must attend all classes and maintain a minimum 3.0 GPA.

During the second year, Peter Stark Producing Program students have an opportunity to initiate and produce a 20-minute short film financed by the program. Projects are selected on a competitive basis. Films must be produced by a Stark student or team of two Stark students. Each team has a professional adviser available as needed.

Inquiries regarding the program should be addressed to: The Peter Stark Program, USC School of Cinematic Arts, University Park, Los Angeles, CA 90089-2211. Telephone (213) 740-3304 or email *pstark@cinema.usc.edu*.

Two-Year Requirements for the MFA in Producing for Film, Television, and New Media

Year One, First Semester

- CMPP 541a Producing Workshop Units: 4
- CMPP 548 Introduction to Producing for Television Units: 2
- CMPP 550 Script Analysis for the Producer Units: 2
- CMPP 563 Producing Symposium Units: 1
- CMPP 589a Graduate Film Business Seminar Units: 3

Total units: 12

Year One, Second Semester

- CMPP 541b Producing Workshop Units: 4
- CMPP 560 Script Development Units: 2
- CMPP 568 Producing for Television Units: 2
- CMPP 589b Graduate Film Business Seminar Units: 4

Total units: 12

Year Two, First Semester

- CMPP 561 Motion Picture and Television Marketing Units: 2
- CMPP 565 Scheduling and Budgeting Units: 4
- CMPP 566 Finance Units: 2
- CMPP 571 Producing the Screenplay Units: 2

Total units: 10

Year Two, Second Semester

- CMPP 564 Digital Media and Entertainment Units: 2
- CMPP 569 Seminar on Non-Mainstream Producing Units: 2
- CMPP 570 Advanced Television Units: 2
- CMPP 592 Individual Project Seminar Units: 4

Total units: 10

Grade Point Average Requirement

An overall GPA of 3.0 (A = 4.0) is required for graduation. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate course. A grade of C-, D or F in any course may be cause for termination.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The degree must be completed three years after the beginning of graduate work at USC.

The John Wells Division of Writing for Screen and Television

Bachelor's Degree

Writing for Screen and Television (BFA)

The Bachelor of Fine Arts in Writing for Screen and Television is a unique, four-year program for students who seek intensive professional preparation for a career in screen and television writing. This rigorous program emphasizes small, workshop-style classes, and attracts students from all over the world. Students attend a variety of guest speaker presentations, take high-level industry internships, are provided with mentors and taught by world-class professors.

Each fall, a class of 30 undergraduate writing students is selected to begin the program. A total of 128 units is required for completion of the Bachelor of Fine Arts degree; 70 of these units are taken in a prescribed sequential order. There are no spring admissions.

Applicants must submit supplemental application and materials to the program office. For specific instructions, contact The John Wells Division of Writing for Screen and Television, University Park, Los Angeles, CA 90089-2211 or telephone (213) 740-3303, or online at cinema.usc.edu.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

Required Production Courses

Undergraduate writing students are required to take CTPR 290 Cinematic Communication. This introductory production course is taken during the sophomore year.

CTPR 290 introduces the interrelationship of visuals, sound and editing in cinematic communication. Students participate in directing and producing workshops as well as individual and group projects. Approximately $1,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

Four-Year Major Requirements (70 units)

Year One, First Semester

- CNTV 101 Reality Starts Here Units: 2
- CTCS 190g Introduction to Cinema Units: 4
- CTPR 409 Practicum in Television Production Units: 1, 2, 4
- CTWR 100g Story: Character, Conflict, and Catharsis Units: 4

Total units: 12

Year One, Second Semester

- CTCS 150gw Visions of Diversity in the Cinematic Arts Units: 4
- CTCS 191 Introduction to Television and Video Units: 4 or
- CTCS 192gm Race, Class, and Gender in American Film Units: 4 or
- CTCS 201 History of the International Cinema II Units: 4
- CTWR 250 Breaking the Story Units: 2
- CTWR 321 Introduction to Hour-Long Television Writing Units: 2

Total units: 12

Year Two, First Semester

- CTPR 290 Cinematic Communication Units: 4, 6 (6 units only)
- CTWR 206a Writing the Screenplay Units: 4
- CTWR 416 Motion Picture Script Analysis Units: 2

Total units: 12

Year Two, Second Semester

- CTWR 206b Writing the Screenplay Units: 4
- CTWR 411 Television Script Analysis Units: 2
- CTWR 421 Writing the Hour-Long Dramatic Series Units: 2 or
- CTWR 434 Writing the Half-Hour Comedy Series Units: 2

Total units: 8

Year Three, First Semester

- CTWR 305 Advanced Screenwriting: The Relationship Screenplay Units: 4
- CTWR 437 Writing the Original Situation Comedy Pilot Units: 4 or
- CTWR 439 Writing the Original Dramatic Series Pilot Units: 4

Total units: 8

Year Three, Second Semester

- CTWR 449 Rewriting the Original Dramatic Series Pilot Units: 4
  or
- CTWR 453 Advanced Feature Rewriting Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
  or
- CTCS 407 African American Cinema Units: 4 or
- CTCS 411 Film, Television and Cultural Studies Units: 4 or
- CTCS 412 Gender, Sexuality and Media Units: 4 or
- CTCS 414 Latina/o Screen Cultures Units: 4 or
- CTCS 417 African American Television Units: 4 or
- CTCS 464 Film and/or Television Genres Units: 4 or
- CTCS 469 Film and/or Television Style Analysis Units: 4

Total units: 8

Year Four, First Semester

- CTWR 418a Senior Thesis Units: 4 or
- CTWR 419a Senior Thesis in Dramatic Television Units: 4 or
- CTWR 420a Senior Thesis in Half-Hour Television Comedy Units: 4

Total units: 4

Year Four, Second Semester

- CTWR 418b Senior Thesis Units: 4 or
- CTWR 419b Senior Thesis in Dramatic Television Units: 4 or
- CTWR 420b Senior Thesis in Half-Hour Television Comedy Units: 4
- CTWR 459a Entertainment Industry Seminar Units: 2

Total units: 6

Electives

Suggested electives in Cinematic Arts include:

- CTWR 404 Foundations of Comedy Units: 2
- CTWR 407 Creating the Comedic Character Units: 2
- CTWR 410L Character Development and Storytelling for Games Units: 4
- CTWR 417 Script Coverage and Story Analysis Units: 2
- CTWR 422 Creating the Dramatic Television Series Units: 2
- CTWR 430 Comedy Writers and Their Work Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2 max 6
- CTWR 432 Television Writers and Their Work Units: 2 max 6
- CTWR 433 Adaptations: Transferring Existing Work to the Screen Units: 2
- CTWR 435 Writing for Film and Television Genres Units: 2, 3, 4 max 8
- CTWR 437 Writing the Original Situation Comedy Pilot Units: 4 max 8
- CTWR 438 Linked Narrative Storytelling for the Web Units: 2, 4

- CTWR 439 Writing the Original Dramatic Series Pilot Units: 4 max 8
- CTWR 449 Rewriting the Original Dramatic Series Pilot Units: 4 max 8
- CTWR 468 Screenwriting in Collaboration Units: 4 max 8
- CTWR 477 Staff Writing the Sketch Comedy Show Units: 2 max 6
- CTWR 487 Staff Writing the Multi-Camera Television Series Units: 4 max 8
- CTWR 497 Staff Writing the Single-Camera Half-Hour Series Units: 4 max 8
- CTWR 499 Special Topics Units: 2, 3, 4 max 8

Grade Point Average Requirements

A minimum grade of C (2.0) must be earned in all required and prerequisite courses (a grade of C- (1.7) or lower will not fulfill a major requirement).

Master's Degree

Writing for Screen and Television (MFA)

The Master of Fine Arts degree in Writing for Screen and Television, is an intensive two-year degree program that concentrates on writing for narrative film and television. During the course of their studies, students benefit from a wide array of internship and mentorship opportunities available as a result of the university's close links to the Los Angeles film industry's top screenwriters, directors, production companies and studios.

Course work includes practical instruction in everything a working writer needs to learn about the filmmaker's art and craft. Writing is taught in small workshop-style classes. The approach focuses on the visual tools of storytelling, developing stories from characters and then on an Aristotelian three act structure. Fractured narratives, ensemble stories, experiments with time and points of view, as well as other idiosyncratic styles of storytelling, are also addressed. The curriculum covers other professional concerns, including legal issues, agents and the Writer's Guild, as well as the history and analysis of cinema and television. Classes are taught by working writers with a wide variety of skills, experience and approaches.

Each fall 32 students are selected to begin the Graduate Writing for Screen and Television Program; there are no spring admissions. Applicants must submit a supplemental application and materials to the Graduate Writing for Screen and Television Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

A total of 44 units is required. A minimum of 30 units must be 500-level or above.

Required Courses (34 units)

Year One, First Semester

- CTWR 502 Graduate Writing Symposium Units: 1
- CTWR 513 Writing the Short Script Units: 2
- CTWR 514a Basic Dramatic Screenwriting Units: 2
- CTWR 521 Advanced Hour-Long Television Drama Units: 2 or
- CTWR 534 Advanced Half-Hour Television Comedy Units: 2
- CTWR 572 Practicum in Directing Actors for Film Units: 2 or 4

Total units: 9

Year One, Second Semester

- CTWR 514b Basic Dramatic Screenwriting Units: 2
- CTWR 516 Advanced Motion Picture Script Analysis Units: 2
- CTWR 537 Advanced Half-Hour Comedy Series Pilot Units: 4 or
- CTWR 539 Advanced Hour-Long Drama Series Pilot Units: 4
- CNTV 530 Cinematic Ethics Units: 1

Total units: 9

Year Two, First Semester

- CTWR 515a Practicum in Screenwriting Units: 4 or
- CTWR 517a Thesis in Half-Hour Television Comedy Units: 4 or
- CTWR 519a Thesis in Television Drama Units: 4
- CTWR 559 The Business of Writing for Screen and Television Units: 2

Total units: 6

Year Two, Second Semester

- CTWR 515b Practicum in Screenwriting Units: 4 or
- CTWR 517b Thesis in Half-Hour Television Comedy Units: 4 or
- CTWR 519b Thesis in Television Drama Units: 4

Total units: 4

Note:

A minimum of 2 units of course work with a production component is required.

Courses with a Production Component (2 Units)

- CTWR 438 Linked Narrative Storytelling for the Web Units: 2, 4
- CTWR 477 Staff Writing the Sketch Comedy Show Units: 2
- CTWR 487 Staff Writing the Multi-Camera Television Series Units: 4
- CTWR 497 Staff Writing the Single-Camera Half-Hour Series Units: 4
- CTAN 448 Introduction to Film Graphics — Animation Units: 4
- CTIN 501 Interactive Cinema Units: 2
- CTPR 476 Directing The Comedic Scene Units: 2
- CTPR 479 Straight to Series: Development of Episodic TV Drama Units: 2
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 504 Fundamentals of Production Units: 4
- CTPR 507 Production I Units: 4

Note:

A minimum of 4 units of cinema and media studies course work is required.

CTCS Courses (4 Units)

- CTCS 417 African American Television Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 501 World Cinema Before 1945 Units: 2
- CTCS 502 World Cinema After 1945 Units: 2
- CTCS 503 Survey History of the United States Sound Film Units: 2
- CTCS 504 Survey of Television History Units: 2
- CTCS 505 Survey of Interactive Media Units: 2
- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4 max 12
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 569 Seminar in Film and Television Authors Units: 4
- CTCS 587 Seminar in Television Theory Units: 4

Electives (10 units)

Students may choose from the following electives to complete their degree. Additional courses beyond the required 4 units of CTCS course work, from the cinema and media studies list of courses, may be taken as electives, as can additional courses from the list of courses with a production component. Electives outside of cinematic arts are available with departmental approval.

Electives

- CTWR 404 Foundations of Comedy Units: 2
- CTWR 407 Creating the Comedic Character Units: 2
- CTWR 411 Television Script Analysis Units: 2
- CTWR 417 Script Coverage and Story Analysis Units: 2

- CTWR 430 Comedy Writers and Their Work Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2 max 6
- CTWR 432 Television Writers and Their Work Units: 2 max 6
- CTWR 499 Special Topics Units: 2, 3, 4 max 8
- CTWR 518 Introduction to Interactive Writing Units: 2
- CTWR 526 Advanced Storytelling for Interactive Media Units: 2
- CTWR 541 Dreams, the Brain, and Storytelling Units: 2
- CTWR 555 Pitching for Film and Television Units: 2
- CTWR 557 Seminar in the Business of Writing and Producing Television Units: 2
- CTWR 560 Advanced Business Practices for Writers Units: 2
- CTWR 599 Special Topics Units: 2, 3, 4 max 8
- CNTV 595 Professional Practicum Units: 1, 2, 4 max 8
- CTAN 436 Writing for Animation Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 488 Game Design Workshop Units: 4
- CTIN 558 Business of Interactive Media Units: 2
- CTPR 486 Straight to Series: Production of Episodic TV Drama Units: 4
- CTPR 506 Visual Expression Units: 2

Writing Intensive Electives

- CTWR 410L Character Development and Storytelling for Games Units: 4
- CTWR 433 Adaptations: Transferring Existing Work to the Screen Units: 2
- CTWR 435 Writing for Film and Television Genres Units: 2, 3, 4 max 8
- CTWR 468 Screenwriting in Collaboration Units: 4 max 8
- CTWR 520 Advanced Scene Writing Workshop Units: 2
- CTWR 522 Advanced Hour-Long Television Development Units: 2
- CTWR 549 Advanced Rewriting Workshop in Hour-Long Drama Units: 4
- CTWR 550 Advanced Story Development Units: 2
- CTWR 553 Advanced Rewriting Workshop Units: 4
- CTWR 585 Advanced Genre Writing Units: 2 or 4 max 8

Note:

Courses listed as writing intensive electives are considered heavy writing classes; students may take a maximum of three courses and 10 units of writing intensive courses per semester, required and/or elective.

Additional Requirements

Grade Point Average Requirement

An overall grade point average of 3.0 (A = 4.0) must be maintained in all courses. In addition, an overall grade point average of 3.0 in all units attempted is required to qualify for registration in CTWR 515a, CTWR 515b, CTWR 517a, CTWR 517b or CTWR 519a, CTWR 519b. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

In lieu of a thesis the student is required to either complete a full-length screenplay, which will be developed in CTWR 515a, CTWR 515b; or a pilot script and a series bible for a half-hour television comedy, which will be developed in CTWR 517a, CTWR 517b; or an original one-hour drama television pilot, mid-season episode and series bible, which will be developed in CTWR 519a, CTWR 519b; this final work must be accepted by the Division of Writing Graduation Committee.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The time limit to complete all requirements is three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is automatically invalidated and may not be applied toward the degree.

Graduate Certificate

Writing for Screen and Television Certificate

The Writing for Screen and Television Certificate is awarded for one year of study.

Applicants must be recognized writers outside of the field of screenwriting.

The course of study is no less than 16 units total, over two semesters. Writers, both U.S. and international, should appeal directly to the chair for admission in the fall semester.

Admission is granted to only one or two scholars a year, and is of the highest selectivity. Applicants must have earned an undergraduate degree with at least a 3.0 GPA. Additionally, candidates must show compelling reason for not applying to a formal degree program.

The general course of study is as follows:

First Semester

- CTWR 513 Writing the Short Script Units: 2
- CTWR 514a Basic Dramatic Screenwriting Units: 2

  or
- CTWR 515a Practicum in Screenwriting Units: 4
- CTWR 516 Advanced Motion Picture Script Analysis Units: 2
- CTWR 572 Practicum in Directing Actors for Film Units: 2 or 4

Total units: 8

Second Semester

- CTPR 536 Editing for Scriptwriters Units: 2
- CTWR 514b Basic Dramatic Screenwriting Units: 2

  or
- CTWR 515b Practicum in Screenwriting Units: 4

  CTWR Electives

Total units: 8

USC Bovard College

USC Bovard College graduate programs are designed to provide professionals with specialized knowledge and skills to advance their careers in a student-centered and supportive learning environment. Our graduate programs include an MS in Criminal Justice, an MS in Hospitality and Tourism, an MS in Human Resource Management, and an MS in Project Management, which were designed by some of the most influential minds in their respective professions.

Founded in 2015, the USC Bovard College is proudly named after Emma Bovard, one of the first students to enroll at USC in 1880 and an early advocate for equal access to quality educational opportunities. In addition to providing rigorous graduate programs for professionals in flexible, convenient formats, USC Bovard College supports individuals during key academic and career transitions through programs such as USC Summer Programs and USC Bovard Scholars.

USC Bovard College
1150 S. Olive Street, Suite 300
Los Angeles, CA 90015
(213) 821-3000
info@bovardcollege.usc.edu

Administration
Anthony Bailey, *Dean*
John Keim, *Chief Academic Officer*
Gregory Vigil, *Chief Operating Officer*
Shamir Patel, *Director of Admissions*

Master's Programs

Admissions Overview

USC Bovard College completes a comprehensive review of all applications. We do not use a formula. Successful applicants will have demonstrated academic and professional success.

Applicants must have:

- A bachelor's degree from a regionally accredited college or university, or foreign equivalent.
- For international applicants, a valid score on the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Pearson Test of English (PTE).

Application Materials

Complete and submit your Graduate Admissions Application online. Within the application, you will need to provide the following application materials:

- **Résumé**: Up-to-date professional résumé or curriculum vitae
- **Letters of Recommendation**: 2-3 letters of recommendation
- **Statement of Purpose**: 1-2 page essay addressing why you are pursuing this degree, how this program will help you in your career, and why the program at USC is a good fit for you
- **Transcripts**: Open, scan and upload official transcripts from each undergraduate institution you have attended directly to the application portal. Additional information on transcript submission can be found at https://bovardcollege.usc.edu/submitting-transcripts-what-you-need-to-know/.

Submit your application with a $90 application fee. Fee waiver eligibility information is located at https://gradadm.usc.edu/lightboxes/us-students-fee-waivers/.

Master's Degree

Criminal Justice (MS)

The Master of Science in Criminal Justice program is designed to prepare professionals to advance in their careers in the field of criminal justice. The program emphasizes the skills and evidence-based principles that shape effective criminal justice leaders.

In addition to foundational theories of criminology and criminal justice, students will explore policy design and implementation and emerging trends in the field. Students will learn to evaluate research and use statistical data to assess the efficacy of policies and practices in criminal justice. Students will also analyze emerging evidence-based practices in criminal investigations, corrections and community supervision, including the use of technology, restorative justice and multinational crime. Vulnerable populations, implicit bias, ethics and diversity are themes woven throughout the program. Courses in leadership development and organizational change will help students develop leadership skills within the context of criminal justice organizations. The program will enable students to develop the critical knowledge, skills and abilities needed to become ethical and skilled decision-makers in the various branches of criminal justice.

Required Courses

- CJ 500 Criminology Units: 2
- CJ 505 Analysis of Criminal Justice Systems Units: 2
- CJ 510 Criminal Justice Leadership Units: 2
- CJ 515 Applied Research Methods for Criminal Justice Units: 2
- CJ 520 Applied Statistics and Data Analysis in Criminal Justice Units: 2
- CJ 525 Ethical Decision-Making in Criminal Justice Units: 2
- CJ 530 Organizational Change in Criminal Justice Units: 2
- CJ 535 Youthful Offenders Units: 2
- CJ 540 Criminal Justice Policy and Program Development Units: 2
- CJ 545 Criminal Investigations Units: 2
- CJ 550 Corrections and Community Supervision Units: 2
- CJ 555 Making a Difference in Criminal Justice Units: 2

Hospitality and Tourism (MS)

The Master of Science in Hospitality and Tourism program will prepare students to advance their careers in the hospitality and tourism industry. Students will gain knowledge and skills related to service quality management, marketing, revenue management, human resource management, events and tourism development in the hospitality and tourism industry. Courses throughout the program address topics such as globalization, diversity and innovations in a variety of hospitality and tourism sectors. Sustainability and ethical practices are core themes explored throughout the program.

Our program also equips students with skills and knowledge to lead and innovate through disruption. Students will be prepared to take on industry changes as they progress through their career.

Additionally, students will learn how to make evidence-based decisions and plans for improvement through courses in financial management, data analytics, and applied research methods specific to the hospitality and tourism industry. The program culminates in a capstone course in which students directly apply the knowledge and skills they gained throughout the program to address an opportunity for innovation within a hospitality and tourism business or organizational unit.

Required Courses

- HT 500 Global Hospitality and Tourism Units: 2
- HT 505 Managing Service Quality in Hospitality and Tourism Units: 2
- HT 510 Marketing Strategies for Hospitality and Tourism Units: 2
- HT 515 Financial Management in Hospitality and Tourism Units: 2
- HT 520 Revenue Management for Hospitality and Tourism Units: 2
- HT 525 Ethics in Hospitality and Tourism Units: 2
- HT 530 Strategic Human Resources in Hospitality and Tourism Units: 2
- HT 535 Applied Research Methods for Hospitality and Tourism Units: 2
- HT 540 Hospitality and Tourism Data Analytics Units: 2
- HT 545 Tourism Development Units: 2
- HT 550 Hospitality and Tourism Events Units: 2
- HT 555 Hospitality and Tourism Capstone Units: 2

Human Resource Management (MS)

The Master of Science in Human Resource Management program is designed to prepare professionals to advance their careers in the field of human resources (HR). The program emphasizes the strategic role that human resources plays in the performance of global organizations, providing students with the knowledge and skills needed to be effective partners.

In addition to core HR principles, students examine the full spectrum of human capital management concepts, including talent acquisition and retention, employee motivation, change management, and organizational culture. Students will learn about key HR processes, including talent management, total rewards, performance management, learning and development, employee relations, and HR analytics. Finally, students will explore key topics that are increasingly important to HR, including managing in a global context, diversity and inclusion, principled leadership, HR technology, and corporate social responsibility.

Required Courses

- HRM 500 Human Resource Strategy Units: 2
- HRM 505 Organizational Culture and Employee Outcomes Units: 2
- HRM 510 Leadership in Human Resources Units: 2
- HRM 515 Organization Design Units: 2
- HRM 520 Talent Management Units: 2
- HRM 525 Total Rewards Units: 2
- HRM 530 Learning and Development Units: 2
- HRM 535 Employee Relations Units: 2
- HRM 540 Human Resources Analytics Units: 2
- HRM 545 Management of Diverse and Global Human Resources Units: 2
- HRM 550 Change Management and Organization Development Units: 2
- HRM 555 Anticipating the Future of Human Resources Units: 2

Project Management (MS)

The Master of Science in Project Management program is designed to prepare professionals to advance their careers in the field of project management (PM). This program emphasizes the strategic role that project management plays in the performance of global organizations, providing students with the knowledge and skills needed to be effective leaders.

In addition to core PM principles, students explore the full spectrum of project management concepts and methodologies, including portfolio and program management, technical project delivery, Agile and change management. Students will learn about business relationship elements, including effective communication, negotiation, organizational culture and conflict resolution. Essential management processes such as performance, quality, risk, cost and budget are also examined and applied to real-world projects. The program encourages immediate application of key concepts learned to address workplace challenges and opportunities.

Required Courses

- PJMT 500 Principles of Project Management Units: 2
- PJMT 505 Requirements Elicitation and Business Analysis Units: 2
- PJMT 510 Schedule Management Units: 2
- PJMT 515 Cost Estimation and Forecasting Units: 2
- PJMT 520 Risk Management Units: 2
- PJMT 525 Agile Project Management Methodologies Units: 2
- PJMT 530 Quality and Process Improvement Units: 2
- PJMT 535 Specialized Project Management Units: 2
- PJMT 540 Organizational Change Management and Business Relationships Units: 2
- PJMT 545 Program Management Units: 2
- PJMT 550 Portfolio Management Units: 2
- PJMT 555 Project Management Capstone Units: 2

USC Dornsife College of Letters, Arts and Sciences

The USC Dornsife College of Letters, Arts and Sciences is the academic heart of the University of Southern California. The oldest, largest and most diverse of USC's academic divisions, USC Dornsife comprises more than 8,000 undergraduate and graduate students and nearly 900 faculty. The breadth and depth of USC Dornsife is vast with more than 40 academic departments and programs across the humanities, social sciences and natural sciences, and dozens of research centers and institutes.

USC Dornsife fosters the liberal arts ethos of small classes and close working relationships between students and faculty within the context of a premier research university, where internationally recognized scholars continuously pursue new ventures. Undergraduates select from more than 150 courses of study and explore opportunities such as overseas studies, service-learning and internships. With approximately 50 doctoral degree and master's programs administered through the USC Graduate School, USC Dornsife not only trains the next generation of scholars, but also ensures that America's research enterprise remains competitive.

By immersing its students in deep scholarship and discovery-based learning opportunities, USC Dornsife prepares its graduates to become tomorrow's leaders, prepared to succeed in any field or advanced degree program.

Administration

Amber D. Miller, PhD, *Dean and Anna H. Bing Dean's Chair*
Stephen Bradforth, PhD, *Divisional Dean for Natural Sciences and Mathematics*
Steven Finkel, PhD, *College Dean of Graduate and Professional Education*
Andrew Lakoff, PhD, *Divisional Dean for Social Sciences*
Peter Mancall, PhD, *Divisional Dean for the Humanities*
Andrew Stott, PhD, *College Dean of Undergraduate Education*
Lance Ignon, *Senior Associate Dean for Strategic Initiatives and Communication*
Eddie Sartin, *Senior Associate Dean for Advancement*
Kimberly Freeman, *Associate Dean, Chief Diversity Officer*
Renee Perez, *Associate Dean of Operations and Faculty Affairs*
Jeffrey Jones, *Associate Dean for Human Resources*
John Parker, *Associate Dean and Chief Technology Officer*
James McElwain, *College Architect*
Karen Rowan-Badger, *Associate Dean of Admission and Student Services*
Kimberly Allen, *Associate Dean for Graduate Academic Programs*
Jane Cody, PhD, *Associate Dean for Academic Programs*
Richard Fliegel, PhD, *Associate Dean for Undergraduate Programs*
Tammara Anderson, *Associate Dean for Experiential and Applied Learning*

Graduate Studies in Letters, Arts and Sciences

Graduate studies leading to the master's and PhD degrees are available within most departments of USC Dornsife. Candidates for graduate degrees must complete both the departmental requirements listed for each degree and the general requirements set by The Graduate School. In addition to the composition of committees outlined by The Graduate School, USC Dornsife requires that all PhD qualifying exam and dissertation committees contain an outside member. An outside member is considered to be faculty outside the student's program but internal to USC.

Undergraduate Programs

USC Dornsife College of Letters, Arts and Sciences awards the Bachelor of Arts (BA) and the Bachelor of Science (BS) in a number of disciplines. Each degree requires a minimum of 128 units.

Majors

USC Dornsife students may major in a single discipline or combine several interests in an interdisciplinary program.

Selecting a Major

A major may be chosen because the student is especially interested in a subject, because of particular abilities in certain areas or because it is an especially fitting preparation for a profession. The choice of a major may thus become part of planning for a career. But a choice at USC Dornsife does not limit the student to a single career or line of work. Liberal arts majors are unusually adaptable, and the skills learned prepare students for any career they choose.

A student may declare a major at any time but is expected to record his or her major in the Office of Academic Records and Registrar at or before the beginning of the junior year or completion of 64 units. This allows sufficient time to fulfill the course requirements of the major in the student's third and fourth years. For some majors, however, and especially for a major in one of the natural sciences aiming for the BS degree, it is better to declare the major sooner, so the program can be spaced over the full four years.

Changing a Major

If, after a major has been declared, the student wishes to change to a different field (or add another field of study to the existing one), a Change of Major form must be filed. The form may be obtained in the USC Dornsife Advising Office or the Office of Academic Records and Registrar in John Hubbard Hall. The form must be completed and returned to the Office of Academic Records and Registrar. When a major is changed, the new department adviser must sign the form.

Types of Majors and Major Requirements

Departmental Major (BA or BS Degree)

A departmental major for the BA degree consists of specified lower-division courses and, generally, not less than 24 or more than 32 upper-division units in a single department or discipline. A greater concentration of units in a single discipline is usually required in majors for the BS degree than in majors for the BA degree.

The specific requirements for each department major will be found in the departmental sections of this catalogue.

Double Major (BA/BA or BS/BS)

A double major consists of two majors that allow the student to earn the same degree, either a BA or BS degree, at USC Dornsife. The student must complete the requirements for both majors and whatever other course work is needed to complete 128 units. Combinations of interdepartmental and department majors are also possible. See the Undergraduate Degree Programs page for rules governing the overlap of courses allowed for a double major.

Interdepartmental Majors

Humanities or Social Sciences Major (BA Degree)

A humanities or social sciences major consists of not less than 32 upper-division units within departments in the humanities or departments in the social sciences. Of the 32 required upper-division units for the interdepartmental major, 20 are typically taken in one department, and the additional 12 units are taken from applicable courses in the area in which the department of concentration is housed. See the departmental listing for more specific requirements for the interdepartmental major, including lower-division requirements.

Physical Sciences Major (BS Degree)

The departments of Chemistry, Earth Sciences, and Physics and Astronomy offer a physical sciences major in the natural sciences and mathematics. The major requires specific lower-division courses in chemistry, Earth sciences, mathematics and physics. In addition, students must take 28 upper-division units that apply to the major from one of the four departments. Of the 28 required upper-division units, at least 4 units must be taken in each of the four cooperating departments.

Program Major (BA or BS Degree)

USC Dornsife has a number of special programs, many of which offer majors. A program major consists of designated courses, which include not less than 24 upper-division units chosen from the list of courses that make up the program.

Programs are often organized either around the study of a region or a topic that is not specific to any single discipline, or around two or more disciplines that have joined together to deal with a common problem or issue. Program majors are interdisciplinary and offer unusual range to students who have topical interests. Specific requirements for all program majors are listed under the program titles.

Dual Degree

A dual degree is one that includes course work from two schools or two different degree programs within the same school that have been organized into a single program. Listings of graduate dual degrees can be found under Programs, Minors and Certificates. The student receives two diplomas.

Progressive Degree Program

A progressive degree program enables a USC Dornsife undergraduate to begin work on a master's degree while completing requirements for the bachelor's degree. The progressive degree may be in the same or different departments but should be in a closely related field of study. Students in a progressive degree program must fulfill all requirements for both the bachelor's degree and the master's degree, except for the requirement of a specific number of units for the two separate degrees. The master's degree may be awarded at the same time as, but not prior to, the bachelor's degree. The student receives two diplomas. Further details about progressive degrees can be found in the Progressive Degrees section in Undergraduate Degree Programs .

Second Bachelor's Degree

A second bachelor's degree requires a minimum of 32 units beyond the number required for the first bachelor's degree. If the first bachelor's degree was earned at USC, a minimum of 32 units for the second degree must be completed at USC. If the first bachelor's degree was earned at another institution, a minimum of 64 units toward the second degree must be completed at USC. (See the policy on residence requirement for a second bachelor's degree section in Course Work Taken Elsewhere.)

For some degrees, more than the 32 units beyond the first bachelor's degree will be required because all requirements for both degrees must be met. The student receives a separate diploma for each degree upon completion.

The first and second bachelor's degrees may be completed at the same time, but it is not required.

Substitution for Major Requirements

If a student wishes to make an adjustment to the major requirements in his or her department or program, the department adviser may, with the support of the department, substitute a comparable upper-division course for a required one. Substitutions and waivers of USC or transfer courses for upper-division requirements are to be limited to 25 percent. Lower-division courses cannot be substituted for upper-division requirements.

Unit Limitation

No more than 40 upper-division units in the major may be applied to any degree under the jurisdiction of the USC Dornsife College of Letters, Arts and Sciences. A student wishing to exceed this limit must obtain the approval of the major department and the dean of undergraduate programs.

Minors

USC Dornsife offers a wide array of minors that can provide unique breadth and complement or enhance the major field of study. Many of the college minors themselves are interdisciplinary and combine classes in two or more USC Dornsife departments. They may also combine with internships or classes in one of USC's professional schools.

Basic Requirement for a Degree from the USC Dornsife College of Letters, Arts and Sciences

For those undergraduate students earning a degree at USC Dornsife, a minimum of 104 units applicable to the degree must be earned in USC Dornsife academic departments. For students graduating with a minor or a second bachelor's degree, this minimum is reduced to 96 units. For students who are earning a degree in USC Dornsife and also a degree conferred by Dornsife but administered by a professional school, this minimum is reduced to 70 units. Other exceptions will be considered by the dean of undergraduate programs at USC Dornsife.

This policy also applies to transferable courses (see Course Work Taken Elsewhere).

Units Required Each Semester

The student is expected to complete about 16 units each semester; 18 units are generally considered to be the maximum number in a manageable program. If the student wants to enroll in more than 18 units, he or she may do so but first should consult with his or her academic adviser.

Grade Point Average Requirement

A grade point average of at least C (2.0) on all units attempted at USC is required for undergraduate degrees. The college requires a minimum 2.0 grade point average in upper-division courses applied toward the major. Some departments require grades of C or higher in specified courses. A grade point average of at least B (3.0) on all units attempted at USC is required for master's degrees. A grade point average of at least B (3.0) on all units attempted at USC is required for doctoral degrees.

Advising and Academic Services

USC Dornsife Advising Office
Email: cas@dornsife.usc.edu
dornsife.usc.edu/advisement/
Grace Ford Salvatori Hall 315
(213) 740-2534
FAX: (213) 740-3664
Majors Advised:

- Environmental Science and Health
- Environmental Studies
- Forensics and Criminality (minor)
- Health and Human Sciences
- Health and Humanity
- NGOs and Social Change
- Philosophy
- Philosophy, Politics and Law
- Pre-Law
- Sociology

Kaprielian Hall 357
(213) 821-4316
Majors Advised:

- American Studies
- Anthropology
- Archaeology
- Art History
- Astronomy
- Biophysics
- Central European Studies
- Classics
- Comparative Literature
- Contemporary Latino and Latin American Studies
- East Asian Languages and Cultures
- French
- Global Studies
- Italian
- Mathematics
- Middle East Studies
- Physics
- Religion
- Spanish
- Pre-Grad

Hancock Foundation Building 107
(213) 740-3800
Majors Advised:

- Biochemistry
- Biological Sciences
- Chemistry
- Human Biology
- Informatics
- Neuroscience
- Pre-Grad

USC Dornsife Advising Office provides a wide range of advising services and programs that integrate students, faculty, staff, academic disciplines and curricula into a meaningful educational experience. Academic advisers work closely with students to help them integrate into the academic life of USC Dornsife and provide curricular guidance so students can graduate in a timely manner.

Academic advising is mandatory for all students entering USC Dornsife until they have completed 32 units. All students in USC Dornsife are strongly encouraged to seek individual academic advisement at least once each semester until graduation. Guidance regarding academic requirements, policies and program planning is available by appointment or on a walk-in basis.

The services of a college ombudsman are available to students who have academic concerns that cannot be adequately addressed by the usual mechanisms of consulting instructors, department chairs or other university offices. The ombudsman can be particularly helpful in the case of grade appeals that are complex in nature. The ombudsman functions as an intermediary between the student, the faculty and other offices on campus.

Advising for Pre-law Programs

Students who are interested in going to law school consult one-on-one with academic advisers in the USC Dornsife College Advising Office who specialize in this area. Pre-law students are supported in all aspects of the law school application process, including writing an effective personal statement and requesting appropriate letters of recommendation.

Pre-law advisers also help students target appropriate law schools and inform students about pre-law and law-related events and student organizations. Pre-law students are also invited to subscribe to an email listserv sponsored by the USC Dornsife College Advising Office to stay connected with pre-law resources and information.

Advising for Graduate School Programs

The pre-graduate school advisers assist USC undergraduates and alumni interested in applying to all graduate programs other than law and medicine. The advisers help students determine when and if they should apply to graduate school and guide students in the process of researching and choosing appropriate schools and programs. Students receive support in navigating the admission process, writing statements of purpose, requesting letters of recommendation, exploring test preparation resources, and identifying and pursuing sources of funding.

USC Dornsife Career Pathways

Grace Ford Salvatori Hall 315
(213) 821-4728
Email: careerpathways@dornsife.usc.edu
dornsife.usc.edu/careerpathways/

USC Dornsife Career Pathways parallels the central mission of the University of Southern California to cultivate and develop the human mind and spirit. Career Pathways works to align students' academic interests with individual career and professional pathways through self-reflection and assessment and engagement in curricular and co-curricular opportunities. Moreover, the underlying mission is to engage students in critical discussion about careers and introduce a system of career management tools and practices students can utilize achieve career and educational goals. Career Advisement is available to all USC Dornsife students across academic disciplines and majors. Advisement areas include:

- The connection of field of study and educational experience to career
- Career exploration and the development of a plan to career
- Internship and career opportunities
- Résumé and cover letter review
- Mock interviews

Office of Experiential and Applied Learning
(213) 740-8085
Email: exl@dornsife.usc.edu

USC Dornsife Off-Campus Short-Term Programs
(213) 740-8085
Email: exl@dornsife.usc.edu
dornsife.usc.edu/off-campus-programs

USC Dornsife offers short-term academic programs in several different formats in the United States and abroad. Unique programmatic opportunities; "Spring Break," "Maymester," "Problems Without Passports" and "Departmental Summer Away" courses, extend undergraduate learning outside the walls of the university to just about anywhere in the world. Students gain research experience, participate in problem-based learning courses, study in a foreign country, and are able to add a unique boost to future résumés.

Office of Overseas Studies
Mark Taper Hall of Humanities 341
(213) 740-3636
FAX: (213) 740-2265
Email: overseas@usc.edu
dornsife.usc.edu/overseas

The Office of Overseas Studies provides opportunities for students to study abroad for a semester or a year. Eligible students can choose among 55 academic programs in 29 countries. The six-week summer Pembroke-King's Programme at Cambridge University is also offered through this office. Financial aid and scholarships may be applied to the cost of semester and year programs.

Washington D.C. Semester Program
Email: dornsifedc@usc.edu
dornsife.usc.edu/dornsife-dc/

The Washington, D.C., Semester Program provides a unique, semester-long opportunity for USC Dornsife students to study and work in the nation's capital. The immersive program capitalizes on the D.C. experience. Courses are drawn from areas with direct policy relevance such as foreign policy, politics and the political process and economics. All students complete an internship with one of Washington's many policy-focused organizations, including government agencies, nongovernmental organizations, advocacy groups, think tanks, consulting firms and congressional offices. The USC Dornsife D.C. program is open to students from all majors while maintaining a focus on practical policy, both domestic and international.

The Joint Educational Project (JEP)
The JEP House
(213) 740-1837
FAX: (213) 740-2265
Email: jephouse@usc.edu
dornsife.usc.edu/jep

Established in 1972, the USC Joint Educational Project (a.k.a. "J-E-P") is one of the oldest and largest service-learning programs in the United States. Each year 2,000+ USC students enroll in JEP's service-learning, work-study and volunteer programs. JEP offers a wide range of service and service-learning opportunities in nearby schools, community-based organizations, healthcare facilities and legal clinics. All of JEP's programs combine hands-on experience with reflective practice, enabling students to learn first

hand about the critical issues facing the communities surrounding USC.

The Levan Institute for Humanities and Ethics
Mark Taper Hall of Humanities 348
(213) 740-0009
Email: usclevan@dornsife.usc.edu
dornsife.usc.edu/levan-institute

The Levan Institute for Humanities and Ethics is a center of student and faculty engagement in critical inquiry into the timeless values at the core of our humanity. The institute facilitates multidisciplinary programs, events, forums and student organizations to promote moral reflection on the crucial issues of our time. Levan students are encouraged to make a positive impact across society and around the world.

Department of Physical Education
Physical Education Building, PED 107
(213) 740-2488
Email: aaharris@usc.edu
dornsife.usc.edu/phed/

The Physical Education program at USC Dornsife has a variety of opportunities for students to improve their general health and strength through fitness related and recreational activities classes. Courses are designed to introduce students to various aspects of health and physical education principles through experiential learning. Students experience a hands-on learning environment by connecting theory and fundamental skill instruction with application of those skills. With this exposure, knowledge and skill, students are engaged intellectually and physically and are better equipped to make choices regarding a healthy and active lifestyle.

Office of Pre-Health Advisement
Hedco Neurosciences Building 120
(213) 740-4844
FAX: (213) 740-5653
Email: prehealth@dornsife.usc.edu
dornsife.usc.edu/pre-health

The Office of Pre-Health Advisement serves current USC students, alumni and post-baccalaureate students who are interested in pursuing a career within the health professions (e.g., medicine, dentistry, pharmacy, etc.). Pre-health advisers provide an array of student-centered advisement services and support tools tailored to meet the individual needs, interests and goals of pre-health students. The program promotes a sense of community, meaningful relationships with students, staff and faculty, academic excellence, leadership, wellness, and learning through community service, clinical exposure, laboratory research and campus organizations.

Pre-health students are supported in all aspects of the health professional school application process, including writing an effective personal statement and requesting appropriate letters of recommendation. The office also offers pre-health curriculum planning, assistance with major and minor selection, and workshops, events and opportunities for clinical, research and volunteer activities. The office encourages involvement in the campus community and pre-health student organizations.

Departments and Programs

- General Education Program
- American Studies and Ethnicity
- Anthropology
- Art History
- Biological Sciences
- Chemistry
- Classics
- Comparative Literature
- Comparative Studies in Literature and Culture
- Earth Sciences
- East Asian Area Studies
- East Asian Languages and Cultures
- Economics
- English
- Environmental Studies
- French and Italian
- Freshman Seminars
- Gender and Sexuality Studies
- German Studies
- Health and Humanity
- History
- Interdisciplinary Studies
- International Relations
- Joint Educational Project
- Jewish Studies
- Latin American and Iberian Cultures
- Learner Centered Curricula
- Linguistics
- Mathematical Finance
- Mathematics
- Middle East Studies
- Multidisciplinary Activities
- Neuroscience (Undergraduate)
- Ocean Sciences
- Philosophy
- Physical Education
- Physics and Astronomy
- Political Science
- Political Science and International Relations
- Center for the Political Future
- Psychology
- Quantitative and Computational Biology
- Religion
- Slavic Languages and Literatures
- Sociology
- Sophomore Seminars
- Spatial Sciences Institute
- Thematic Option
- The Writing Program

General Education Program

Grace Ford Salvatori Hall, Room 320
(213) 740-2961
FAX: (213) 740-4839
dornsife.usc.edu/2015ge
Director: Richard Fliegel, PhD

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is required of all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It comprises eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with course work taken in the Core Literacies). For more information about USC's general education requirements, see the General Education program description .

Course Listing

For a complete list of general education courses, see the general education section.

Other Requirements

All students at USC must also complete a two-course writing requirement. All students in the USC Dornsife College of Letters,

Arts and Sciences and in some USC professional schools (see listing for each school's requirements) must also satisfy the foreign language requirement.

Writing Requirement

In their writing classes students learn to think critically, to build sound arguments and to express their ideas with clarity. The USC writing requirement comprises two courses (which cannot be taken on a pass/no pass basis).

Lower-division Writing Requirement

Most undergraduates take WRIT 150 Writing and Critical Reasoning–Thematic Approaches as their first writing course. Students enroll in this writing course either in the fall or spring of their freshman year.

Students in the Thematic Option program satisfy this requirement with CORE 111.

Some students are better served by taking a preparatory course before they enroll in WRIT 150. Entering freshmen who score below a specified level on the verbal portion of the SAT take the University Writing Examination. Based on the result of this examination, certain students enroll in WRIT 120 Introduction to College Writing or WRIT 121 Introduction to College Writing in a Second Language during their first semester at USC. Clearance to register for these preparatory courses may be obtained at the Writing Program Office.

International students take the University Writing Examination after having completed any course work required by the American Language Institute.

Upper-division Writing Requirement

A writing course, WRIT 340 Advanced Writing, is taken in a student's junior or senior year, geared toward the student's areas of special interest, such as the arts and humanities, science, law, engineering or business. In this course, students learn to integrate more complex information and construct more sophisticated arguments.

Foreign Language Requirement

Students may satisfy the foreign language requirement only by (1) earning a passing grade in Course III of a foreign language sequence at USC or its equivalent elsewhere or (2) scoring on the placement examination at a level considered by the department as equivalent to the completion of Course III or (3) scoring on a national or statewide examination at a level set by the department and approved by the USC Dornsife College of Letters, Arts and Sciences. Students who can supply proof of at least two years of full-time secondary schooling beyond the age of 14 taught in a foreign language may request exemption from the foreign language requirement. The USC Language Center has established a procedure for students who have demonstrated chronic difficulties with foreign language acquisition. Students may in some cases be approved to complete the requirement using an alternative set of courses. For additional information contact the USC Language Center, THH 309, (213) 740-1188, language.usc.edu.

All students earning degrees granted by or under the jurisdiction of the USC Dornsife College of Letters, Arts and Sciences or earning degrees in programs of other schools that require three semesters of foreign language who do not meet the criteria of (1), above, must take a placement examination to determine their level of language proficiency. Placement in elementary and intermediate foreign language courses is made by the appropriate placement examination. Transfer courses, which meet foreign language level I and level II subject requirements will not meet the prerequisite for the next course in a sequence. Students may be advised to repeat, without additional credit, a semester or semesters of instruction if their skills are judged insufficient at the time of testing.

All students who as freshmen enrolled in degree programs that have a foreign language requirement are expected to fulfill that requirement by the time they have completed 64 units at USC. Students who do not satisfy the foreign language requirement before the completion of 48 units at USC will have a "mandatory advisement requirement" warning them of the need to complete the foreign language requirement. Students who do not satisfy the requirement before the completion of 64 units at USC will be required to seek approval to register.

Students admitted as transfers for whom foreign language is a requirement should fulfill it before they have completed 48 units at USC. Students who do not satisfy the foreign language requirement before the completion of 32 units at USC will have a "mandatory advisement requirement" warning them of the need to complete the foreign language requirement. Students who do not satisfy the requirement before the completion of 48 units at USC will be required to seek approval to register.

Students admitted into programs without a foreign language requirement who subsequently make a change of major into a program with a foreign language requirement must satisfy the requirement before completion of 48 units at USC after switching into the major.

International students whose native language is not English are exempt from the foreign language requirement. Students with advanced skills in languages other than those taught at USC may request exemption from the foreign language requirement if (1) they can supply proof of at least two years of full-time secondary schooling taught in a foreign language beyond the age of 14, or (2) if they can pass a competency exam testing for advanced language skills and administered at USC subject to the availability of suitable academic examiners; the competency exam will test proficiency in speaking, reading and writing skills. Students with documented learning disabilities or physical impairments inhibiting language acquisition may petition for substitution.

American Studies and Ethnicity

American Studies and Ethnicity integrates humanistic and social scientific perspectives, and brings them to bear on an examination of the United States with a particular emphasis on comparative study of the peoples, cultures, history and social issues of the Western United States. The department offers five separate majors in American Studies and Ethnicity, American Popular Culture, African American Studies, Asian American Studies, and Chicano/Latino Studies; and minors in American Studies and Ethnicity, American Popular Culture, Native American Studies and Jewish American Studies. The graduate program offers a graduate certificate in Latinx and Latin American Studies and a PhD for students interested in broad interdisciplinary training at an advanced level to study the peoples, cultures and institutions of the United States in courses that integrate modes of inquiry from the humanities and the social sciences. Drawing upon the cultural resources of a cosmopolitan city on the Pacific Rim and upon the strength and diversity of its professional schools as well as departments in USC Dornsife, these degree programs provide a richly interdisciplinary curriculum that is unique for its constitution of American Studies and Ethnic Studies as comparative and interethnic program that takes as its focus a region — Los Angeles, California and the West — marked by challenging social and cultural changes.

American Studies and Ethnicity offers challenging and diverse opportunities to study the peoples, cultures and institutions of the United States in interdisciplinary courses. Combining the study of history with literature, the arts and the social sciences, American Studies and Ethnicity seeks to bring together these various disciplines and modes of inquiry in a common project: the effort to understand the diverse peoples and cultures that have composed the United States and to provide critical perspectives on the words, deeds, myths and material practices that have shaped this country

in its full regional, ethnic, class and gender diversity. An education in American Studies and Ethnicity will be particularly appropriate for students interested in pursuing careers in law, journalism, government, foreign service, social work, international business, public administration and education.

3620 S. Vermont Ave., KAP 462
Los Angeles, CA 90089-2534
(213) 740-2426
FAX: (213) 821-0409
Email: aseinfo@dornsife.usc.edu
dornsife.usc.edu/ase
Chair: John Carlos Rowe, PhD

Faculty

University Professor, Aerol Arnold Chair of English and Professor of English, American Studies and Ethnicity, and Comparative Literature: Viet Thanh Nguyen, PhD* *(English)*
Distinguished Professor of Religion, King Faisal Chair in Islamic Thought and Culture and Professor of Religion and American Studies and Ethnicity: Sherman Jackson, PhD* *(Religion)*
Distinguished Professor of Sociology and American Studies and Ethnicity and Turpanjian Chair in Civil Society and Social Change: Manuel Pastor, Jr., PhD*
USC Associates Chair in Humanities and Professor of English, American Studies and Ethnicity and Comparative Literature: John Carlos Rowe, PhD *(English)*
Marion Frances Chevalier Professor of French and Professor of French and American Studies and Ethnicity: Lydie Moudileno, PhD *(French and Italian)*
Professors: Hector Amaya, PhD *(Communication);* Sarah Banet-Weiser, PhD* *(Communication)*; Sarah Gualtieri, PhD*; Amelia Jones, PhD *(Art and Design)*; Dorinne Kondo, PhD; Joshua David Kun, PhD *(Communication)*; Natalia Molina, PhD; David Román, PhD* *(English)*; George J. Sánchez, PhD*; Nayan B. Shah, PhD; Karen Tongson, PhD *(Gender and Sexuality Studies)*; Duncan Williams, PhD *(Religion)*
Associate Professors: Evelyn Alsultany, PhD; Juan De Lara, PhD; Judith Jackson Fossett, PhD*; Thomas Gustafson, PhD* *(English)*; Olivia Harrison, PhD *(French and Italian)*; Edwin C. Hill, PhD *(French and Italian)*; Stanley J. Huey, Jr., PhD *(Psychology)*; Lanita Jacobs, PhD*; Oneka LaBennett, PhD; Leland Saito, PhD *(Sociology)*; Jody Agius Vallejo, PhD* *(Sociology)*; Francille Wilson, PhD
Assistant Professors: Adrian De Leon, PhD; Chris Finley, PhD; Shawn McDaniel, PhD
Assistant Professor (Teaching): Alicia Chavez, PhD
Adjunct Professor: Laura Pulido, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Honors Program

The program offers a two-semester honors program for qualified students, first identified in AMST 350 or by the program adviser. Students spend their first semester in the program in an honors senior seminar, AMST 492, focused on developing their research and methods for the honors thesis. During the second semester, all honors students are required to take AMST 493 in which each completes a thesis project on a topic of his or her own choosing under faculty direction. Contact the program adviser for further information. To graduate with honors, program majors must successfully complete an honors thesis and have a minimum GPA of 3.5 in their major course work.

Minor in Critical Approaches to Leadership

See the Department of Interdisciplinary Studies.

Minor in Race, Ethnicity and Politics

See the Department of Political Science.

Graduate Degrees

The Department of American Studies and Ethnicity's (ASE) mission is to educate in the comprehensive analysis of race and ethnicity and engage students and the public to understand diversity, the consequences of disparity and inequity, and the enactment of community and citizenship at multiple scales in Los Angeles, California, the United States and the world. As an innovative and multidisciplinary PhD program, ASE offers mixed methods of scholarly inquiry and interpretation that address the creative potential of diasporic, ethnic, religious, sexual and political communities and the multi-directional influence they exercise upon the immediate California region, the United States and ricocheting across the Americas, Pacific and Atlantic. The program's most significant areas of specialization are: (1) the theoretical study of race and ethnicity, particularly as it is constructed through gender, class, sexuality and the state; (2) an emphasis on the study of cultural production with particular attention on the theoretical directions and methodological innovations in the interdisciplinary study of American culture.

Admission Requirements

Requirements for admission include: scores satisfactory to the program in the verbal, quantitative and analytical General Test of the Graduate Record Examinations; evidence of competence in writing English and analytical abilities; a satisfactory written statement by the applicant of aims and interests in pursuing interdisciplinary graduate work; letters of recommendation from at least three college instructors; and grades satisfactory to the department earned by the applicant at other institutions.

All applicants are required to take the GRE and submit their complete undergraduate record; at least three letters of recommendation and a statement of purpose should be sent to the director of the program. Applicants are urged to submit written materials as supportive evidence.

Degree Requirements

These degrees are under the jurisdiction of the USC Graduate School. Refer to The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

American Popular Culture (BA)

The interdisciplinary major in American Popular Culture helps students to assess from a variety of perspectives the icons and ideas they encounter every day, to think critically about the images and assertions of the mass media and commercial culture, and to see the experience of popular culture as it interacts with questions of gender and ethnicity in the American context. Students choose five classes, including one upper-division elective, from a curriculum organized to explore: critical approaches to popular culture; gender and ethnicity in American popular culture; and popular culture in the arts. Thirty six units are required, 4 at the lower-division and 32 at the upper-division level.

Lower-Division Requirements

Choose one course (4 units).

- AMST 205g Introduction to American Popular Culture Units: 4
- AMST 206gm The Politics and Culture of the 1960s Units: 4
- AMST 285gm African American Popular Culture Units: 4

Upper-Division Requirements

Choose four courses (16 units), at least one from each of the groups below.

Critical Approaches to Popular Culture

- AMST 301gp America, the Frontier, and the New West Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- HIST 380 American Popular Culture Units: 4

Gender and Ethnicity in American Popular Culture

- AMST 357m Latino Social Movements Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4

- AMST 385 African American Culture and Society Units: 4
- AMST 395m African American Humor and Culture Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- AMST 449m Asian American Literature Units: 4
- ENGL 343m Images of Women in Contemporary Culture Units: 4

Popular Culture in the Arts

- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- ENGL 375 Science Fiction Units: 4
- ENGL 381 Narrative Forms in Literature and Film Units: 4
- HIST 481 Producing Film Histories Units: 4
- MUJZ 419m The Jazz Experience: Myths and Culture Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4

Electives

Choose four additional courses (16 units) from the lists above or below. One must be an upper-division course in a department you have not already chosen for the major.

- AHIS 100g Introduction to Visual Culture Units: 4
- AHIS 250gm Art, Modernity and Difference Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- AHIS 270 L.A. Now: Contemporary Art in Los Angeles Units: 4
- AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present Units: 4
- AHIS 365m African American Art Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- ANTH 380 Sex and Gender in Anthropological Perspective Units: 4
- ANTH 470 Multidisciplinary Seminar in Visual Anthropology Units: 4
- COMM 206 Communication and Culture Units: 4
- COMM 307 Sound Clash: Popular Music and American Culture Units: 4
- COMM 310 Media and Society Units: 4
- COMM 312 The Business and Culture of Celebrity Units: 4
- COMM 360 Los Angeles: Communication and Culture Units: 4
- COMM 366 Designing Media for Social Change Units: 4
- COMM 371 Media Censorship and the Law Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 396g Fashion, Media and Culture Units: 4
- COMM 413 Propaganda, Ideology and Public Controversy Units: 4
- COMM 415m African American Rhetoric and Image Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- COMM 432 American Media and Entertainment Industries Units: 4
- COMM 456 Entertainment, Marketing and Culture Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- CRIT 371 Art in the Public Realm: Contemporary Issues Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 408 Contemporary Political Film and Digital Media Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 462 Critical Theory and Analysis of Games Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- DANC 212g Dance in Popular Culture Units: 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- ENGL 341 Women in English Literature before 1800 Units: 4
- ENGL 342g Women in English and American Literature after 1800 Units: 4
- JOUR 467 Gender and the News Media Units: 4
- LING 375 Sociolinguistics Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 410 The Sociology of Popular Culture Units: 4
- THTR 488mw Theatre in the Community Units: 4
- THTR 295 Theatre in Los Angeles Units: 2 (4 units required)

American Studies and Ethnicity (African American Studies) (BA)

African American Studies is a multidisciplinary program designed to provide students with a critical understanding of the historical, cultural, social and political experience of African Americans, with a particular emphasis on the development and culture of the African American communities in California and the West as well as on both historical and contemporary effects of global issues on African American communities. By drawing upon courses in American Studies and Ethnicity and by emphasizing comparative as well as interdisciplinary study, this program offers training in the analytic tools and methods of interpretation appropriate for studying the African American experience in its particularity and ethnic and cultural study in general. The program is particularly appropriate for students interested in integrating studies in the humanities and social sciences and for students preparing to work and interact with diverse communities and cultures in the United States and abroad in such fields as education, human services, business, journalism and public administration.

African American Studies is administered by an executive committee comprising the chair, directors of the four majors and other faculty members. In addition to the college academic adviser, the directors of the majors serve as advisers to majors and minors, providing, in conjunction with the sequence of courses, the opportunity for students to undertake an interdisciplinary concentration under close faculty supervision. It is recommended that students meet with the appropriate major director to plan a coherent set of courses to fulfill the major or minor requirements.

Program Major Requirements

Ten courses in African American Studies, or courses certified for African American Studies credit, are required. The 10 courses must be distributed as follows: the three core requirement courses of AMST 200 (or AMST 230), AMST 350 and AMST 498; one course from each of the following three lists: History, Literature and Culture, and Social and Political Issues; and additional elective courses for a total of 16 units chosen from the courses certified in African American Studies at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
  or
- AMST 230g Introduction to African American Studies Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4

- AMST 498 Senior Seminar in American Studies and Ethnicity Units: 4 *

Note:

**Honors students will substitute AMST 492 Research Methods in American Studies and Ethnicity.*

Required Courses

One course from each of the following categories:

History

- AMST 250gmw The African Diaspora Units: 4
- AMST 252gmw Black Social Movements in the U.S. Units: 4
- AMST 332m Post-Civil Rights Black America Units: 4
- HIST 355 The African-American Experience Units: 4
- HIST 453 The Age of Emancipation Units: 4
- HIST 455 Advanced Topics in African-American History Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4

Literature and Culture

- AHIS 365m African American Art Units: 4
- AHIS 475m Blackness in American Visual Culture Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 385 African American Culture and Society Units: 4
- CTCS 407 African American Cinema Units: 4
- ENGL 446 African-American Poetry and Drama Units: 4
- ENGL 447m African-American Narrative Units: 4
- GESM 120g Seminar in Humanistic Inquiry Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4

Social and Political Issues

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 206gm The Politics and Culture of the 1960s Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 330m Black Music and the Political Imagination Units: 4
- AMST 337m Islam in Black America: From Slavery to Hip Hop Units: 4
- AMST 342m Law and Identities Units: 4
- AMST 344m Islamic Law and American Society Units: 4
- AMST 348m Race and Environmentalism Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 389m Carceral Geographies Units: 4
- AMST 395m African American Humor and Culture Units: 4
- AMST 466m The Psychology of African Americans Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- ANTH 445 African American Anthropology Units: 4
- GESM 130g Seminar in Social Analysis Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4
- POSC 421 Ethnic Politics Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- PSYC 462m Culture and Mental Health Units: 4
- REL 469 Black Religion in America Units: 4

Upper-division Elective Courses

Additional courses for a total of 16 units from the lists above or below, or other American Studies and Ethnicity courses with the approval of the African American Studies director, 300 level or higher. No more than two total courses in the major may be taken outside the college.

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 max 12
- AMST 493 Senior Honors Thesis in American Studies and Ethnicity Units: 4
- AMST 499 Special Topics Units: 2, 3, 4 max 8
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

American Studies and Ethnicity (Asian American Studies) (BA)

Asian American Studies is a multidisciplinary program designed to provide students with a critical understanding of the historical, cultural, social and political experience of Asian Pacific Americans, with a particular emphasis on the development and culture of the Asian American communities in California and the West as well as on both historical and contemporary effects of global issues on Asian American communities. By drawing upon courses in American Studies and Ethnicity and by emphasizing comparative as well as interdisciplinary study, this program offers training in the analytic tools and methods of interpretation appropriate for studying the Asian American experience in its particularity and ethnic and cultural study in general. The program is particularly appropriate for students interested in integrating studies in the humanities and social sciences and for students preparing to work and interact with diverse communities and cultures in the United States and abroad in such fields as education, human services, business, journalism and public administration.

Asian American Studies is administered by an executive committee comprising the chair, directors of the four majors and other faculty members. In addition to the college academic adviser, the directors of the majors serve as advisers to majors and minors, providing, in conjunction with the sequence of courses, an opportunity for students to undertake an interdisciplinary concentration under close faculty supervision. It is recommended that students meet with the appropriate major director to plan a coherent set of courses to fulfill the major or minor requirements.

Program Major Requirements

Ten courses in Asian American Studies, or courses certified for Asian American Studies credit, are required. The 10 courses must be distributed as follows: the three core requirement courses of AMST 200, AMST 350 and AMST 498; one course from each of the following three lists: *History, Literature and Culture, and Social and Political Issues*; and additional elective courses for a total of 16 units chosen from the courses certified in Asian American Studies at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- AMST 498 Senior Seminar in American Studies and Ethnicity Units: 4 *

Note:

**Honors students will substitute AMST 492 Research Methods in American Studies and Ethnicity.*

Required Courses

One course from each of the following categories:

History

- AMST 378m Introduction to Asian American History Units: 4

Literature and Culture

- AMST 150gw The American War in Viet Nam Units: 4
- AMST 449m Asian American Literature Units: 4
- REL 336w Re-Viewing Religion in Asian America Units: 4

Social and Political Issues

- AMST 220gmw The Making of Asian America Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4

- AMST 389m Carceral Geographies Units: 4
- POSC 328 Asian American Politics Units: 4
- SOCI 376m Contemporary Issues in Asian American Communities Units: 4

Upper-Division Elective Courses

Additional courses for a total of 16 units from the lists above or below, or other American Studies and Ethnicity courses with the approval of the Asian American Studies director, 300 level or higher. No more than two total courses in the major may be taken outside the college.

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 348m Race and Environmentalism Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 max 12
- AMST 493 Senior Honors Thesis in American Studies and Ethnicity Units: 4
- AMST 499 Special Topics Units: 2, 3, 4 max 8
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

American Studies and Ethnicity (BA)

Program Major Requirements

Ten courses in American Studies and Ethnicity or courses certified for American Studies and Ethnicity credit are required. The 10 courses must be distributed as follows: the three core requirement courses of AMST 200, AMST 350 and AMST 498; one course from each of the following three lists: *History, Literature and Culture, and Social and Political Issues*; and additional elective courses for a total of 16 units chosen from the courses certified in American Studies and Ethnicity at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- AMST 498 Senior Seminar in American Studies and Ethnicity Units: 4 *

Note:

**Honors students will substitute AMST 492 Research Methods in American Studies and Ethnicity.*

100/200/300/400-Level Required Courses

One course from each of the following categories:

History

- AMST 250gmw The African Diaspora Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 373m History of the Mexican American Units: 4
- AMST 378m Introduction to Asian American History Units: 4
- AMST 379 Arabs in America Units: 4
- HIST 100gm The American Experience Units: 4
- HIST 354 Mexican Migration to the United States Units: 4, 2 years
- HIST 355 The African-American Experience Units: 4
- HIST 380 American Popular Culture Units: 4
- HIST 457 The American West Units: 4
- HIST 458 History of California Units: 4

Literature and Culture

- AHIS 365m African American Art Units: 4
- AHIS 465 Studies in American Art Units: 4
- AHIS 475m Blackness in American Visual Culture Units: 4
- AMST 205g Introduction to American Popular Culture Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 305 Art and Performance in the Americas Units: 4
- AMST 385 African American Culture and Society Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- AMST 449m Asian American Literature Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- ENGL 263g American Literature Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- ENGL 442 American Literature, 1920 to the Present Units: 4
- ENGL 445m The Literatures of America: Cross-Cultural Perspectives Units: 4
- ENGL 446 African-American Poetry and Drama Units: 4
- GESM 120g Seminar in Humanistic Inquiry Units: 4
- REL 336w Re-Viewing Religion in Asian America Units: 4
- REL 483 Religion and Popular Culture in the United States Units: 4

Social and Political Issues

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 150gw The American War in Viet Nam Units: 4
- AMST 201g LGBTQ America Units: 4
- AMST 202m Interethnic Diversity in the West Units: 4
- AMST 204g Introduction to Native Studies Units: 4
- AMST 206gm The Politics and Culture of the 1960s Units: 4
- AMST 220gmw The Making of Asian America Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 330m Black Music and the Political Imagination Units: 4
- AMST 332m Post-Civil Rights Black America Units: 4
- AMST 337m Islam in Black America: From Slavery to Hip Hop Units: 4
- AMST 340m Latina/o LA Units: 4
- AMST 344m Islamic Law and American Society Units: 4
- AMST 345 Law and American Indian Studies Units: 4
- AMST 348m Race and Environmentalism Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 357m Latino Social Movements Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 389m Carceral Geographies Units: 4
- AMST 395m African American Humor and Culture Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- AMST 452m Race, Gender and Sexuality Units: 4
- AMST 466m The Psychology of African Americans Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- GESM 130g Seminar in Social Analysis Units: 4
- JOUR 466m People of Color and the News Media Units: 4
- POSC 320 Urban Politics Units: 4
- POSC 328 Asian American Politics Units: 4
- POSC 421 Ethnic Politics Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- POSC 428 Latino Politics Units: 4
- PSYC 462m Culture and Mental Health Units: 4
- REL 333 Religion in the Borderlands Units: 4
- SOCI 100gm Los Angeles and the American Dream Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 355m Immigrants in the United States Units: 4

- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4
- SOCI 376m Contemporary Issues in Asian American Communities Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

Upper-Division Elective Courses

Additional courses for a total of 16 units from the lists above or below, or other American Studies and Ethnicity courses with the approval of the Undergraduate Studies Director, 300 level or higher. No more than two total courses in the major may be taken outside the college.

- AMST 345 Law and American Indian Studies Units: 4
- AMST 392 Undergraduate Research Methods Units: 2
- AMST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 max 12
- AMST 493 Senior Honors Thesis in American Studies and Ethnicity Units: 4
- AMST 499 Special Topics Units: 2, 3, 4 max 8

American Studies and Ethnicity (Chicano/Latino Studies) (BA)

Chicano/Latino Studies is a multidisciplinary program designed to provide students with a critical understanding of the historical, cultural, social and political experience of Chicanos and Latinos, with a particular emphasis on the development and culture of the Chicano/Latino communities in California and the West as well as on both historical and contemporary effects of global issues on Chicano/Latino communities. By drawing upon courses in American Studies and Ethnicity and by emphasizing comparative as well as interdisciplinary study, this program offers training in the analytic tools and methods of interpretation appropriate for studying the Chicano/Latino experience in its particularity and ethnic and cultural study in general. The program is particularly appropriate for students interested in integrating studies in the humanities and social sciences and for students preparing to work and interact with diverse communities and cultures in the United States and abroad in such fields as education, human services, business, journalism and public administration.

Chicano/Latino Studies is administered by an executive committee comprising the chair, directors of the four majors, and other faculty members. In addition to the college academic adviser, the directors of the majors serve as advisers to majors and minors, providing, in conjunction with the sequence of courses, an opportunity for students to undertake an interdisciplinary concentration under close faculty supervision. It is recommended that students meet with the appropriate major director to plan a coherent set of courses to fulfill the major or minor requirements.

Program Major Requirements

Ten courses in Chicano/Latino Studies, or courses certified for Chicano/Latino Studies credit, are required. The 10 courses must be distributed as follows: the three core requirement courses of AMST 200, AMST 350 and AMST 498; one course from each of the following three lists: History, Literature and Culture, and Social and Political Issues; and additional elective courses for a total of 16 units chosen from the courses certified in Chicano/Latino Studies at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- AMST 498 Senior Seminar in American Studies and Ethnicity Units: 4 *

Note:

**Honors students will substitute AMST 492 Research Methods in American Studies and Ethnicity.*

Required Courses

One course from each of the following categories:

History

- AMST 373m History of the Mexican American Units: 4
- HIST 354 Mexican Migration to the United States Units: 4, 2 years

Literature and Culture

- AMST 305 Art and Performance in the Americas Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- SPAN 413m Social and Geographic Varieties of Spanish Units: 4

Social and Political Issues

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 340m Latina/o LA Units: 4
- AMST 357m Latino Social Movements Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 389m Carceral Geographies Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- POSC 428 Latino Politics Units: 4
- PSYC 462m Culture and Mental Health Units: 4
- REL 333 Religion in the Borderlands Units: 4
- SOCI 100gm Los Angeles and the American Dream Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4

Upper-Division Elective Courses

Additional courses for a total of 16 units from the lists above or below, or other American Studies and Ethnicity courses with the approval of the Chicano/Latino Studies director, 300 level or higher. No more than two total courses in the major may be taken outside the college.

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 348m Race and Environmentalism Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 392 Undergraduate Research Methods Units: 2
- AMST 452m Race, Gender and Sexuality Units: 4
- AMST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 max 12
- AMST 493 Senior Honors Thesis in American Studies and Ethnicity Units: 4
- AMST 499 Special Topics Units: 2, 3, 4 max 8
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

Minor

American Popular Culture Minor

The interdisciplinary minor in American Popular Culture helps students to assess from a variety of perspectives the icons and ideas they encounter every day, to think critically about the images and assertions of the mass media and commercial culture, and to see the experience of popular culture as it interacts with questions of gender and ethnicity in the American context. Students choose five classes, including one upper-division elective, from a curriculum organized to explore: critical approaches to popular culture; gender and ethnicity in American popular culture; and popular culture in the arts. Twenty units are required, four at the lower-division and 16 at the upper-division level.

Lower-Division Requirements

Choose one course (4 units)

- AMST 150gw The American War in Viet Nam Units: 4
- AMST 205g Introduction to American Popular Culture Units: 4
- AMST 206gm The Politics and Culture of the 1960s Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 285gm African American Popular Culture Units: 4

Upper-Division Requirements

Choose four courses (16 units), at least one from each of the groups below.

Critical Approaches to Popular Culture: choose one (4 units)

- AMST 301gp America, the Frontier, and the New West Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- GESM 120g Seminar in Humanistic Inquiry Units: 4
- HIST 380 American Popular Culture Units: 4

Gender and Ethnicity in American Popular Culture: choose one (4 units)

- AMST 357m Latino Social Movements Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 385 African American Culture and Society Units: 4
- AMST 395m African American Humor and Culture Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- AMST 449m Asian American Literature Units: 4
- ANTH 445 African American Anthropology Units: 4
- GESM 130g Seminar in Social Analysis Units: 4

Popular Culture in the Arts: choose one (4 units)

- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AMST 305 Art and Performance in the Americas Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- ENGL 375 Science Fiction Units: 4
- HIST 481 Producing Film Histories Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Electives (4 units)

Choose one additional upper-division course from the lists above, in a department you have not already chosen for the minor.

American Studies and Ethnicity Minor

Course Requirements

For the minor in American Studies and Ethnicity, five courses in American Studies and Ethnicity, or courses certified for American Studies and Ethnicity credit, are required. The five courses must be distributed as follows: two core requirement courses and three additional elective courses chosen from the courses certified in American Studies and Ethnicity at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4

Upper-Division Elective Courses

Three courses from the American Studies and Ethnicity major lists, or other American Studies and Ethnicity courses with the approval of the American Studies and Ethnicity director, at the 300 level or higher. No more than one course in the minor may be taken outside the college.

Jewish American Studies Minor (American Studies)

Jewish American Studies is a multidisciplinary program designed to provide students with a critical understanding of the historical, cultural, social, political and religious experience of Jewish Americans, with a particular emphasis on the development and culture of Jewish communities in California and the West as well as on both historical and contemporary effects of global issues on American Jewish communities. By drawing upon courses in American Studies and by emphasizing comparative as well as interdisciplinary study, this program offers training in the analytical tools and methods of interpretation appropriate for studying the American Jewish experience in its particularity and ethnic and cultural study in general. The program is particularly appropriate for students interested in integrating studies in the humanities and social sciences and for students preparing to work and interact with diverse communities and cultures in the United States and abroad in such fields as education, human services, business, journalism and public administration.

Successful completion of 20 units in American Studies and Judaic Studies are required to qualify for the minor.

Core Requirements

- AMST 202m Interethnic Diversity in the West Units: 4
- JS 300 American Jewish History Units: 4

Three courses from the following:

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era Units: 4
- JS 381 The Jew in American Society Units: 4
- JS 382 Judaism as an American Religion Units: 4
- JS 383 Jews in American Popular Culture Units: 4
- JS 415 The American Jewish Experience in Film Units: 4

Native American Studies Minor

This minor is an overview of Native American studies. We will study Indigenous intellectualism and resistance through Indigenous language revitalization, art, decolonization and political resistance.

Minimum Required Units: 20

Students choose five classes in American Studies and Ethnicity, or courses certified for American Studies and Ethnicity credit. The five courses are distributed as follows: two core requirement courses and three additional elective courses chosen from the courses listed below.

Core Requirements - 8 Units

- AMST 204g Introduction to Native Studies Units: 4
  and
- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
  or
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4

Elective Courses - 12 Units

- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 342m Law and Identities Units: 4
- AMST 345 Law and American Indian Studies Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- ENGL 444m Native American Literature Units: 4
- HIST 271g Telling Native American Stories Units: 4

Graduate Certificate

Latinx and Latin American Studies Graduate Certificate

The graduate certificate in Latinx and Latin American Studies is part of a larger initiative to bring faculty, students and community partners together to engage in interdisciplinary research and public-facing scholarship that focuses on Latinx communities within the United States and in Latin America. Together, we will work to celebrate the diversity of Latinx and Latin American communities while engaging in scholarship that addresses important social and economic issues. Our hemispheric approach will necessitate a mode of research that crosses as many borders – cultural, political and disciplinary – as do the people of the Americas.

The graduate certificate is open to PhD students in any USC program. It requires doctoral students to complete 16 units. In addition, students may take electives approved for their particular program of research by the program faculty. One of these courses may be a research workshop course geared toward doctoral prospectus development. Directed research may not be counted toward the award of the certificate.

In addition to the completion of these course requirements, students must demonstrate a focus on Latinx and American Studies as a meaningful component of their doctoral dissertation. This will include working with faculty with expertise in Latinx and Latin American Studies on the doctoral committee (as a primary adviser or minor member). A Graduate Advisory Committee made up of members of the Faculty Advisory Board of the Latinx and Latin American Studies Center will be responsible for judging the adequacy of the Latinx and Latin American Studies component in the student's dissertation.

Pre-Approved Courses:

Complete at least 16 units.

- AMST 510 Readings in Chicano/Latino Studies Units: 4
- AMST 554 Readings in Chicano/Latino History Units: 4
- AMST 610 Interdisciplinary Research Seminar in Chicano/Latino Studies Units: 4
- COLT 555 Studies in Literatures of the Americas Units: 4
- HIST 554 Readings in Chicano/Latino History Units: 4
- HIST 561 Historiography of Colonial Mexico Units: 4
- POIR 556 Latin America and U.S. Foreign Policy Units: 4
- POIR 632 Latin American Politics Units: 4
- SPAN 545 20th and 21st Century Latin American Literature and Culture Units: 4
- SPAN 602 Seminar in Spanish and Latin American Critical Theory Units: 4
- SPAN 603 Seminar in the Cultural History of Spain and Latin America Units: 4
- SPAN 604 Seminar in Gender and Sexuality in Spain and Latin America Units: 4

Doctoral Degree

American Studies and Ethnicity (PhD)

Master of Arts

The department does not accept applicants for a Master of Arts degree. All graduate work in American Studies and Ethnicity at USC is taken as part of a PhD program, and the MA in American Studies and Ethnicity is intended only as a transitional degree in the process of completing requirements for the PhD, although in some cases students may be invited to attempt a terminal MA

After completing at least 30 units, taking AMST 500 and at least one research seminar, maintaining a GPA of at least 3.0, making successful academic progress and taking the qualifying exam, students will either be granted a transitional master's degree and continue on towards the PhD or be granted a terminal master's degree.

Doctor of Philosophy in American Studies and Ethnicity

Application deadline: December 1

Students may earn the PhD in American Studies and Ethnicity by successfully completing the following requirements.

Total Units Required

The student's course work must total at least 64 units. No more than 8 units of 794 Doctoral Dissertation and no more than 4 units of 790 Research may count toward the 64 units.

Course Requirements

AMST 500 Introduction to American Studies and Ethnicity is required of all doctoral students, and it is highly recommended that students complete this course in the first year of residence. Two 600-level graduate seminars are required for the degree, with at least one of these being an interdisciplinary seminar offered by American Studies and Ethnicity. The second 600-level course must be approved by the director of graduate studies.

Foreign Language Requirement

PhD students are required to demonstrate proficiency in one foreign language. This requirement must be met before a student is eligible to take the qualifying examination. Competency may be demonstrated by completing a course in the literature of that language at the 400 or 500 level (with a grade of B [3.0] or better), or by passing a foreign language exam that tests proficiency in reading comprehension and translation.

Methods Requirement

Students are required to show competency in two theoretical methodologies from a list approved by the American Studies and Ethnicity department. In most cases, competency is established by successfully completing one course concentrating in a specific method offered by a department or school, although more advanced courses in that method may be suggested by a qualifying exam committee. The following methodologies fulfill the methods requirement: literary/textual analysis; historical/archival analysis; ethnography; cultural/visual analysis; spatial practices and analysis; and, quantitative analysis.

Disciplinary Requirement

The department of American Studies and Ethnicity believes that the strongest interdisciplinary research is conducted alongside a strong background in at least one disciplinary field by successfully completing at least four graduate courses in one discipline. These four courses must include at least one methodology course, one 600-level or above advanced seminar and two graduate reading courses at the 500- or 600-level. Each of these courses can also fulfill other requirements in the PhD program, particularly the methods requirement and the course requirements listed above.

Screening Procedures

The performance of every first-year doctoral student is formally assessed by the director of the program and the student's assigned adviser at the end of the spring semester and before a student has completed 24 units toward the degree. Unsatisfactory progress toward the degree requires either remedy of the deficiencies or termination of the student's graduate program. After successfully passing the assessment procedures, each student will be encouraged to establish a qualifying exam committee.

At the end of the second year, student progress will be evaluated and each student will formally establish the members of his or her interdisciplinary examination committee from faculty he or she has worked with during the first two years. A meeting of the director of the program, qualifying exam committee members and potential members of this examination committee will take place directly after the second year to identify remaining deficiencies in a student's training and identify solutions before the qualifying examination process begins.

Qualifying Examination

Following completion of course work, the student must sit for a qualifying examination at a time mutually agreed upon by the student and the qualifying exam committee. Students seeking the PhD will select four fields for examination. Every student must be examined by faculty from at least two different disciplines, as well as having one outside member on his or her examination committee.

This five-person examination committee will direct the student toward his or her qualifying examination, which will consist of both written and oral parts, in the third year. Examinations are graded honors, pass, low-pass or fail. The qualifying examination has two phases: written examinations in each field followed by a single oral examination on all four fields. Students with one fail, a low-pass in their dissertation field or more than two low-pass grades will not be permitted to enter the oral phase of the examination process. The qualifying exam committee determines whether the candidate may retake any exam graded low-pass or fail.

Dissertation

After the qualifying examination has been passed, an interdisciplinary dissertation committee of at least three faculty members from the examination committee must approve a dissertation prospectus before full-time research commences. Only at this point is a student admitted to candidacy for the PhD degree and will thereafter concentrate on the dissertation. After students become candidates for the PhD degree, they must register for 794 Doctoral Dissertation each semester thereafter until the dissertation is completed.

The final state of the program is the submission of a dissertation that makes an original and substantial contribution to its field of study. The final copy of the dissertation must conform to the regulations of the Graduate School.

Advisement

Upon entering the program, each student will be assigned an academic adviser from among the faculty closest to the student's own academic interests. Students should seek advice on their program of studies from this academic adviser, the director of the program and the director of graduate and professional studies.

Once a student formally establishes an interdisciplinary examination committee, the chair of this committee becomes the student's main academic adviser, along with other members of this qualifying exam committee. The committee must be in place and approved by the Graduate School at the time the student schedules a qualifying examination.

The dissertation committee becomes the student's main advising unit after the qualifying examination, with the chair having the principal responsibility of advisement. At all stages of the student's progress through the program, the director of the program and the director of graduate and professional studies will be available for advisement and counsel as well.

Transfer of Credit

A transfer of credit statement is prepared by the Degree Progress Department for students admitted to full graduate standing. The application of any available transfer credit is contingent on successful completion of the screening exam and is determined by the director of the program no later than the end of the second year according to the following guidelines: credit will only be allowed for courses (1) from accredited graduate schools; (2) of grade B (3.0 on a four-point scale); (3) constituting a fair and reasonable equivalent to current USC course work at the graduate level and fitting into the program for the degree; and (4) approved by the Graduate School. Graduate transfer credit will not be granted for life experience, credit by examination, noncredit extension courses, correspondence courses, thesis course supervision or creative writing courses.

The maximum number of transfer credits which may be applied toward the MA degree is four units, and a maximum of 24 units of transfer credits may be applied toward the PhD degree. The Graduate School stipulates that transfer units must have been completed within 10 years of admission for the doctoral program to be applied toward the degree.

Anthropology

The Department of Anthropology offers a BA in Anthropology with tracks in cultural anthropology and medical anthropology; a BA in Anthropology with a concentration in visual anthropology; a BA in Global Studies; minor programs in cultural anthropology, medical anthropology, folklore and popular culture, food and society, and Southeast Asia and its people; an MA in Anthropology; an MA in Visual Anthropology; a progressive master's degree in visual anthropology, a certificate in visual anthropology, which accompanies the PhD, and a PhD in Anthropology. The Department of Anthropology encourages students to become involved in ethnographic research and fieldwork while gaining a firm theoretical foundation in the discipline. Special areas of emphasis in the department are provided by visual anthropology, experimental ethnography, medical anthropology, folklore and a global studies major that examines linkages of the global with the local. All of these topical interests are unified by a methodological approach that emphasizes ethnographic fieldwork and a comparative approach to human history.

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Faculty
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University Professor and ARCO/William F. Kieschnick Chair in the Neurobiology of Aging and Professor of Gerontology, Psychology, Biological Sciences and Anthropology: Caleb E. Finch, PhD *(Gerontology)*
Albert G. and Frances Lomas Feldman Professor of Social Policy and Health and Professor of Social Work, Anthropology and Preventive Medicine: Lawrence Palinkas, PhD *(Social Work)*
Andrew W. Mellon Professor of the Humanities, Linda and Harlan Martens Director of the Early Modern Studies Institute and Professor of History and Anthropology: Peter C. Mancall, PhD *(History)*
Professors: Gelya Frank, PhD *(Occupational Science)*; Seth Holmes, PhD; Janet Hoskins, PhD; Dorinne Kondo, PhD *(American Studies and Ethnicity)*; Nancy Lutkehaus, PhD; Cheryl Mattingly, PhD; Alison D. Renteln, PhD* *(Political Science)*; Craig Stanford, PhD* *(Biological Sciences)*
Associate Professors: Jenny Chio, PhD *(East Asian Languages and Cultures)*; Lanita Jacobs, PhD *(American Studies and Ethnicity)*; Gary Seaman, PhD; Stephanie Spray, PhD
Assistant Professor: Reighan Gillam, PhD
Professors (Teaching): Erin Moore, PhD; Tok Thompson, PhD
Associate Professor (Teaching): Thomas Ward, PhD
Assistant Professors (Teaching): Jennifer Cool, PhD; Emily Zeamer, PhD
Lecturers: Eric Heller, PhD; Tracie Mayfield, PhD; Xochitl Ruiz, PhD; Kristiana Willsey, PhD
Emeritus: G. Alexander Moore, PhD; Joan Weibel-Orlando, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Interdisciplinary Law and Society Minor

See the Department of Political Science.

Minor in Photography and Social Change

See Sociology.

Graduate Programs

The Center for Visual Anthropology

The primary goals of the Center for Visual Anthropology (CVA) are: to promote the incorporation of visual modes of expression into the academic discipline of anthropology; to promote mutual understanding and collaboration between professionals in the visual media and in anthropology; to create an awareness of the anthropological perspective in documentaries produced for mass audiences; to improve the materials and techniques available for using film in teaching anthropology; to encourage the collection, archiving and analysis of visual documentation for anthropological research.

Policy on Films and Videos Produced by Students

All films and videos produced with school equipment, funding or facilities are the property of USC. Any income from distribution of student-produced films and videos will be used for the benefit of CVA students through production budgets, equipment purchases or scholarships.

Bachelor's Degree

Anthropology (BA)

The BA, Anthropology has three tracks: sociocultural anthropology and archaeology, medical anthropology and biological anthropology. Each track has at least five core courses and five additional required courses depending on the track. The total number of units for each program is 40-44.

In addition to the general education requirements, the following courses are required.

Sociocultural Anthropology and Archaeology Track Requirements

Required Courses, Lower-Division

- ANTH 201g Introduction to Sociocultural Anthropology Units: 4 or
- ANTH 263g Exploring Culture through Film Units: 4
- ANTH 202g Archaeology: Our Human Past Units: 4
- HBIO 200Lg The Human Animal Units: 4

Required Courses, Upper-Division

- ANTH 410 Ethnographic Research Methods Units: 4
- ANTH 411 Thesis Seminar in Ethnographic Analysis Units: 4
- ANTH 440 History of Anthropological Theory Units: 4

Five additional courses are required (20 units)

Five additional courses are required, of which at least two must be topical and at least one must represent an area of world ethnography.

The following Anthropology courses are considered topical:

- ANTH 302 Humans and Ancient Environments Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 306 Biology of the Non-Human Primates Units: 4
- ANTH 309L Virtual and Digital Culture, Heritage and Archaeology Units: 2, 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 338g Food in Culture and Society Units: 4
- ANTH 344g Living with the Past: Encountering History through Ritual, Experience and Practice Units: 4
- ANTH 345 Politics, Social Organization, and Law Units: 4
- ANTH 355 Urban Anthropology Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 365 Life History in Anthropological Perspective Units: 4
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 371gm Cross-Cultural Research on Urban Gangs Units: 4
- ANTH 372 Interpretation of Myth and Narrative Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 375 Anthropology for Consulting and Design Units: 4
- ANTH 393 Directed Internship Units: 2, 3, 4, 5, 6, 7, 8
- ANTH 460 Economic Anthropology Units: 4
- ANTH 470 Multidisciplinary Seminar in Visual Anthropology Units: 4
- ANTH 472 Visual Techniques in Anthropology: Stills Units: 4
- ANTH 476 Ethnographic Film Theory from an Historical Perspective Units: 4
- ANTH 481L GIS for Investigating the Past Units: 4
- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 405 Evolutionary Medicine Units: 4

The following courses are cross-listed with Anthropology and are also considered topical:

- AMST 395m African American Humor and Culture Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4
- SWMS 385m Men and Masculinity Units: 4

The following Anthropology courses are considered to represent an area of world ethnography:

- ANTH 310 Archaeology of the Americas Units: 4
- ANTH 311 Old World Archaeology Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 315gw Native North Americans Units: 4
- ANTH 316gmp Native Americans in American Public Life Units: 4
- ANTH 320 Male and Female in Pacific Society Units: 4
- ANTH 322 Anthropology of Bali Units: 4
- ANTH 323 Southeast Asian Cultures Today: Globalization and Multiple Modernities Units: 4
- ANTH 324gw Contemporary China: Cultural Politics and Social Realities Units: 4
- ANTH 326 European Cultures and Societies Units: 4
- ANTH 330m Culture, Gender and Politics in South Asia Units: 4
- ANTH 435 Ethnic Identity and Minority Politics in China Units: 4

Medical Anthropology Track Requirements

Required Courses, Lower-Division

- ANTH 201g Introduction to Sociocultural Anthropology Units: 4 or
- ANTH 263g Exploring Culture through Film Units: 4
- HBIO 200Lg The Human Animal Units: 4

Required Courses, Upper-Division

- ANTH 440 History of Anthropological Theory Units: 4
- ANTH 410 Ethnographic Research Methods Units: 4
- ANTH 411 Thesis Seminar in Ethnographic Analysis Units: 4

Five additional Anthropology courses are required (20 units)

Five additional Anthropology courses are required, which should include at least three courses from the following list, one of which may be lower-division:

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- ANTH 105g Culture, Medicine and Politics Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 338g Food in Culture and Society Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 365 Life History in Anthropological Perspective Units: 4
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 380 Sex and Gender in Anthropological Perspective Units: 4
- HBIO 405 Evolutionary Medicine Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4
- ANTH 393 Directed Internship Units: 2, 3, 4, 5, 6, 7, 8

Biological Anthropology Track Requirements

Required Courses, Lower-Division

- ANTH 201g Introduction to Sociocultural Anthropology Units: 4 or
- ANTH 263g Exploring Culture through Film Units: 4
- HBIO 200Lg The Human Animal Units: 4

Required Courses, Upper-Division

- ANTH 440 History of Anthropological Theory Units: 4
- ANTH 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 or
- ANTH 491 Directed Research for Honors Units: 4
- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4

Five additional upper-division Anthropology courses are required,

Five additional upper-division Anthropology courses are required, which should include at least three from the following:

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 375 Anthropology for Consulting and Design Units: 4
- HBIO 306 Biology of the Non-Human Primates Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4

Anthropology (Visual Anthropology) (BA)

In addition to the general education requirements, the following courses are required.

Required Courses, Lower-Division (4 units)

- ANTH 263g Exploring Culture through Film Units: 4

Required Courses, Upper-Division (20 units)

- ANTH 410 Ethnographic Research Methods Units: 4
- ANTH 411 Thesis Seminar in Ethnographic Analysis Units: 4
- ANTH 440 History of Anthropological Theory Units: 4
- ANTH 475 Ethnographic Film Analysis Units: 4
- ANTH 476 Ethnographic Film Theory from an Historical Perspective Units: 4

One Visual Anthropology Topical Seminar (4 units)

- ANTH 470 Multidisciplinary Seminar in Visual Anthropology Units: 4
  Or
- ANTH 472 Visual Techniques in Anthropology: Stills Units: 4

Electives in Anthropology (12 units)

12 elective units in Anthropology are required to complete the major.

The following are recommended electives:

- ANTH 312 Documenting Latinx Los Angeles Food Cultures Units: 4
- ANTH 393 Directed Internship Units: 2, 3, 4, 5, 6, 7, 8

Global Studies (BA)

The Global Studies major offers an interdisciplinary perspective on global issues and problems, while also providing opportunities for cross-cultural engagement and real-world learning.

Based in the Department of Anthropology, the Global Studies major prepares students for careers that require cross-cultural proficiency and grounded social analysis, such as international aid and advocacy, policy, law, media and journalism, business, global health, design, or engineering. Along with the required core and collateral courses, the elective units allow sufficient flexibility to complete course prerequisites for regional and area studies programs, law school, and business school.

Experiential Learning

In addition to specific course work, students in the Global Studies major are expected to engage in curricular experiential learning, such as by completing a minimum of one intensive internship (such as 4 credits or more of ANTH 393), one semester of study abroad, or equivalent.

Ideally, a student will spend one summer and one semester engaged in experiential learning prior to the senior year. Approved experiential learning courses include ANTH 325 and ANTH 393, as well as Problems Without Passports and many Maymester courses. Your academic adviser can provide more information on approved experiential learning options.

Language Requirement

Language proficiency is an important foundation for cross-cultural learning. For this reason, Global Studies majors are required to have or acquire at least intermediate conversational proficiency in a language not already familiar to them. The language requirement can be fulfilled in several ways: by completing a study abroad language immersion program at least eight weeks in length, by completing an oral examination administered by a qualified language instructor, or by completing an additional 8 units of language courses (in addition to the 8 units required of all USC Dornsife students).

Capstone Project and Seminar

The capstone project is the final requirement for the Global Studies major. It is a cumulative project that draws upon the experiential learning and coursework completed for the major. Students complete the capstone project while enrolled in an approved 4-unit capstone seminar. See the Global Studies program webpage for more information on the capstone.

Honors Program in Global Studies

Global Studies majors who have maintained a minimum GPA of 3.5 are strongly encouraged to explore the Honors Program in Global Studies, which entails writing an honors thesis and earning a grade of A- or higher in ANTH 485. We encourage students who meet the qualifications to consider the program as early as their fourth or fifth semesters. The full requirements for the Honors Program can be found on the Global Studies webpage.

Required Core Courses (16 units)

Global Studies majors are required to complete a total of 36 units, including 16 units of required course work in Anthropology, and at least 20 units of elective course work chosen within the student's thematic or regional focus.

Lower-Division (4 Units)

- ANTH 205g Introduction to Global Studies and Cross-cultural Research Units: 4

Upper-Division (4 Units)

- ANTH 415 Global Issues Seminar Units: 4

Research Methods (4 units)

One 4-unit research methods course.

- ANTH 325 Global Studies Research Methods Units: 4
  Or
- ANTH 375 Anthropology for Consulting and Design Units: 4
  Or
- ANTH 410 Ethnographic Research Methods Units: 4

Capstone Seminar (4 units)

4-unit capstone seminar. The following are approved capstone seminar courses for the Global Studies Major:

Offered each Spring semester:

- ANTH 485 Global Studies Capstone Seminar Units: 4

Offered irregularly or with prior departmental approval:

- ANTH 411 Thesis Seminar in Ethnographic Analysis Units: 4
- ANTH 393 Directed Internship Units: 2, 3, 4, 5, 6, 7, 8
- ANTH 470 Multidisciplinary Seminar in Visual Anthropology Units: 4
- ANTH 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ANTH 491 Directed Research for Honors Units: 4

Elective Courses (16 Units)

At least 16 units of elective course work in the humanities and social sciences, chosen within the student's thematic or regional focus. The academic adviser can assist with selecting appropriate electives.

Approved Humanities Electives:

- AMST 250gmw The African Diaspora Units: 4
- COLT 102g On Location: The Place of Literature in Global Cultures Units: 4

- COLT 250g Cultures of Latin America Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4
- COLT 379 Nationalism and Postcolonialism in Southeast Asian Cinema Units: 4
- COLT 382gw Zen and Daoism in Asian Literature Units: 4
- COLT 445 Europe and the Writing of Others Units: 4
- FREN 347g Race, Gender and Power in Francophone Literature Units: 4
- HIST 180gw The Middle East Units: 4
- HIST 333 Korea: The Modern Transformation Units: 4
- HIST 369 History of the Indigenous Peoples in the Americas Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- HIST 413 The Age of Revolutions Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- IR 376 U.S.-Japan Encounters: War, Trade, and Culture Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 330 Introduction to the Religions of India Units: 4
- REL 331 Religions of East Asia Units: 4
- REL 332 Religions of Japan Units: 4
- REL 334g Religion and Colonial Encounter Units: 4
- REL 415 Seminar in Buddhism Units: 4
- REL 417 Seminar in South Asian Religions Units: 4

Approved Social Science Electives:

- ANTH 235g The Changing Pacific: History, Culture, Politics Units: 4
- ANTH 250g Race and Sexual Politics in Southeast Asia Units: 4
- ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions Units: 4
- ANTH 301g The Global Performance of Healing Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 324gw Contemporary China: Cultural Politics and Social Realities Units: 4
- ANTH 330m Culture, Gender and Politics in South Asia Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 345 Politics, Social Organization, and Law Units: 4
- ANTH 337 Anthropology of Warfare Units: 4
- ANTH 338g Food in Culture and Society Units: 4
- ANTH 344g Living with the Past: Encountering History through Ritual, Experience and Practice Units: 4
- ANTH 355 Urban Anthropology Units: 4
- ANTH 357g Cultures of Genocide, Cultures of Care Units: 4
- ANTH 460 Economic Anthropology Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 435 Ethnic Identity and Minority Politics in China Units: 4
- ANTH 445 African American Anthropology Units: 4
- AMST 250gmw The African Diaspora Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 308w Economic Globalization Units: 4
- IR 309 Global Governance Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 358 The Asia Pacific in World Affairs Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 463 Islam and Arab Nationalism Units: 4
- POSC 120 Comparative Politics Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 250 Critical Issues in Comparative Politics Units: 4
- POSC 255g Cultures, Civilizations and Ethnicities in World Politics Units: 4
- POSC 260 Global Ethnic Politics Units: 4
- POSC 351 Middle East Politics Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 355 Politics of East Asia Units: 4
- POSC 358 Politics of Sub-Sahara Africa Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- POSC 365 World Political Leadership Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- POSC 377 Asian Political Thought Units: 4
- POSC 453 Political Change in Asia Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

Minor

Cultural Anthropology Minor

Required Courses, Lower-Division

- ANTH 201g Introduction to Sociocultural Anthropology Units: 4 or
- ANTH 263g Exploring Culture through Film Units: 4

Required Course, Upper-Division

- ANTH 440 History of Anthropological Theory Units: 4

Two Courses To Be Selected From:

- ANTH 345 Politics, Social Organization, and Law Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 460 Economic Anthropology Units: 4
- One world area specialization course Units: 4

Folklore and Popular Culture Minor

The minor in folklore and popular culture provides an academic foundation for students interested in the many genres in the field including folktales, myths, legends, proverbs, jokes, games, folk medicine, and folk and indigenous musical traditions, from around the world. Through interdisciplinary course work, students will learn techniques of collecting, analyzing and interpreting the traditional expressive culture of diverse groups. Students will analyze the interrelationships of folklore and national, regional and ethnic identities. After becoming acquainted with methods of interpreting different forms of folklore, students will see how value systems are reflected in the data, so that students understand the ideological underpinnings of group formation, group identity, conflict and strategies for resolution. By focusing on the individual, informal culture, and the tension between the individual and myriad groups to which they belong, folklore provides yet another window into understanding how individuals function in complex societies. Since the field is historically grounded and culturally comparative, folklore provides important perspectives on the human condition.

Course Requirements

For the minor in folklore and popular culture, students must complete five courses, as distributed below.

Core Requirement

- ANTH 333gm Forms of Folklore Units: 4

Lower-Division Courses (Choose One)

- AMST 285gm African American Popular Culture Units: 4
- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4

- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- COMM 206 Communication and Culture Units: 4
- HIST 271g Telling Native American Stories Units: 4
- MUSC 102gw World Music Units: 4

Upper-Division Courses (Choose Three)

- AMST 330m Black Music and the Political Imagination Units: 4
- AMST 395m African American Humor and Culture Units: 4
- ANTH 301g The Global Performance of Healing Units: 4
- ANTH 332g Anthropology and Narrative Medicine Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 372 Interpretation of Myth and Narrative Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 409 Indigenous Languages in the Contemporary World Units: 4
- ANTH 445 African American Anthropology Units: 4
- ANTH 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CLAS 325 Ancient Epic Units: 4
- CLAS 380 Approaches to Myth Units: 4
- COLT 311 Epic Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 440 Music as Communication Units: 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- GERM 346 German Folklore and Popular Culture Units: 4
- JS 378 Jewish Magic in the Ancient World Units: 4
- MDA 330 The Armenian Heritage: History, Arts, and Culture Units: 4
- MUSC 444 American Roots Music: History and Culture Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- SPAN 385 The Culture of Food in Hispanic Los Angeles Units: 4

Food and Society Minor

The interdisciplinary minor in Food and Society at USC explores food as a complex social phenomenon, shaped by human knowledges, practices, and ecologies. Grounded in Anthropology, the minor in Food and Society examines the diversity that characterizes human relationships to food, and learn to apply the tools of social analysis to gain critical insight into the complex social forces that shape food systems.

Required:

- ANTH 338g Food in Culture and Society Units: 4

One elective from the following list of lower-division courses:

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- ANTH 201g Introduction to Sociocultural Anthropology Units: 4
- ANTH 205g Introduction to Global Studies and Cross-cultural Research Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- BISC 102Lgx Humans and Their Environment Units: 4
- BISC 115Lxg The Biology of Food Units: 4
- HP 230 Nutrition and Health Units: 4
- JS 258gp Food, Faith and Conflict Units: 4
- REL 136g Sense and Sensuality in Indian Religions and Culture Units: 4

Three electives from the following list of upper-division courses:

- AMST 343 Food, Health and Culture in Los Angeles Units: 4
- ANTH 301g The Global Performance of Healing Units: 4
- ANTH 302 Humans and Ancient Environments Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 338g Food in Culture and Society Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 393 Directed Internship Units: 2, 3, 4, 5, 6, 7, 8
- ANTH 460 Economic Anthropology Units: 4
- HBIO 300 Evolution, Ecology, and Culture Units: 4
- JOUR 458 Media, Food and Culture Units: 4
- PPD 416 Food Policy and Planning Units: 2
- REL 303g Exploring Ancient Ways of Living: Experimental Archaeology Units: 4
- REL 475 Religion, Material Culture and the Senses Units: 4
- SPAN 316x Spanish for the Professions Units: 4
- SPAN 385 The Culture of Food in Hispanic Los Angeles Units: 4
- SWMS 389 Gender, Sexuality and Food Cultures in the U.S. Units: 4

Electives by petition

Students may also identify elective courses that fit within the following four categories and petition for their approval toward the minor. Contact your academic or program adviser for information.

Culture and History

Courses that offer a cultural, historical, or humanistic perspective on specific communities, foodways or practices. Exemplary courses:

- CORE 301 Modes of Inquiry Units: 4
  (Section: *We are What we Eat: Food & Class in Los Angeles*. The course explores class issues embedded in LA's international food scene.)
- GESM 130g Seminar in Social Analysis Units: 4
  (Sections: *Food -- Then and Now*; *Food and Charity*)
- GESM 131g Seminar in Social Analysis Units: 4
  (Section: *Food, Society and Health*)

Nature and human life

Courses that examine the relationship between humans and nature; it pertains to food or nutrition, including topics in biology, ecology, sustainability, environmental studies, agriculture and civil engineering, etc. Exemplary courses:

- BISC 115Lxg The Biology of Food Units: 4
- CE 451 Water Resources and Coastal Engineering Units: 4

Politics and policy

Courses that provide insight into the relationship between food politics and policy including issues in economic development, trade and food security, food deserts, poverty and public health, etc. Exemplary courses:

- ECON 344 Economic Development of Sub-Saharan Africa Units: 4
- PPD 416 Food Policy and Planning Units: 2

Art, craft and practice

Courses that provide a perspective on food as art, craft or creative practice, including documenting or representing food in social experience. Exemplary courses:

- COMM 400 Seminar in Communication Units: 4
- REL 303g Exploring Ancient Ways of Living: Experimental Archaeology Units: 4

Medical Anthropology Minor

Medical anthropology examines the body, illness and healing from a cultural perspective, including comparative studies of folk healing systems, curing rituals and Western biomedical practices.

Required Course (4 units)

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- HBIO 200Lg The Human Animal Units: 4

One Course (4 Units) To Be Selected From:

- ANTH 105g Culture, Medicine and Politics Units: 4
- ANTH 125g Social Issues in Human Sexuality and Reproduction Units: 4
- ANTH 201g Introduction to Sociocultural Anthropology Units: 4
- ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions Units: 4

Upper-Division Courses: Four Of The Following (16 Units):

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 375 Anthropology for Consulting and Design Units: 4
- ANTH 380 Sex and Gender in Anthropological Perspective Units: 4
- ANTH 440 History of Anthropological Theory Units: 4
- ANTH 445 African American Anthropology Units: 4
- HBIO 405 Evolutionary Medicine Units: 4
- OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

Southeast Asia and its People Minor

This minor allows students to supplement more narrowly defined departmental majors with a multidisciplinary focus on an area of great importance both to global developments and to cultural heritage issues in California and the United States. There is no language requirement and no required courses, but students must take one lower and four upper-division courses dealing with Southeast Asian cultures and people of Southeast Asian heritage in the United States. The focus of this new minor is on transnational connections and the new area of global culture.

Lower Division

Choose one class (4 units)

- AMST 220gmw The Making of Asian America Units: 4
- ANTH 250g Race and Sexual Politics in Southeast Asia Units: 4
- ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions Units: 4
- POSC 120 Comparative Politics Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4

Upper Division

Choose four classes (16 units), including at least one class from each list.

Southeast Asia

- ANTH 322 Anthropology of Bali Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- COLT 379 Nationalism and Postcolonialism in Southeast Asian Cinema Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 377 Asian Political Thought Units: 4
- REL 330 Introduction to the Religions of India Units: 4
- REL 334g Religion and Colonial Encounter Units: 4

Southeast Asia and the United States

- HIST 344 The Vietnam War, 1945–1975 Units: 4
- IR 424w Citizenship and Migration in International Politics Units: 4
- POSC 328 Asian American Politics Units: 4
- REL 336w Re-Viewing Religion in Asian America Units: 4

Note:

Courses have no prerequisites.

Master's Degree

Anthropology (MA)

Degree Requirements

Students are not accepted for the MA in Anthropology alone, but the MA in Anthropology can be granted after two years of course work and satisfactory completion of the screening exams.

Required Courses

- ANTH 501 History and Foundations of Anthropology Units: 4
- ANTH 502 Contemporary Theory in Anthropology Units: 4
- ANTH 503 Problematizing Locality: Comparative Ethnographies Units: 4
- ANTH 562 The Practice of Ethnography Units: 4 (or another methods course approved by the supervisor for primatologists)
- Four 4-unit graduate-level courses in anthropology Units: 16

Total units: 32

Visual Anthropology (MVA)

Students in the Masters of Visual Anthropology (MVA) program at USC pursue an academically rigorous course of study, focusing on Anthropology's applications to the production of visual media and documentary. MVA students learn qualitative research methods, contemporary anthropological theory, and ethnographic film history and theory, while gaining hands-on experience in anthropological media production and non-fiction cinematic practice.

The MVA is designed as an intensive, full-time program that spans a calendar year, including the summer after coursework, during which students complete a 20- to 30-minute thesis film based on original ethnographic research. There is also the option to complete the MVA degree over two years of study, providing students who have work or other obligations more flexibility in undertaking the course work and field research required for the degree.

Required Courses

- ANTH 502 Contemporary Theory in Anthropology Units: 4
- ANTH 562 The Practice of Ethnography Units: 4
- ANTH 575 Seminar in Ethnographic Film Units: 4
- ANTH 576L Anthropological Media Seminar Units: 4
- ANTH 577L Advanced Anthropological Media Seminar Units: 4
- ANTH 595 Ethnographic Postproduction Units: 4
- IML 520 Non-Fiction Cinematic Practice I Units: 2
- IML 521 Non-Fiction Cinematic Practice II Units: 2

One graduate course in Anthropology or Visual Studies (4 units)

All elective courses must be approved by the Anthropology Graduate Studies Adviser. Recommended courses:

- ANTH 501 History and Foundations of Anthropology Units: 4
- ANTH 503 Problematizing Locality: Comparative Ethnographies Units: 4
- ANTH 509 Key Topics in Linguistic Anthropology Units: 4
- ANTH 510 Urban Anthropology Units: 4
- ANTH 601 Feminist Issues in Anthropology Units: 4
- ANTH 602 The Anthropology of Popular Culture Units: 4
- ANTH 603 Experiments in Ethnography Units: 4
- ANTH 604 Bodies and Practices Units: 4
- ANTH 605 Race: Performance, Politics, Cultural Production Units: 4
- ANTH 606 Seminar on Nationalism and Ethnicity Units: 4
- MDA 501 Introduction to Visual Studies: Methods and Debates Units: 4
- MDA 599 Special Topics Units: 2, 3, 4

Total units: 32

Note:

The final documentary project must be submitted in rough cut

format by the end of August following the completion of all course work in May.

Graduate Certificate

Visual Anthropology Certificate

Students can be admitted to the certificate program in visual anthropology after they have completed their PhD qualifying examinations. The certificate is an interdisciplinary program, with training in digital video production provided by the USC School of Cinematic Arts. Professional skills in video production are designed to help students present their research results to a wider audience and to use visual media effectively in communicating ideas about anthropology. After completing fieldwork, students take a year-long editing sequence and practicum (ANTH 576 and ANTH 577) to finish a visual project, which will complement the written dissertation.) A total of 16 units is required.

Required Courses

- ANTH 562 The Practice of Ethnography Units: 4
- ANTH 575 Seminar in Ethnographic Film Units: 4
- ANTH 576L Anthropological Media Seminar Units: 4
- ANTH 577L Advanced Anthropological Media Seminar Units: 4

Note:

Students may begin to take course work required for the certificate in their first year, but they cannot complete their project until they have satisfied other requirements for doctoral candidacy. The Certificate in Visual Anthropology is received at the same time as the PhD.

Doctoral Degree

Anthropology (PhD)

The Anthropology Department's PhD program offers students a strong foundation in the history, theory and practice of anthropology, while enabling them to develop formally innovative dissertations.

Before being admitted to PhD candidacy, the student must fulfill the language requirement, present a portfolio and pass the qualifying examination. Having completed this work, the student will conduct fieldwork and write the doctoral dissertation.

Language Requirement

Students are required to demonstrate competence in one or more foreign languages, to be selected in consultation with the faculty committee.

Required Course Work

The student's course work must total at least 60 units. No more than 8 units of 794 Doctoral Dissertation may count toward the 60 units.

Additional Requirements

In addition to specific course work, PhD students are expected to engage in relevant practical training, ideally by completing 2 or more units of ANTH 596 Internship for Curricular Practical Training or equivalent.

Additional information about the PhD can be found on the Anthropology program website.

Degree Requirements

The student's coursework must total at least 60 units. No more than 8 units of 794 Doctoral Dissertation may count toward the 60 units.

Required Courses

- ANTH 501 History and Foundations of Anthropology Units: 4
- ANTH 502 Contemporary Theory in Anthropology Units: 4
- ANTH 562 The Practice of Ethnography Units: 4
- ANTH 593 Practicum for Teaching in Anthropology Units: 2
- ANTH 603 Experiments in Ethnography Units: 4 , or equivalent
- At least 6 additional graduate courses, to be selected in consultation with the committee (24 units)

Research

Minimum 8 units required.

- ANTH 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Dissertation

8 units required.

- ANTH 794a Doctoral Dissertation Units: 2
- ANTH 794b Doctoral Dissertation Units: 2

Art History

Art history combines the study of art with the study of culture more broadly. The undergraduate major receives sound training in the history of art and visual culture and also gains a basis in other humanistic disciplines. The curriculum is designed to guarantee students a general knowledge of art – western, eastern, and global – and to offer a variety of upper-division courses in specialized areas. Majors are exposed to a diversity of theoretical approaches and encouraged to sharpen their powers of visual analysis, their critical and conceptual thinking, and their writing and speaking skills. This foundation has enabled many art history graduates to pursue advanced degrees in nationally recognized programs, to enter diverse fields, including law or business, and to pursue careers in the arts. A special feature of the undergraduate program is the apprenticeship, which affords upper-division students the opportunity to work in the professional art world in return for elective credit. Students gain valuable job skills in local museums, galleries, auction houses and art foundations. The department is firmly committed to equity and diversity, both in practice, and when it comes to our objects of study.

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Chair: Kate Flint, PhD

Faculty

University Professor and Leo S. Bing Chair in English and American Literature and Professor of English, Art History and History: Leo Braudy, PhD* *(English)*
Provost Professor of Art History and English: Kate Flint*, PhD
USC Associates Professor in Art History and Professor of Art History: John Pollini, PhD*
Professors: Daniela Bleichmar, PhD*; Diane Ghirardo, PhD *(Architecture)*; Amelia Jones, PhD *(Fine Arts)*; Carolyn M. Malone, PhD; Amy Ogata, PhD; Lisa Pon, PhD; Vanessa Schwartz, PhD*
Associate Professors: Susanna Berger, PhD; Vittoria Di Palma, PhD *(Architecture);* Suzanne Hudson, PhD; Sonya Lee, PhD; Megan Luke*, PhD; Amy K. Powell, PhD; Ann Marie Yasin, PhD
Associate Professor (Teaching): Hector Reyes, PhD
Lecturer: Samantha Burton, PhD
Adjunct Associate Professor (Teaching) of the Practice: Miya Mizuta Lippit *(East Asian Languages and Cultures)*
**Recipient of university-wide or school teaching award.*

Undergraduate Degree

Art History Honors Program

Candidates for the BA in the Department of Art History can earn a designation on their transcripts of departmental honors. Admission to the Honors Program is required.

Prerequisites: 3.5 overall GPA, 3.5 major GPA or better, completion of at least three upper-division art history courses at

the time of admission, submission of an application form to the undergraduate faculty adviser.

Required for departmental honors: maintain GPA requirements stated above and complete AHIS 495a and AHIS 495b Undergraduate Honors Thesis.

Interdisciplinary Minor in Early Modern Studies

This minor brings together the resources of the departments of English, History and Art History to study the literatures and cultures of Europe and the Americas from the late medieval period to 1800. For complete listing of requirements, see the Department of English.

Graduate Degrees

Graduate students in art history pursue a wide range of subject matter, using a variety of methodologies and techniques. Graduates may also pursue parallel interests by taking courses in outside departments such as history, classics, East Asian languages and cultures, Slavic languages and literatures, French, German, Italian and others. Graduate students are encouraged to participate in annual conferences and symposia. Travel grants are available through the department. In addition to image databases, electronic access to university library catalogues, courtesy privileges and cross-registration of course work at UCLA, our graduate students have access to numerous research opportunities in and around Southern California at institutions such as the Los Angeles County Museum of Art, the Huntington Library, Art Collections and Botanical Gardens, the Archives of American Art, the Institute for Modern Russian Culture, the J. Paul Getty Museum and the Getty Research Institute, the Museum of Contemporary Art, Los Angeles, and the USC Pacific Asia Museum.

Admission

Admission to all programs is granted through the Graduate School in conjunction with the Department of Art History; all applicants must meet the requirements of both. Interviews are strongly encouraged.

All applicants must complete the department's supplemental application form.

Complete details for all graduate programs can be found in the *Guidelines for Graduate Studies in Art History*, obtainable upon admission.

Areas of Concentration

Greek and Roman Art and Archaeology, Roman/Late Roman and Early Byzantine Art and Architecture, Medieval Art and Archaeology, Renaissance Art, Baroque Art, 18th and 19th Century European Art, 19th and 20th Century British and Transatlantic Studies, American Art and Visual Culture, Modern and Contemporary Art, Modern European and American Architecture, Design and Material Culture, Art and Architecture of China and Central Asia, Japanese Art, Latin American Art, Art of the Ancient Americas, Modern Visual Culture, and History of Photography.

Bachelor's Degree

Art History (BA)

In art history, undergraduates are provided with a sound, broad foundation in art from a variety of offerings. On this basis, exploration of the art of many eras and cultures proceeds in a program designed to develop an awareness of the integral role played by art as an expression of the human condition and society throughout history. A grade of C or higher is required in departmental courses for all undergraduate majors.

Curriculum Requirements

The Bachelor of Arts in Art History requires 128 units.

General Education and Diversity Requirements

Candidates for the Bachelor of Arts in Art History must complete the general education and diversity requirements of the USC Dornsife College of Letters, Arts and Sciences.

Major Requirements

The major requires 40 units as follows.

Lower-Division Requirements (8 Units)

- AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance Units: 4 or
- AHIS 121gp Foundations of Western Art: Renaissance to Contemporary Units: 4

Choose one course from:

- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128gp Arts of Latin America Units: 4

Total units: 8

Additional Requirements (32 units)

- AHIS 494 Undergraduate Proseminar in Art History Units: 4 is required

Seven additional courses

Seven additional courses to include five courses with a minimum of one in each of four out of the following five areas of study, only one of which may be at the 200 level.

Greek and Roman art and archaeology

- AHIS 201g Digging into the Past Units: 4
- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4

Medieval art

- AHIS 220g Medieval Visual Culture Units: 4
- AHIS 330 Medieval Art Units: 4

Renaissance and Baroque art

- AHIS 230 Art and Culture in Early Modern Europe Units: 4
- AHIS 304gm Art, Power and Identity in Renaissance Italy Units: 4
- AHIS 343 Renaissance Art Units: 4
- AHIS 344 Baroque Art Units: 4

Modern and contemporary art

- AHIS 250gm Art, Modernity and Difference Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- AHIS 270 L.A. Now: Contemporary Art in Los Angeles Units: 4
- AHIS 361 British Modernism, 1780-1918 Units: 4
- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present Units: 4
- AHIS 365m African American Art Units: 4
- AHIS 366g Picturing Democracy: American Art and Visual Culture, 1750-1900 Units: 4
- AHIS 367g Early American Modernism: American Art and Visual Culture, 1876-1939 Units: 4
- AHIS 368 Modern Art I: 1700–1850 Units: 4
- AHIS 369 Modern Art II: 1851–1940 Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AHIS 373g History and Theory of Photography Units: 4

Non-European traditions

- AHIS 282 Korean Art Units: 4
- AHIS 319 Mesoamerican Art and Culture Units: 4
- AHIS 376 Introduction to African Art Units: 4
- AHIS 381g Visual Cultures of Asia Units: 4
- AHIS 384 Early Chinese Art Units: 4
- AHIS 385 Later Chinese Art Units: 4
- AHIS 386 Early Japanese Art Units: 4
- AHIS 387 Later Japanese Art Units: 4

and two that must be at the 400-level

- AHIS 400x Undergraduate Apprenticeship Units: 2 counts for elective credit only and may not be applied to the major.

- AHIS 494 Undergraduate Proseminar in Art History Units: 4 (the capstone course) may be taken in either the junior or senior year.

Note:
The following courses require written permission of the chair of the Art History Department: AHIS 495a Undergraduate Honors Thesis (2-2), AHIS 495b Undergraduate Honors Thesis (2-2) and AHIS 499 Special Topics (2–4, max 8).

Minor

Art History Minor

Art history combines the study of art with the study of culture broadly conceived. The art history minor offers a concentrated course of study that includes a variety of objects from different historical periods and cultures in relation to their makers, patrons, viewers and critics. Students in the minor are trained to analyze visual images and information through a process of intensive looking, reading, research and writing.

Lower-division Curriculum (8 units)

Choose Two Lower-Division Courses; Only One May Be At The 200 Level

- AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance Units: 4
- AHIS 121gp Foundations of Western Art: Renaissance to Contemporary Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128gp Arts of Latin America Units: 4
- AHIS 201g Digging into the Past Units: 4
- AHIS 220g Medieval Visual Culture Units: 4
- AHIS 230 Art and Culture in Early Modern Europe Units: 4
- AHIS 250gm Art, Modernity and Difference Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- AHIS 270 L.A. Now: Contemporary Art in Los Angeles Units: 4
- AHIS 282 Korean Art Units: 4

Upper-division Requirement (16 units)

Choose from 300- and 400-level AHIS courses. At least one course must be at the 400 level.

Modern Art Markets and Ethics Minor

The Modern Art Markets and Ethics minor is designed for students, including Art History majors, who are drawn to an interdisciplinary study of modern art markets. The minor allows students to consider the intersection of law, ethics, and cultural studies. It offers students an interdisciplinary education in art institutions, and ethical discourses that surround the production, display, circulation, and consumption of art, both past and present. The minor will help students develop the critical skills of reading, writing and analysis crucial to a liberal education. Students will gain theoretical and analytical perspectives on ethical, political, and social issues relevant to art as they explore how the market informs and shapes our encounter with artistic objects.

Requirements

Lower-Division Requirement (4 units)

Choose one. The lower division course provides students with a broad knowledge of art. Students may take the general introductory to art history (including surveys of Western, Asian, Latin American art), or they may choose a course that focuses on issues of art, institutions, and identity in the modern period (AHIS 250gm and AHIS 255g).

- AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance Units: 4
- AHIS 121gp Foundations of Western Art: Renaissance to Contemporary Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128gp Arts of Latin America Units: 4
- AHIS 250gm Art, Modernity and Difference Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4

Upper-Division Courses on Modern Art (8 units)

Choose two. These courses will introduce students to the development of art and its relationship to modern markets in two distinct time periods. This requirement can be satisfied either at USC or through the Sotheby's Institute of Art, London - United Kingdom. Students interested in this option should consult with an Art History adviser.

- AHIS 368 Modern Art I: 1700–1850 Units: 4
- AHIS 369 Modern Art II: 1851–1940 Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4

Critical Electives (8 units)

Choose two.

- AHIS 470 Studies in Contemporary Art Units: 4
- AHIS 488 Topics in Art Conservation Units: 4
- AMST 342m Law and Identities Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- COMM 454 Media, Money, and Society Units: 4
- ECON 434 Economic Analysis of Law Units: 4
- ECON 450 International Trade Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4
- IR 308w Economic Globalization Units: 4
- IR 309 Global Governance Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- MOR 385gm Business, Government and Society Units: 4
- MOR 421 Social and Ethical Issues in Business Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- REL 304 Ethics and Global Heritage Units: 4
- REL 365 Global Ethics Units: 4

Capstone Course (4 units)

- AHIS 301 Guardians of the Past? Art Preservation, Ethics, and the Law Units: 4

Total Units: 24

Requirements for Art History Majors

Lower-Division Requirement (4 units)

- ECON 238xg Political Economy and Social Issues Units: 4

Upper-Division Electives: Ethics and Modern Institutions (8 units)

Choose two.

- AHIS 488 Topics in Art Conservation Units: 4 *
- AMST 342m Law and Identities Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- ECON 450 International Trade Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4
- IR 309 Global Governance Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- MOR 385gm Business, Government and Society Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- REL 304 Ethics and Global Heritage Units: 4
- REL 365 Global Ethics Units: 4

Upper-Division Electives: Markets and Social Relations (8 units)

Choose two.

- AHIS 470 Studies in Contemporary Art Units: 4 *
- AMST 446 Cultural Circuits in the Americas Units: 4
- COMM 454 Media, Money, and Society Units: 4
- ECON 434 Economic Analysis of Law Units: 4
- IR 308w Economic Globalization Units: 4
- MOR 421 Social and Ethical Issues in Business Units: 4

Note:

*Art History majors may choose a maximum of one elective in Art History.

Capstone Course (4 units)

- AHIS 301 Guardians of the Past? Art Preservation, Ethics, and the Law Units: 4

Total Units: 24

Visual Culture Minor

More than ever, students of today need the critical skills and intellectual breadth required to describe, analyze, and evaluate visual culture, which encompasses a broad range of visual material, artifacts, and media. Courses within the minor are organized around two foundational questions: how do we understand the production, dissemination, and consumption of visual media?; what do the objects of visual culture tell us about the experience and expression of cultural and social diversity?

The minor is open to all undergraduate majors and is especially relevant for those whose fields employ visual images to convey ideas as well as information. The minor will complement pre-professional majors (such as those in film) as well as in the humanities and social sciences.

Foundational Requirements (8 units):

- AHIS 100g Introduction to Visual Culture Units: 4

Select one of the following:

- AHIS 201g Digging into the Past Units: 4
- AHIS 215g Studies in Architecture and Urbanism Units: 4
- AHIS 220g Medieval Visual Culture Units: 4
- AHIS 230 Art and Culture in Early Modern Europe Units: 4
- AHIS 240g Introduction to American Art Units: 4
- AHIS 250gm Art, Modernity and Difference Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- AHIS 270 L.A. Now: Contemporary Art in Los Angeles Units: 4
- AHIS 282 Korean Art Units: 4

Additional Requirements (16 units)

Four courses to be selected. A maximum of two critical electives (8 units) from outside of the Art History Department may be used to satisfy thsese additional requirements.

- AHIS 304gm Art, Power and Identity in Renaissance Italy Units: 4
- AHIS 319 Mesoamerican Art and Culture Units: 4
- AHIS 320 Aegean Archaeology Units:
- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4
- AHIS 324 Late Antique Art and Archaeology Units: 4
- AHIS 325 Roman Archaeological Excavation: Methods and Practice Units: 4
- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present Units: 4
- AHIS 365m African American Art Units: 4
- AHIS 366g Picturing Democracy: American Art and Visual Culture, 1750-1900 Units: 4
- AHIS 367g Early American Modernism: American Art and Visual Culture, 1876-1939 Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AHIS 376 Introduction to African Art Units: 4
- AHIS 378 Modern Russian Art Units: 4
- AHIS 381g Visual Cultures of Asia Units: 4
- AHIS 382 Art and Cultural Heritage in East Asia Units: 4
- AHIS 415 Object-Worlds: Histories and Theories of Things Units: 4
- AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology Units: 4
- AHIS 427 Archaeological Theories, Methods, and Practice Units: 4
- AHIS 429 Studies in Art, Science, and Technology Units: 4
- AHIS 449 History of Prints and Drawings Units: 4
- AHIS 465 Studies in American Art Units: 4
- AHIS 466 Studies in the Decorative Arts and Design Units: 4
- AHIS 469 Critical Approaches to Photography Units: 4
- AHIS 470 Studies in Contemporary Art Units: 4
- AHIS 475m Blackness in American Visual Culture Units: 4
- AHIS 477 Studies in Visual and Material Culture Units: 4
- AHIS 482 Japanese Photography Units: 4
- AHIS 486 Introduction to Museums: Past, Present, and Future Units: 4
- AHIS 488 Topics in Art Conservation Units: 4
- AHIS 498 The Gods and Goddesses of the Renaissance Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- ARCH 442m Women's Spaces in History: "Hussies," "Harems" and "Housewives" Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COLT 480 Dada and Surrealism Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 395m Gender, Media and Communication Units: 4
- COMM 450 Visual Culture and Communication Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- HIST 225g Film, Power, and American History Units: 4
- HIST 245mgp How Sex Changed: US History, 1870-the Present Units: 4
- HIST 380 American Popular Culture Units: 4
- HIST 381 Cinema and History Units: 4
- HIST 481 Producing Film Histories Units: 4
- PHIL 446 Aesthetics and the Film Units: 4

Total units required: 24

Master's Degree

Art History (MA)

The department does not accept applicants for the Master of Arts in art history. Although the MA is not offered as a terminal degree, but only en route to the PhD, a student may be eligible for the MA on leaving the program after two years. A minimum of 32 units is required for the degree, and the student must pass the second year review which includes the departmental equivalent of a thesis: a revised seminar paper demonstrating original thought, research skills and writing proficiency. The opportunity to gain experience as a teaching assistant is available on a competitive basis. Transfer work applicable to the MA program must have been completed within seven years of the date of application.

Degree Requirements

A minimum of 32 units, usually taken during a two-year period, is required for the Master of Arts in Art History, to be distributed as follows:

Required Courses

- AHIS 500 Methods and Theory of Art History Units: 4
- Additional 500-level courses Units: 28

Total units: 32

Additional Requirements

Course Distribution

Courses will be at the 500 level; 400-level courses may be accepted with approval of the graduate adviser. No more than two seminars with the same course number can be taken for credit toward the master of arts. AHIS 500 normally must be taken in the first semester of study.

Foreign Language Requirement

All candidates must pass a reading proficiency examination in one language, normally French or German. Substitutions may be made upon faculty recommendation and approval of the chair of art history when it is deemed appropriate to the student's course of study (i.e., Italian, Chinese, Japanese, Greek, etc.). The language requirement should be completed by the end of the first year.

Graduate Certificate

History of Collecting and Display Certificate

This program, open to University of Southern California PhD students of art history as well as qualified students from other USC departments with written permission from their home department and the Department of Art History, is devoted to the study of the history of collecting and display of works of art and related materials across a broad chronological and geographical spectrum.

The program provides a means of advancing knowledge about the presentation, circulation and consumption of works of art, as distinct from the more traditional art historical investigation of the conditions surrounding their production. Additionally, this program is designed to remedy a widely perceived disjunction between the ways art history is practiced in the museum and the academy. Each academic department will determine the number of units completed which may be applied to the student's graduate degree in that department.

Required Courses

- AHIS 501 Problems in the History and Theory of Collecting and Display Units: 4
- AHIS 504 Museum Research Assistantship Units: 1

Two of the following courses:

- AHIS 502 Markets, Value and the Institutions of Art Units: 4
- AHIS 503 Categories and Collections Units: 4
- AHIS 550 Art, Business and the Law Units: 4

Total units: 13

Visual Studies Graduate Certificate

The field of visual studies encompasses a diverse range of images and artifacts as well as the history, processes and technologies of vision itself. This certificate will provide graduate students with the tools necessary to think critically about visual objects and experience and to apply that thinking to their ongoing scholarly work. Students will combine the sustained analysis of specific representations with attention to broader philosophical frameworks and historical conditions. Graduate students intending to concentrate in visual studies must be admitted to a PhD program at USC or get approval from the Program Director to enroll in the VSGC. To receive this certificate, students must take VISS 501 Introduction to Visual Studies: Methods and Debates, a team-taught VISS 599 Special Topics course, and two other graduate seminars from an approved list of relevant courses, 500 level and above, for a total of at least 16 units. A credit/no credit option will be possible with approval by the director. Directed research may not be taken toward certificate requirements.

In addition to the completion of these course requirements, students enrolled in PhD programs must demonstrate a focus on visual studies as part of their doctoral dissertation. Alternatively, PhD students may and all other enrolled students will take an oral examination based on three research papers they have written within the context of their visual studies course work. The oral exam will be administered by faculty members affiliated with the Visual Studies Graduate Certificate. Faculty will be responsible for judging the adequacy of the visual studies component in the student's dissertation or oral examination. Students not enrolled in a PhD program will additionally be required to prepare a substantial paper (25 pages) with a deadline to be determined on enrollment in the certificate.

Certificate Requirements (8 Units)

- VISS 501 Introduction to Visual Studies: Methods and Debates Units: 4
- VISS 599 Special Topics Units: 1, 2, 3, 4, 5, 6, 7, 8 max 8

Approved Certificate Courses (8 Units)

- AHIS 501 Problems in the History and Theory of Collecting and Display Units: 4
- AHIS 505 Seminar in Feminist Theory and Visual Culture Units: 4
- AHIS 515 Seminar in Contemporary Art Units: 4 max 16
- AHIS 520 Seminar in Modern Art Units: 4
- AHIS 529 Seminar in Art, Science, and Technology Units: 4
- AMST 519 Indigenous, Decolonial and Transhemispheric American Studies Units: 4
- ANTH 502 Contemporary Theory in Anthropology Units: 4
- ANTH 576L Anthropological Media Seminar Units: 4
- ANTH 577L Advanced Anthropological Media Seminar Units: 4
- ANTH 602 The Anthropology of Popular Culture Units: 4
- COMM 516x Feminist Theory and Communication Units: 4
- COMM 654 Art, Artists and Society Units: 4
- CSLC 501 Introduction to Comparative Media Studies Units: 4
- CSLC 640 Seminar in Film and Visual Studies Units: 4
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 517 Introductory Concepts in Cultural Studies Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 567 Seminar in Film/Television and a Related Art Units: 4
- CTCS 677 Cultural Theory Units: 4
- CTCS 678 Seminar in Film Theory and Medium Specificity Units: 4
- CTCS 688 Moving Image Histories: Methods and Approaches Units: 4
- EALC 509 Transnational Korean Cinema Units: 4
- EALC 510 Contemporary Japanese Cinema Units: 4
- EALC 512 Japanese Literature and Film Units: 4
- EALC 535 Proseminar in Chinese Visual Culture Units: 4
- ENGL 502 Contemporary Literary and Cultural Theory Units: 4
- ENGL 592 Contemporary British and American Literatures and Cultures Units: 4
- HIST 520 Modernity and Its Visual Cultures Units: 4
- HIST 620 Research Seminar on Modern Visual Culture Units: 4
- IML 501L Digital Media Authorship and the Archive Units: 4
- SLL 665 Seminar in Russian Culture and the Arts Units: 3 max 9
- THTR 525 Seminar in Contemporary Theatre Units: 4
- THTR 535 Seminar in Aesthetics of the Theatre Units: 4

Doctoral Degree

Art History (PhD)

Application deadline: December 1.

The doctor of philosophy in the Art History program normally requires at least three years of course work and two years of dissertation research. Applicants may be admitted directly into the program after receiving the BA Other applicants may already hold an MA in art history or the equivalent from USC or another accredited school.

Every student will be subject to departmental screening procedures, which involve periodic review by the art history graduate committee. The committee may recommend at any time,

after a written warning, based on a student's grades, evaluation of instructors or rate of progress toward the degree, that a student be dropped from the program. Such recommendations will become effective at the end of the semester during which the recommendation is made.

Course Requirements

Master of Arts and Doctor of Philosophy units total 60. Up to 32 master of arts units from USC or 16 from other institutions may be transferred with approval of the faculty. Transfer work applicable to the PhD program must have been completed within 10 years of the date of application. AHIS 500, or equivalent, is required of all graduate students. Four units are for work on the dissertation. (Two units of dissertation credit each semester — including summer — for a minimum registration period of two semesters.)

Foreign Language Requirements

All candidates must pass reading proficiency examinations in a minimum of two languages, normally French and German or the requisite languages in Asian art. Substitutions and/or additions may be made with faculty recommendation and approval of the chair of the Art History Department when appropriate to the student's program. Additional foreign language beyond the minimum may be required depending on the student's program of study. All language requirements must be completed prior to taking the qualifying exam.

Screening Examinations

Passing the following procedures are prerequisite to continuation in the doctoral program, as stated in the departmental graduate guidelines. Before the student has completed 24 units, the first-year examination must be passed. Before the student has completed 48 units, the second-year review must be passed.

Qualifying Examination

At the end of the second year, the student will nominate a five-member qualifying exam committee for the qualifying examination that includes one member from outside the Department of Art History. The student is expected to pass the qualifying examination in a major field and satisfy the requirements for the minor and outside fields by the end of the third year. Forms for permission to take the qualifying examination must be submitted at least 60 days before the date of the scheduled examination. The written portion of the examination will be followed by an oral examination. The oral examination will be given to discuss in greater depth the student's knowledge of the dissertation proposal; the oral lasts approximately two hours. After passing the qualifying examination, the student will be admitted to candidacy for the PhD.

Dissertation

Following the completion of the qualifying exam, the qualifying exam committee will be reduced to three members, including one member from outside the department, who will guide and finally approve the dissertation.

Biological Sciences

The Department of Biological Sciences has research faculty with specialties in four disciplines: human and evolutionary biology, marine and environmental biology, molecular and computational biology, and neurobiology. A diversity of upper-division undergraduate and graduate courses permits biology majors to choose an emphasis in any of these four disciplines. Our students will gain a deep appreciation of organisms, from their smallest molecular mechanisms to their largest interactions within ecosystems. We help students refine skills in critical thinking, communication, and collaboration, as well as understand how biology can contribute to solving society's problems. We also offer students the opportunity to participate in the discovery of new knowledge by working alongside our faculty members in their laboratories. Students who complete our degree programs will be well prepared for professional careers in the health sciences, as well as for careers in research and education in the basic biological and biomedical fields, and many other professions.

The department offers BA and BS degrees in Biological Sciences, and BA and BS degrees in Human Biology. See the HEB section of the Dornsife website for more information about Human Biology undergraduate programs of study. The BS in Biochemistry is offered as a joint program with the Department of Chemistry. See the Neuroscience section of the Dornsife website for descriptions of the undergraduate degrees in Neuroscience and Computational Neuroscience. Undergraduates in Biological Sciences have the opportunity to become involved in laboratory or field research and may enroll in the research courses BISC 290 or BISC 490x for some of their elective units. Minors are offered in Biology of Human Movement, Biotechnology, Craniofacial and Dental Technology (with the Herman Ostrow School of Dentistry), Human Disease, Marine Biology, and Natural Science.

At the graduate level, the department offers challenging degree programs that lead to a PhD in Integrative and Evolutionary Biology, Marine Biology and Biological Oceanography, and Molecular Biology. See the Neuroscience section of the Dornsife website for a description of the graduate degree in Neuroscience. The department also offers progressive MS degrees in Marine and Environmental Biology and Molecular Genetics and Biochemistry.

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Chair: James Moffett, PhD
Vice Chair: Ian Ehrenreich, PhD

Section Heads
Human and Evolutionary Biology: Lorraine Turcotte, PhD
Marine and Environmental Biology: Suzanne Edmands, PhD
Molecular and Computational Biology: Oscar Aparicio, PhD
Neurobiology: David McKemy, PhD*

Faculty
Robert C. Packard President's Chair, President and Professor of Preventive Medicine and Biological Sciences: Carol L. Folt, PhD *(Preventive Medicine)*
University Professor and ARCO/William F. Kieschnick Chair of the Neurobiology of Aging and Professor of Neurobiology, Biological Sciences, Anthropology and Psychology: Caleb E. Finch, PhD *(Gerontology)*
Distinguished Professor of Biological Sciences, Molecular Biology and Biochemistry, and Ester Dornsife Chair in Biological Sciences: Norman Arnheim, PhD*
USC Associates Captain Hancock Chair in Marine Science and Professor of Biological Sciences: David A. Caron, PhD*
University Professor and Milo Don and Lucille Appleman Professor of Biological Sciences and Professor of Biological Sciences and Psychology: Larry W. Swanson, PhD
Distinguished Professor and Chair, Molecular Microbiology and Immunology; Fletcher Jones Foundation Chair in Molecular Microbiology and Immunology: Jae U. Jung, PhD *(Molecular Microbiology and Immunology)*

W. M. Keck Provost Professor of Stem Cell Biology and Regenerative Medicine and Biological Sciences: Andrew McMahon, PhD *(Stem Cell Biology and Regenerative Medicine)*
Provost Professor of Biological Sciences, Biomedical Engineering, Physiology and Biophysics, Stem Cell Biology and Regenerative Medicine, Pediatrics, Radiology and Ophthalmology: Scott Fraser, PhD
Provost Professor of Biological Sciences, Chemistry, Neurology, Physiology and Biophysics: Raymond Stevens, PhD
Dean's Professor of Biological Sciences and Professor of Biological Sciences, Medicine, Biomedical Engineering and Aerospace and Mechanical Engineering: Peter Kuhn, PhD
William and Julie Wrigley Chair in Environmental Studies and Professor of Biological Sciences: Douglas G. Capone, PhD
Rita and Edward Polusky Chair in Basic Cancer Research and Professor of Pathology and Biological Sciences: Michael R. Lieber, PhD *(Pathology)*
McCulloch-Crosby Chair in Marine Biology and Professor of Biological Sciences: Jed A. Fuhrman, PhD*
Distinguished Professor of Biological Sciences: Susan Forsburg, PhD*
Gabilan Distinguished Professorship in Science and Engineering and Professor of Biological Sciences: Suzanne Edmands, PhD; Judith Hirsch, PhD; Lorraine Turcotte, PhD
Gabilan Assistant Professor of Biological Sciences: Carly Kenkel, PhD; Lindsey Schier, PhD
Professors: Jan Amend, PhD *(Earth Sciences)*; Oscar M. Aparicio, PhD; Donald Arnold, PhD; Christopher Boehm, PhD; Sarah Bottjer, PhD; Lin Chen, PhD; Xiaojiang Chen, PhD; Casey Donovan, PhD; Pinghui Feng, PhD *(Dentistry)*; Steven Finkel, PhD; Henryk Flashner, PhD *(Aerospace and Mechanical Engineering)*; Myron F. Goodman, PhD; John F. Heidelberg, PhD; Albert A. Herrera, PhD*; David Hutchins, PhD; Dale Kiefer, PhD; Chien-Ping Ko, PhD; Emily R. Liman, PhD; Donal T. Manahan, PhD; David D. McKemy, PhD*; Jill McNitt-Gray, PhD; Matthew Michael, PhD; James W. Moffett, PhD; Sergey Nuzhdin, PhD; Matthew Pratt, PhD *(Chemistry)*; Peter Qin, PhD *(Chemistry)*; David Raichlen, PhD; Sergio Sañudo-Wilhelmy, PhD; Craig Stanford, PhD; John Tower, PhD; Alan Watts, PhD
Associate Professors: Irene Chiolo, PhD; Sean Curran, PhD *(Gerontology);* Matthew Dean, PhD; Dion Dickman, PhD; Ian Ehrenreich, PhD; Robert Girandola, PhD; Andrew Gracey, PhD; Scott Kanoski, PhD; Fabien Pinaud, PhD; Cameron Thrash, PhD; Eric A. Webb, PhD; Chao Zhang, PhD *(Chemistry)*; Wiebke Ziebis, PhD
Assistant Professors: Berenice Benayoun, PhD *(Gerontology)*; Xianrui Cheng, PhD; Cornelius Gati, PhD; Bruce Herring, PhD; Samuel Andrew Hires, PhD; Naomi Levine, PhD; Carolyn Phillips, PhD; Marc Vermulst, PhD *(Gerontology)*
Professor (Teaching): Karla B. Heidelberg, PhD*
Professor (Research): James Hicks, PhD
Associate Professors (Teaching): Christa Bancroft, PhD; Kurt Kwast, PhD; Oliver Rizk, PhD
Associate Professors (Research): Linda Duguay, PhD; Feixue Fu, PhD; Le Trinh, PhD
Associate Profesors (Clinical): Kristi Lewton, PhD *(Cell and Neurobiology)*; Biren Patel, PhD *(Cell and Neurobiology)*
Assistant Professors (Teaching): Nancy Castro, PhD; Raffaella Ghittoni, PhD; Grayson Jaggers, PhD; Gioia Polidori, PhD; Trond Sigurdsen, PhD; Bruce Yazejian, PhD
Assistant Professors (Research): Laura Gomez Consarnau, PhD; Joel Hahn, PhD; Rusty Lansford, PhD *(Radiology)*; Phuong Pham, PhD; Alberto Robador Ausejo, PhD; Thai Truong, PhD; Kate White, PhD
Master Lecturer: Gudrun Floyd, MS
Lecturer: Shirin Birjandi, PhD
Emeritus: Robert Baker, PhD; John Callaghan, PhD; Richard Deonier, PhD; Dennis Hedgecock, PhD; William O. McClure, PhD*; Michael Quick, PhD*; Cornelius Sullivan, PhD; Russel Zimmer, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Director of Undergraduate Studies, Biological Sciences: Christa Bancroft, PhD

The BISC degree programs are designed for students passionate about biology and the natural sciences. Rigorous training in scientific methods paired with a broad liberal arts education prepares BISC majors for careers in diverse fields such as business, education, law, health and technology. Many students choose the BISC major because most of the course requirements overlap with the pre-health curriculum or prepare students for a career in academia or industry.

The department offers specially planned courses within the biological sciences to prepare students for admission to professional schools (medicine, dentistry, veterinary science, occupational therapy, physical therapy, pharmacy, optometry, public health), paramedical sciences (medical technology, physician's assistant, clinical and public health microbiology, clinical biochemistry), naturalist and environmental positions in the public and private sectors, jobs in industry (biotechnology), and graduate study (basic biological and biomedical fields). With the proper selection of courses under the guidance of the Department of Biological Sciences and the USC Rossier School of Education, the BS degree satisfies the California requirements for secondary school teaching in the life sciences.

Advisement

Advisement in the Department of Biological Sciences is required each semester. First semester freshman and transfer advisement takes place during orientation. Advisement in all remaining semesters takes place during the pre-registration period. The USC Dornsife Office of Advising sends advisement appointment information each semester to all students in the Biological Sciences and Human Biology majors.

Honors Program in Biological Sciences

The department offers an Honors Program to outstanding students already pursuing studies for the BA or BS degree in Biological Sciences or Human Biology. This program offers students an opportunity to participate in undergraduate research, experience in writing an honors thesis summarizing the completed research, and experience in an honors seminar. Honors students are required to take two semesters of BISC 493x Honors Seminar (1 unit/semester) and one semester of BISC 494x Honors Thesis (2 units) in addition to fulfilling all requirements of the BA or BS degree. Honors students must also choose BISC 490x Directed Research as one of their upper-division electives. This program leads to the designation on the transcript of Bachelor of Arts or Bachelor of Science in Biological Sciences or Human Biology with Honors.

Honors Admission Requirements

Students may apply to the department for admission to the Honors Program after having completed at least one year of work at USC with a minimum GPA of 3.5 in all science and math courses required for the major. Applications for the Honors Program are available in Allan Hancock Foundation (AHF), Room 105A or on the Biological Sciences website (dornsife.usc.edu/bisc).

Honors Scholarship Requirements

For continuation in the Honors Program, students must maintain a minimum GPA of 3.5 in the sciences and mathematics courses required for the major.

Honor Society

The Department of Biological Sciences offers membership in Phi Sigma, a national honor society, to selected biology majors (Alpha Alpha Chapter at USC.) Phi Sigma is devoted to the promotion of research and academic excellence in the biological sciences. Students with a GPA above 3.0 who have interest in research and have completed core requirements for the first two years in biological sciences are eligible. Major activities range from presentation of papers by members and lectures by

outside speakers to field trips, laboratory demonstrations and joint research projects.

Bachelor of Arts in Biological Sciences

This 56-unit degree program provides a solid foundation in the basic sciences: biology, biochemistry, molecular biology, genetics, chemistry, organic chemistry, calculus and physics. In addition, students complete 8 units of upper-division BISC elective courses. This degree program allows for more flexibility to pursue additional majors or minors, study abroad or graduate early.

Bachelor of Science in Biological Sciences

This 72-unit degree program includes the foundational science courses as the BA degree, but adds a statistics course requirement. Students in this degree program complete 20 units of upper-division elective courses. This degree program is excellent for students interested in research or graduate education in the natural sciences, and provides greater depth of study and opportunities to specialize.

Maymester Courses

Maymester courses are 4-week intensives that provide opportunities for students to engage in experiential learning off-campus. Maymester courses are held from mid-May to mid-June so that students can register in three courses during the traditional spring semester and one course in the Maymester. Maymester courses are part of the spring semester load, so tuition is charged as spring tuition.

Catalina Island

The Biological Sciences Department in conjunction with the USC Wrigley Institute for Environmental Studies (WIES) sponsors 4-week Maymester programs at the USC Wrigley Marine Sciences Center (WMSC), on Santa Catalina Island. The Maymester courses focus on conservation biology, animal physiology, aquatic microbiology and field techniques in marine biology, and biological oceanography. These courses are open to all Biological Science majors as well as students in other departments and other institutions with a strong biology background. Students are primarily in their junior or senior years and may participate in any of the courses offered.

All the courses are taught by USC faculty and supported by USC graduate student teaching assistants. The classes are specialized to take advantage of the unique facilities and setting of Santa Catalina Island.

Students live on Catalina Island for the entire length of the course. Rates for room and board at the USC Wrigley Marine Science Center are comparable to those on campus. For those wishing to return to the mainland on the weekend — free transportation is provided each Friday to leave and each Monday to return.

For more information, students should contact the instructor(s) for the course of interest. Additional information can also be found at dornsife.usc.edu/wrigley/education/.

Natural History Museum of Los Angeles County

The Biological Sciences Department in conjunction with the Los Angeles County Museum of Natural History, sponsors a 4-week Maymester course BISC 445L.

This course focuses on the biology and evolution of the major vertebrate groups including fish, amphibians, birds, and mammals. All the major groups of vertebrates will be described and demonstrated in lab, and a special focus will be put on important stages leading up to the evolution of mammals, and finally modern humans. This course will present vertebrate evolution in detail, and also describe the methods used to study the relationships of biological taxa. Tours will be given by museum curators of fish, amphibians, birds, and mammals, and some information will also be given on the preparation of fossils.

In addition, this course will discuss how animals are adapted to their environment, for example, the marine vertebrates will be observed during the whale watching trip. The methods studied in this course are an excellent fit for students interested in comparative anatomy, biodiversity, evolutionary biology and human evolution.

For more information, students should contact the instructor of the course.

Fallmester Courses - Problems Without Passports

Fallmester courses are similar to Maymester courses, except they occur in the month prior to the fall semester. Fallmester courses are 4-week intensives that provide opportunities for students to engage in experiential learning off-campus. Fallmester courses are held from mid-July to mid-August so that students can register in three courses during the traditional fall semester and one course in the Fallmester. Fallmester courses are part of the fall semester load, so tuition is charged as fall tuition. If you are interested in enrolling in a Fallmester course, please consult with Financial Aid to be sure that your award is available in time for the beginning of the Fallmester session.

Oxford, England

The Biological Sciences Department in conjunction with University of Oxford, Oxfordshire, England, sponsors a 4-week Fallmester course BISC 428. This course studies illness and disease burdens that affects millions of people across the world. In addition, this course addresses: challenges in global health; health policy and public health; infectious diseases and chronic diseases; and international development and health.

Students will have the opportunity to learn in depth about health issues from practitioners in the field, who, throughout the course of their careers, have worked in various countries of Africa, South America, India, and South East Asia. Students will also hear from researchers and clinicians active in vaccine development, disease burden abatement, chronic disease prevention, and international research trials. Together, the class will learn about the nuances and complexities that are woven into disease prevention and healthcare delivery around the world. A component of this course has students develop ideas for a sustainable solution to a current international health issue/problem.

For more information, students should contact the instructor of the course.

Minor in Biotechnology

The Marshall School of Business and the departments of Biological Sciences and Chemistry in the USC Dornsife College of Letters, Arts and Sciences jointly offer the minor in Biotechnology. This minor brings essential knowledge in the basic sciences together with the corporate skills needed in a rapidly growing industry. The minor is especially well suited for the business, biology, chemistry, or engineering student seeking a career in business and/or the biomedical and biotechnical sciences. See Biotechnology Minor for a list of required courses.

Minor in Craniofacial and Dental Technology

For a description and complete listing of course requirements, see Craniofacial and Dental Technology Minor in the Herman Ostrow School of Dentistry of USC section of the catalogue.

Minor in Marine Biology

This minor combines courses related specifically to marine science from several Dornsife College departments or programs. USC's location along the Pacific Ocean and the unique facilities at the USC Wrigley Marine Science Center (WMSC) on Santa Catalina Island provide superb access for students to learn outside of traditional classroom venues. Students will learn about the biology, evolution, and ecology of organisms that inhabit marine environments and the ecological and physical processes linking them. This program is an appropriate start for students who are seeking a focus in marine science or who are interested in broadening their base of knowledge about marine biology, earth sciences or environmental science.

Minor in Natural Science

The minor in natural science will first provide students with a foundation in the basic sciences of physics, chemistry and biology. Each student will then build on this foundation by selecting

a variety of electives to meet individual scientific interests and academic goals. This minor is well-suited for pre-medical students who are non-science majors, or for students interested in developing a better understanding of the basic sciences.

This minor is not available to majors in the natural sciences or engineering.

Graduate Degrees

Progressive Master's Degree Programs

Master of Science in Marine and Environmental Biology

The Master of Science degree in Marine and Environmental Biology (MEB) is designed to provide admitted students with a rigorous, quantitative and focused introduction to the burgeoning fields and breadth of topics in marine environmental biology/chemistry, geobiology, oceanography, conservation biology and population dynamics (depending upon the concentration selected). The MEB degree program provides students with independent research experiences that satisfy their own specific interests. The program is intended to position and stimulate students for possible advanced study leading to a PhD in one of the areas stated above, and/or provide a unique facet to the background of a prospective medical student. The program will also provide fundamental tools and expertise for entry into a master's level position in academic, government, or private sector research laboratories. It will prepare students interested in governmental and non-government (NGO) environmental regulatory science and forge career pathways into private sector positions in environmental consulting and business. Details are available at dornsife.usc.edu/bisc/progressive-masters-in-marine-and-environmental/.

Master of Science in Molecular Genetics and Biochemistry

This degree option is available for a limited number of highly qualified students who want to take an extra year for an intensive graduate-level research experience with Molecular Biology faculty. Students apply at the end of their junior year, generally after at least one semester of research in their proposed mentor's laboratory. Application consists of a two-page research proposal, letter of support from the mentor, and transcript, which will be reviewed by the master's committee for admission. Admission is not guaranteed. Students who are accepted will take the graduate core course in Molecular Biology (502a/b) as well as a literature seminar and relevant electives, but a substantial part of the credit will be graduate-level research. Students will be reviewed during their senior year to ensure progress. All MS students must complete a summative paper at the end of their master's year to be approved by their mentor and one member of the master's committee.

Doctoral Degree Programs in Biological Sciences

The graduate programs in biology provide education and training of biologists interested in living systems ranging from cellular to ecosystem levels of organization, investigated by laboratory or fieldwork. Courses and faculty research interests allow a multidisciplinary approach. A number of additional research areas are provided by adjunct faculty from other institutions, including the Los Angeles County Museum of Natural History and Children's Hospital Los Angeles. Students develop the ability to formulate and test hypotheses, integrating information and concepts in the completion of a dissertation (PhD). A qualifying exam committee is formed for each student during the first year to develop a particular program of course work and research, and to evaluate the student's progress. Specific information about the options in biological sciences can be obtained by requesting information brochures or online at dornsife.usc.edu/bisc.

Doctor of Philosophy in Integrative and Evolutionary Biology

This program of study provides each student with a broad, fundamental background in integrative and evolutionary biology (IEB) with in-depth specialization in one (or more) research areas. Broad research areas include, but are not limited to evolutionary biology, metabolism and nutrition, neuroscience, endocrinology, glycemic control, energy balance, biomechanics, biological anthropology, skeletal muscle physiology, kinesiology, and conservation. The curriculum and learning experiences for each student are tailored to their line of research. Students take a written and oral screening exam in the first year, and a written and oral qualifying exam no later than the end of the fifth semester of study.

This degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Admission Requirements

Applicants must have a bachelor's degree from an accredited four-year college or university, preferably in an area relevant to the research interests in IEB (e.g. biology, bioanthropology, biomedical engineering, psychology, etc.). Applicants are evaluated by their transcripts and GPA, three letters of recommendation, a statement of purpose and relevant research experience. A faculty member must serve as the sponsor of admission to the IEB program and adviser throughout the student's course of study. We encourage applicants to reach out to potential faculty members in advance of submitting their application materials.

Financial Support

The program supports each student we admit in the form of teaching assistantships, research assistantships and fellowships. All awards include full tuition remission, a monthly stipend for living expenses, payment of student health/dental insurance and other university-wide benefits.

For any questions, please contact the IEB student services adviser.

Doctor of Philosophy in Marine Biology and Biological Oceanography

In the marine biology and biological oceanography (MBBO) program, each student receives a general background in marine sciences and obtains in-depth specialization in a research area of his or her choosing. Each student's curriculum is fitted to the particular needs and demands of the chosen research field. Broad research areas include, but are not limited to: organismal biology; evolution and population genetics; genomics; microbial biology, genetics and systems; aquatic, terrestrial and ocean ecology; environmental biology; and chemical biology. Typically, students take classes in the first two years. A written and oral qualifying exam to become a PhD candidate will be taken no later than the end of the fourth semester of study.

This degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Admission Requirements

Applicants must have a bachelor's degree in a natural science (preferably biology) from an accredited four-year college or university. Undergraduate course work should include basic courses in biology, general physics, chemistry, organic chemistry, biochemistry and calculus. Applicants are evaluated by their transcripts and GPA, three letters of recommendation, and a statement of interest. A faculty member must serve as initial sponsor and adviser for admission to the MBBO program, so applicants are encouraged to contact potential advisers before applying. Applicants who are accepted into the program but judged to have minor deficiencies are expected to correct them within the first year.

Financial Support

The program supports each student we admit in the form of teaching assistantships, research assistantships and fellowships.

All awards include full tuition remission, a monthly stipend for living expenses, payment of student health/dental insurance and other university-wide benefits.

For any questions, please contact the MBBO student services adviser.

Doctor of Philosophy in Molecular Biology

This program is designed to train the participants intensively in the concepts and experimental methodologies of molecular biology and biochemistry. The subject matter is organized in an integrated fashion (lectures, seminars and laboratory) to present fundamental information on the biochemistry, biophysics, genetics and development of cells from a variety of different organisms. Primary emphasis is on the relationship between structure and function at different integrative and functional levels. Molecular biology (MOL) students are required to complete at least three laboratory rotations in their first year.

This degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Admission Requirements

Application for admission may be accessed online at dornsife.usc.edu/mcb/phdhome/. Applicants are expected to have a bachelor's degree or equivalent in a cognate area such as biology, chemistry, physics, engineering, bacteriology, computer science or bioinformatics. Undergraduate work should include a basic course in biology, basic physics, physical chemistry, organic chemistry, biochemistry and calculus from an accredited four-year college or university. Students who are deficient in any of these subjects may be required to correct the deficiency during the first two years of graduate study. Courses taken to correct these deficiencies may not be credited toward the degree. Applicants are evaluated holistically, through a combination of their transcripts, three letters of recommendation, and a statement of research interest. The letters of recommendation should be written by faculty members who can evaluate the promise of the student for graduate work and independent research.

Financial Support

The program supports each student we admit in the form of teaching assistantships, research assistantships and fellowships. All awards include full tuition remission, a monthly stipend for living expenses, payment of student health/dental insurance and other university-wide benefits.

For any questions, please contact the MOL student services adviser.

Bachelor's Degree

Biological Sciences (BA)

The general education, writing, language and diversity requirements for a USC Dornsife College of Letters, Arts and Sciences degree are applicable.

Major Core Courses, Lower-Division

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Major Core Courses, Upper-Division

- BISC 320Lg Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4

Collateral Sciences Core Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Collateral Sciences Core Courses, Upper-Division

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

Upper-division Major Courses

Eight units of upper-division BISC course work available for major credit are required. No more than 4 units of BISC 490x may be used to fulfill the upper-division elective requirement. In addition, no more than two seminars (BISC 460 to BISC 462), totaling 4 units, may be applied to the upper-division elective requirement.

It is expected that students will take 100-level BISC core courses during the first year, two 300-level BISC core courses during the second year, and the remaining core courses and the 300- or 400-level BISC major elective courses during the third and fourth years.

Total required units: 128

Free elective units: 24

Scholarship in Major Subject

The department requires that students receive a grade no lower than C- in their five core courses. They must maintain a 2.0 GPA in the upper-division biology and chemistry courses required for the major, as well as an overall 2.0 GPA. All major core courses must be taken on a letter grade basis.

Honors Program in Biological Sciences

The department offers an honors program to outstanding students already pursuing studies for the BA or BS degree in Biological Sciences. This program offers students an opportunity to participate in undergraduate research, experience in writing an honors thesis summarizing the completed research, and experience in an honors seminar. Honors students are required to take two semesters of BISC 493x Honors Seminar (1 unit/ - semester) and one semester of BISC 494x Honors Thesis (2 units) in addition to fulfilling all requirements of the BA or BS degree. Honors students must also choose BISC 490x as one of their upper division electives. This program leads to the designation on the transcript of Bachelor of Arts or Bachelor of Science in Biological Sciences with Honors.

Honors Admission Requirements

Students may apply to the department for admission to the honors program after having completed at least one year of work at USC with a minimum GPA of 3.5 in all science and math courses required for the major.

Honors Scholarship Requirements

For continuation in the honors programs, students must

maintain a minimum GPA of 3.5 in the sciences and mathematics courses required for the major.

Biological Sciences (BS)

The general education, writing, language and diversity requirements for a USC Dornsife College of Letters, Arts and Sciences degree are applicable.

Major Core Courses, Lower-Division

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Major Core Courses, Upper-Division

- BISC 320Lg Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4

Collateral Sciences Core Courses

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- MATH 125g Calculus I Units: 4

- MATH 208x Elementary Probability and Statistics Units: 4 or
- BISC 305g Statistics for Biological Sciences Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Upper-division Major Requirements

Twenty units of upper-division BISC course work available for major credit are required. At least two courses in the upper-division electives must carry a lab ("L") or be 490. No more than 4 units of BISC 490x may be used to fulfill the upper-division elective requirement. In addition, no more than two seminars (BISC 460 to BISC 462), totaling 4 units, may be applied to the upper-division elective requirement.

Total required units: 128

Free elective units: 12–16

Scholarship in Major Subject

The department requires that students receive a grade no lower than C- in their five core courses. They must maintain a 2.0 GPA in the upper-division biology and chemistry courses required for the major, as well as an overall 2.0 GPA. All major core courses must be taken on a letter grade basis.

Honors Program in Biological Sciences

The department offers an honors program to outstanding students already pursuing studies for the BA or BS degree in Biological Sciences. This program offers students an opportunity to participate in undergraduate research, experience in writing an honors thesis summarizing the completed research, and experience in an honors seminar. Honors students are required to take two semesters of BISC 493x Honors Seminar (1 unit/ - semester) and one semester of BISC 494x Honors Thesis (2 units) in addition to fulfilling all requirements of the BA or BS degree. Honors students must also choose BISC 490x as one of their upper division electives. This program leads to the designation on the transcript of Bachelor of Arts or Bachelor of Science in Biological Sciences with Honors.

Honors Admission Requirements

Students may apply to the department for admission to the honors program after having completed at least one year of work at USC with a minimum GPA of 3.5 in all science and math courses required for the major.

Honors Scholarship Requirements

For continuation in the honors programs, students must maintain a minimum GPA of 3.5 in the sciences and mathematics courses required for the major.

Human Biology (BA)

The section of Human and Evolutionary Biology within the Department of Biological Sciences oversees the Human Biology BA at USC. This degree is designed for students seeking a course of study in human applied physiology and metabolism, performance, and/or human evolution. The Human Biology BA is an excellent option for students pursuing pre-professional education in the fields of physical therapy, nutrition, pharmacology, sports training, kinesiology, biomechanics, human evolution, primatology, evolutionary biology, etc.

Summary of Requirements

Students must complete the general core consisting of 20 units. In addition, they must select 16 units from one of the three track modules below, as well as 8 additional units from the restricted elective list or any other track in the major. No more than one course may be lower division (100- or 200-level) from the major track and electives combined. Total requirements: 44 units including at least 24 upper-division.

General Core (20 Units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4 or
- HBIO 200Lg The Human Animal Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- HBIO 202Lg Nutrition for Life Units: 4
- HBIO 301L Human Anatomy Units: 4
- MATH 108g Contemporary Precalculus Units: 4
  or
- MATH 125g Calculus I Units: 4
  or
- MATH 126g Calculus II Units: 4

Major Track (16 Units)

Choose 16 units from one of the track modules below.

Human Physiology and Metabolism (16 units)

The Human Physiology and Metabolism track explores human movement through the study of body form and function, using general principles of physiology, and biomechanics. Courses in this track further examine physiology and nutrition with an emphasis on human health and disease.

- HBIO 302L Nutrition and Metabolism Units: 4 *
- HBIO 370 Genetics and Disease Units: 4 *
- HBIO 360L Nutrition and Disease Units: 4 *
- HBIO 407L Endocrinology and Metabolism Units: 4 *
- HBIO 408L Biomechanics Units: 4 *
- HBIO 420L Applied Human Physiology Units: 4 *

Human Evolutionary Biology (16 units)

The Human Evolution track examines how and why humans evolved using evolutionary mechanisms and hypotheses. The track courses explore paleo-human ancestors, primates (prosimians, monkeys and apes), and the impact of society and culture on evolution.

- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 306 Biology of the Non-Human Primates Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4
- HBIO 403L Forensic Science of the Bones Units: 4 *
- HBIO 405 Evolutionary Medicine Units: 4 *
- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4 *

Human Performance (16 units)

The Human Performance track examines the scientific link between nutrition, athletic performance and the physiological response to exercise. The track further provides students with knowledge of prevention, treatment and rehabilitation of athletic injuries.

- HBIO 250g The Pharmacology of Performance Enhancing Drugs Units: 4
- HBIO 320 Muscle Physiology Units: 4 *
- HBIO 400L Motor Control and Learning Units: 4 *
- HBIO 401L Physiology of Movement Units: 4 *
- HBIO 441L Prevention of Athletic Injuries Units: 4 *

Restricted Electives (8 Units)

A minimum of 8 units is required. Courses can be selected from the elective list below or from any other track in the major.

- BISC 300L Introduction to Microbiology Units: 4 *
- BISC 305g Statistics for Biological Sciences Units: 4
- BISC 307L General Physiology Units: 4 *
- BISC 312x Molecular Biochemistry Units: 4 *
- BISC 313L Evolution and Population Genetics Units: 4 *
- BISC 320Lg Molecular Biology Units: 4 *
- BISC 325 Genetics Units: 4 *
- BISC 421 Neurobiology Units: 4 *
- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4 *
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required) *
- CHEM 322aL Organic Chemistry Units: 4 *
- CHEM 322bL Organic Chemistry Units: 4 *
- HBIO 409 Metabolic Diseases Units: 4 *
- HBIO 435 Neurobiology of Feeding Behavior and Obesity Units: 4 *
- HBIO 439L Human Performance and Bioenergetics Units: 2 or 4 (4 Units Required) *
- HBIO 442L Evaluation and Rehabilitation of Athletic Injuries Units: 4 *
- HBIO 491L Laboratory Experience in Kinesiology Units: 2, 4 *
- MATH 114gx Foundations of Statistics Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4 or
- PSYC 274Lg Statistics Units: 4 *
- PSYC 339Lg Origins of the Mind Units: 4 *
- PSYC 360 Abnormal Psychology Units: 4 *

Note:

**Prerequisite required*

Human Biology (BS)

The section of Human and Evolutionary Biology within the Department of Biological Sciences oversees the Human Biology BS at USC. This degree is designed for students seeking a focused course of study in human applied physiology, biomedicine, nutrition and metabolism, and/or human evolution. The Human Biology BS is an excellent option for students pursuing pre-professional education in the fields of medicine, physical therapy, dentistry, physician assistant, nursing, nutrition, kinesiology, biomechanics, human evolution, primatology, evolutionary biology, etc.

Summary of Requirements

Students must complete the general core consisting of 24 units. In addition, they must complete all courses listed in the major track of their choice (one thematic module of 20 units), as well as 16 additional units from the restricted elective list or any other track in the major. No more than two courses may be lower division (100- or 200-level) from the major track and electives combined. Total requirements: 60 units.

General Core (24 Units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4
- MATH 108g Contemporary Precalculus Units: 4 or
- MATH 125g Calculus I Units: 4 or
- MATH 126g Calculus II Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 *

Major Track (20 Units)

Choose one complete track module from below:

Applied Physiology

The Applied Physiology track explores human movement through the study of body form and function, using general principles of physiology, biomechanics and motor learning.

- HBIO 301L Human Anatomy Units: 4 *
- HBIO 320 Muscle Physiology Units: 4 *
- HBIO 400L Motor Control and Learning Units: 4 *
- HBIO 408L Biomechanics Units: 4 *
- HBIO 420L Applied Human Physiology Units: 4 *

Biomedical Science

The Biomedical Science track applies the knowledge of molecular biology to understand human physiology on macro- and microcellular levels of the body.

- HBIO 301L Human Anatomy Units: 4 *
- HBIO 302L Nutrition and Metabolism Units: 4 *
- HBIO 407L Endocrinology and Metabolism Units: 4 *
- HBIO 420L Applied Human Physiology Units: 4 * or
- BISC 307L General Physiology Units: 4 *
- BISC 421 Neurobiology Units: 4 *

Health and Disease

The Health and Disease track explores physiology and nutrition with an emphasis on human health and disease. Common diseases of major organ systems are studied with a focus on diseases related to obesity and metabolic dysfunction.

- HBIO 302L Nutrition and Metabolism Units: 4 *
- HBIO 360L Nutrition and Disease Units: 4 *
- HBIO 370 Genetics and Disease Units: 4 *
- HBIO 409 Metabolic Diseases Units: 4 *
- HBIO 435 Neurobiology of Feeding Behavior and Obesity Units: 4 *

Human Evolutionary Biology

The Human Evolution track examines how and why humans evolved using evolutionary mechanisms and hypotheses. The track courses explore paleo-human ancestors, primates (prosimians, monkeys and apes), and the impact of society and culture on evolution.

- HBIO 200Lg The Human Animal Units: 4
- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 306 Biology of the Non-Human Primates Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4

- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4 *

Restricted Electives (16 Units)

A minimum of 16 units is required. Courses can be selected from the elective list below or from any other track in the major.

- BISC 300L Introduction to Microbiology Units: 4 *
- BISC 305g Statistics for Biological Sciences Units: 4
- BISC 312x Molecular Biochemistry Units: 4 *
- BISC 313L Evolution and Population Genetics Units: 4 *
- BISC 325 Genetics Units: 4 *
- BISC 330L Biochemistry Units: 4 *
- BISC 406L Biotechnology Units: 4 *
- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4 *
- BISC 435 Advanced Biochemistry Units: 4 *
- BISC 450L Principles of Immunology Units: 4 *
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required) *
- CHEM 322aL Organic Chemistry Units: 4 *
- CHEM 322bL Organic Chemistry Units: 4 *
- CHEM 325aL Organic Chemistry Units: 4 *
- CHEM 325bL Organic Chemistry Units: 4 *
- HBIO 308 Origins and Evolution of Human Behavior Units: 4
- HBIO 405 Evolutionary Medicine Units: 4 *
- HBIO 439L Human Performance and Bioenergetics Units: 2 or 4 (4 Units Required) *
- HBIO 441L Prevention of Athletic Injuries Units: 4 *
- HBIO 442L Evaluation and Rehabilitation of Athletic Injuries Units: 4 *
- HBIO 491L Laboratory Experience in Kinesiology Units: 2, 4 *
- GERO 310 Physiology of Aging Units: 4 *
- GERO 440 Biodemography of Aging Units: 4 *
- MATH 114gx Foundations of Statistics Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4 * or
- PSYC 274Lg Statistics Units: 4 *
- PHYS 135bL Physics for the Life Sciences Units: 4 *
- PSYC 360 Abnormal Psychology Units: 4 *
- PSYC 425 Functional Imaging of the Human Brain Units: 4 *

Note:

**Prerequisite required*

Minor

Biology of Human Movement Minor

This minor provides students with an interdisciplinary perspective that integrates elements of anatomy, biomechanics, motor control as well as evolution and applies them to the assessment and improvement of human performance during the activities of daily living. This minor is ideal for students interested in fields such as bioengineering, biokinesiology, health promotion, athletics and dance.

Prerequisite Courses

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- MATH 108g Contemporary Precalculus Units: 4 or
- MATH 125g Calculus I Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Core Courses

Four courses for a total 16 units from the following options are required:

- HBIO 301L Human Anatomy Units: 4
- HBIO 401L Physiology of Movement Units: 4 or
- HBIO 408L Biomechanics Units: 4
- HBIO 309 The Human Machine Units: 4 or
- HBIO 400L Motor Control and Learning Units: 4
- HBIO 439L Human Performance and Bioenergetics Units: 2 or 4 or
- HBIO 442L Evaluation and Rehabilitation of Athletic Injuries Units: 4

Minimum Upper-Division Core Units Required: 16

Biotechnology Minor

The USC Dornsife College of Letters, Arts and Sciences Departments of Biological Sciences and Chemistry and the Marshall School of Business jointly offer the cross-departmental minor in biotechnology. This minor brings essential knowledge in the basic sciences together with the corporate skills needed in a rapidly growing industry. The minor is especially well suited for the business, biological sciences, chemistry or engineering student seeking a career in business and/or the biomedical/bio-technical sciences.

This minor requires a varying number of units beyond major requirements depending upon the student's major program of study: biological sciences (BA or BS), 16–18 additional units; business (BS), 28 additional units; chemistry (BA or BS), 32–34 additional units.

Students in other majors may be required to complete up to 46 units for the minor depending on whether their major includes any of the minor requirements and their prerequisites.

Please see a biological sciences or business adviser for specific program requirements.

Required Courses

Biological Sciences (16 units)

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 406L Biotechnology Units: 4

Recommended:

- BISC 300L Introduction to Microbiology Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 450L Principles of Immunology Units: 4

Chemistry (12 units)

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4

Recommended:

- CHEM 322bL Organic Chemistry Units: 4
- CHE 489 Biochemical Engineering Units: 4

Finance, Business, and Accounting (16-18 units)

Students pursuing a business degree must enroll in BUAD 280, BUAD 281 *and* BUAD 306.

- ACCT 410x Foundations of Accounting Units: 4
  or
- BUAD 280 Introduction to Financial Accounting Units: 3 and
- BUAD 281 Introduction to Managerial Accounting Units: 3
  or
- BUAD 305 Abridged Core Concepts of Accounting Information Units: 4

- BUAD 215x Foundations of Business Finance Units: 4
  or
- BUAD 306 Business Finance Units: 4

- BUAD 304 Organizational Behavior and Leadership Units: 4
  or
- BUAD 307 Marketing Fundamentals Units: 4

- FBE 403 Introduction to the Legal Environment of Business Units: 4

Recommended:

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

- MATH 208x Elementary Probability and Statistics Units: 4 or
- MATH 218 Probability for Business Units: 4

Human Disease Minor

The minor in Human Disease is an interdisciplinary program focused on the biological and psychological factors that determine wellness and disease. It is an ideal minor for students interested in various disciples such medicine, nursing, pharmacy, dentistry, public health, global health, health policy and health promotion.

The minor includes two lower-division pre-requisites, two upper-division courses to be chosen from a list of HBIO courses and two upper-division courses to be chosen from a list of PSYC courses for a total of four upper-division courses (16 units).

Pre-requisite Courses

- PSYC 100Lg Introduction to Psychology Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Human Biology

Choose two from the following:

- HBIO 301L Human Anatomy Units: 4
- HBIO 360L Nutrition and Disease Units: 4
- HBIO 370 Genetics and Disease Units: 4
- HBIO 405 Evolutionary Medicine Units: 4
- HBIO 435 Neurobiology of Feeding Behavior and Obesity Units: 4

Psychology

Choose two from the following:

- PSYC 360 Abnormal Psychology Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 426 Motivated Behaviors and Addiction Units: 4
- PSYC 462m Culture and Mental Health Units: 4

Minimum Upper-Division Units Required: 16

Marine Biology Minor

Studies of the marine environment are relevant to many contemporary environmental issues and problems central to understanding earth-system evolution, dynamics, climate and sustainability. The minor in Marine Biology combines courses related specifically to marine science from several Dornsife College departments or programs. USC's location along the Pacific Ocean and the unique facilities at the USC Wrigley Marine Science Center on Catalina Island provide superb access for students to learn outside of traditional classroom venues. Students will learn about the biology, evolution and ecology of organisms that inhabit marine environments and the ecological and physical processes linking them. This program is an appropriate start for students who are seeking a focus in marine science or who are interested in broadening their base of knowledge about marine biology, earth sciences or environmental science.

The minor consists of 24 units of course work. At least 16 must be upper-division and unique to the minor. Courses required by the student's major or general education (GE) requirements may not be applied toward the minor. Students must earn a letter grade of C- or better in all course work used for the minor. Prior to declaring the minor, students must have completed the requirement for BISC 120Lg or BISC 121Lg or BISC 103Lgx. Basic chemistry, such as CHEM 103Lgx or CHEM 105aLg and CHEM 105bL, is strongly recommended. Students are encouraged enroll in at least one field-based course. Courses may be substituted with approval of the minor in Marine Biology program director, and this approval must be filed with the Office of Academic Records and Registrar.

Required Courses (8 units)

- BISC 469L Marine Biology Units: 4 *
- BISC 473L Biological Oceanography Units: 4 *

Field Courses and Other Electives (12 units)

Note: No more than one lower-division course may count toward the minor.

Field-based Courses

- BISC 431L Aquatic Microbiology Units: 4 *
- BISC 457L Methods in Marine Biology and Biological Oceanography Units: 4 *
- ENST 298aL Introduction to Scientific Diving Units: 2
- ENST 483 Tropical Coastal Zone Sustainability Units: 4

Non-field-based Courses

- BISC 140g Our Blue Planet in a Changing Climate Units: 4
- BISC 313L Evolution and Population Genetics Units: 4 *
- BISC 315L Introduction to Ecology Units: 4 *
- BISC 419L Microbiology for a Sustainable Future Units: 4
- BISC 427 The Global Environment Units: 4 *
- BISC 483 Geobiology and Astrobiology Units: 4 *
- BISC 485 Advanced Seminar in Bacterial Survival and Evolution Units: 4 *
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 **
- ENST 310 Sustainable Fisheries Management Units: 4 *
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 **
- GEOL 107Lg Oceanography Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4 *
- GEOL 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 **
- SSCI 265Lg The Water Planet Units: 4

* *Course requires prerequisite/corequisite*

** *Research or special topic must be related to the marine environment. With permission from minor adviser.*

Natural Science Minor

The minor in natural science will first provide students with a foundation in the basic sciences of physics, chemistry and biology. Each student will then build on these foundation courses by selecting a variety of electives to meet individual scientific interests and academic goals. Eighteen units toward the natural science minor must be completed at USC. This minor is not available to majors in the natural sciences.

Required Courses (22 Units)

Any five courses from among:

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4

And a capstone course:

- BISC 321 Multidisciplinary Seminar: Science, Technology and Society Units: 2

Elective Course Requirement (8 units)

Any two courses chosen from among those offered for major credit by the departments of chemistry, physics, biological sciences and earth sciences.

Master's Degree

Biology (MS)

The MS degree program in biology is a terminal degree for students admitted into the marine biology and biological oceanography (MBBO), neurobiology (BNRO), or integrative and evolutionary biology (IEB) PhD programs who cannot complete the PhD degree program for personal or medical reasons.

The MS degree program is a non-thesis program but a paper, based on the student's original research investigation of a selected program in biology, constitutes one of the requirements. Each student must take 7–8 units of biology graduate core courses (BISC 582, BISC 584 and BISC 585) or neurobiology courses (NSCI 524 and either NSCI 531 or NSCI 532), two seminars and additional graduate courses or research units for a minimum of 24 units. Students also must satisfy the residency and other requirements of the Graduate School. Further details of these requirements are contained within each graduate program's particular requirements and policies.

Each student must take 7–8 units of:

Biology Graduate Core Courses

- BISC 582 Advanced Biological Oceanography Units: 4
- BISC 584 Faculty Lecture Series Units: 2
- BISC 585 Scientific Writing and Reviewing Units: 2

or

Neurobiology Courses

- NSCI 524 Advanced Overview of Neurosciences Units: 4
- NSCI 531 Molecular and Cellular Neurobiology Units: 4 or
- NSCI 532 Systems and Behavioral Neurobiology Units: 3

Additional Requirements

Two seminars and additional graduate courses or research units for a minimum of 24 units. Students also must satisfy the residency and other requirements of the Graduate School. Further details of these requirements are contained within each graduate program's particular requirements and policies.

Marine and Environmental Biology (MS)

The Master of Science degree in Marine and Environmental Biology (MEB) is designed to provide admitted students with a rigorous, quantitative and focused introduction to the burgeoning fields and breadth of topics in marine environmental biology/chemistry, geobiology, oceanography, conservation biology and population dynamics (depending upon the concentration selected). MEB provides students with independent research experiences that satisfy their own specific interests. The program is intended to position and stimulate students for possible advanced study leading to a PhD in one of the areas stated above, and/or provide a unique facet to the background of a prospective medical student. The program will also provide fundamental tools and expertise for entry into a master's level position in academic, government or private sector research laboratories. It will prepare students interested in governmental and non-government (NGO) environmental regulatory science and forge career pathways into private sector positions in environmental consulting and business.

Applicants must possess a cumulative and science GPA of 3.0 or higher and have the following courses completed prior to admission: one year of introductory biology, one semester of molecular biology, one semester of biochemistry, one year of general chemistry, and one year of organic chemistry. All of the above must carry labs and be available for major credit in the natural sciences at a four-year college or university.

Applicants interested in using course work completed while an undergraduate may apply for the progressive master's degree as early as their junior year.

Core Courses

- BISC 582 Advanced Biological Oceanography Units: 4
- BISC 585 Scientific Writing and Reviewing Units: 2
- BISC 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (4 Units Required)

Completion of two semesters of:

- BISC 529 Seminar in Marine Biology Units: 1

Core Seminar Elective

Completion of one advanced seminar from among:

- BISC 530 Advanced Seminar in Plankton Biology Units: 2
- BISC 531 Advanced Seminar on the Physiology of Marine Organisms Units: 2
- BISC 532 Advanced Seminar in Molecular and Microbial Ecology Units: 2
- BISC 533 Advanced Seminar in Remote Sensing and Modeling Units: 2
- BISC 534 Advanced Seminar in Population Genetics of Marine Organisms Units: 2
- BISC 535 Seminar in Physiology Units: 2
- BISC 536 Advanced Seminar in Marine Biogeochemistry Units: 2

Graduate Elective Requirement

Eighteen units chosen from the following list, of which 8 units must be within the Department of Biological Sciences (BISC), and no more than 8 units can be at the 400-level.

- BISC 403 Advanced Molecular Biology Units: 4
- BISC 419L Microbiology for a Sustainable Future Units: 4
- BISC 431L Aquatic Microbiology Units: 4
- BISC 435 Advanced Biochemistry Units: 4
- BISC 437L Comparative Physiology of Animals Units: 4
- BISC 445L Fundamentals of Vertebrate Biology Units: 4
- BISC 447L Island Biogeography and Field Ecology Units: 4
- BISC 450L Principles of Immunology Units: 4
- BISC 455L Molecular Approaches to Microbial Diversity — Catalina Semester Units: 4
- BISC 457L Methods in Marine Biology and Biological Oceanography Units: 4
- BISC 460 Seminar in Marine and Environmental Biology Units: 2 , max 4
- BISC 469L Marine Biology Units: 4
- BISC 473L Biological Oceanography Units: 4
- BISC 474L Ecosystem Function and Earth Systems Units: 4
- BISC 483 Geobiology and Astrobiology Units: 4
- BISC 502a Molecular Genetics and Biochemistry Units: 4
- BISC 502b Molecular Genetics and Biochemistry Units: 4
- BISC 511 Integrative Biology Units: 4
- BISC 512 Evolutionary Biology Units: 4
- BISC 530 Advanced Seminar in Plankton Biology Units: 2
- BISC 531 Advanced Seminar on the Physiology of Marine Organisms Units: 2
- BISC 532 Advanced Seminar in Molecular and Microbial Ecology Units: 2
- BISC 533 Advanced Seminar in Remote Sensing and Modeling Units: 2
- BISC 534 Advanced Seminar in Population Genetics of Marine Organisms Units: 2
- BISC 536 Advanced Seminar in Marine Biogeochemistry Units: 2
- BISC 584 Faculty Lecture Series Units: 2
- BISC 588 Introduction to Bioinformatics Units: 2
- CE 443 Environmental Chemistry Units: 3
- CE 503 Microbiology for Environmental Engineers Units: 3
- ENE 562 Aquatic Chemistry Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 460L Geochemistry Units: 4
- GEOL 500 Paleoecology Units: 3
- GEOL 501 Paleobiology Units: 3
- GEOL 514 Marine Geology Units: 3
- GEOL 555 Paleoceanography Units: 3
- GEOL 560 Marine Geochemistry Units: 3, 2 years
- GEOL 564 Isotope Geochemistry Units: 3, 2 years
- GEOL 567 Stable Isotope Geochemistry Units: 3

- GEOL 577L Micropaleontology Units: 3, 2 years
- OS 512 Introduction to Chemical and Physical Oceanography Units: 4
- PPD 694 Coastal Policy and Planning Units: 4

Total required units: 32

Molecular and Computational Biology (MS)

The MS degree program in molecular and computational biology (MCB) is a terminal degree for students admitted into the MCB PhD program who cannot complete the PhD degree program for personal or medical reasons. The study of molecular biology places so many demands upon the student that it is difficult to attain any satisfactory level of competence in the time generally taken for a master's degree. Therefore, enrollment of graduate students as master's degree applicants is not encouraged and is reserved for special circumstances. The curriculum of the master's student is patterned after that of the doctorate up to and including the qualifying examination, but not including thesis research. The qualifying examination will serve as the comprehensive master's examination.

Molecular Genetics and Biochemistry (MS)

The Master of Science in Molecular Genetics and Biochemistry is designed to provide outstanding students in life science majors with a rigorous, quantitative experimental experience in molecular genetics, genomics, evolutionary biology, cell and molecular biology, biochemistry (depending upon the research area selected). The program is intended to position and stimulate students for possible advanced study leading to a PhD in one of the areas stated above, and/or provide an important research experience to the background of a prospective medical student. The program will also provide fundamental tools and expertise for entry into master's level positions in academic, government or private sector research laboratories, including biotech, pharmaceuticals or diagnostics. This is a terminal degree. Students who wish to pursue their doctorate at USC should apply directly to the PhD program.

Applicants must be undergraduate majors in the life sciences, who possess a cumulative and science GPA of 3.0 or higher and have the following courses completed or in progress at the time of admission: one year of introductory biology (BISC 120Lg/BISC 220Lg or BISC 121Lg/BISC 221Lg, or equivalent), one semester of molecular biology (BISC 320Lg or equivalent), one year of general chemistry (CHEM 105aLg/CHEM 105bL or CHEM 115aLg/CHEM 115bL, or equivalent), and one year of organic chemistry (CHEM 322aL/CHEM 322bL or CHEM 325aL/CHEM 325bL or equivalent). All of the above must carry labs and be available for major credit in the natural sciences at a four-year college or university.

Because this degree is based on research, students must identify a faculty adviser prior to enrollment and submit a research proposal approved by that adviser to the master's degree committee. It is recommended that students have performed the equivalent of independent study or a research internship (equivalent to BISC 490x) in their laboratory of choice prior to admission. Students are expected to perform 6 units of research in both fall and spring semesters; alternatively, with the adviser's approval upon enrollment, they may choose to perform the research component in variable increments in summer, fall and spring semesters to equal 12 units. This may be the preferred schedule if students wish to take additional electives during the academic year.

This program requires 32 units, of which 24 must be at the graduate level.

Core Courses

- BISC 502a Molecular Genetics and Biochemistry Units: 4
- BISC 544 Advanced Reading in Molecular Biology Units: 1, 2 (two semesters)
- BISC 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2–3 semesters) (12 Units Required)

One from the following:

- BISC 502b Molecular Genetics and Biochemistry Units: 4
- BISC 505 Genomics and Molecular Genetics Units: 4

Elective Requirements

Eight units from the following list:

- BISC 403 Advanced Molecular Biology Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 411 Advanced Cell Biology Units: 4
- BISC 414 Biology of Cancer Units: 4
- BISC 419L Microbiology for a Sustainable Future Units: 4
- BISC 425 Genetics through the Scientific Literature Units: 4
- BISC 426 Principles of Neural Development Units: 4
- BISC 435 Advanced Biochemistry Units: 4
- BISC 450L Principles of Immunology Units: 4
- BISC 478 Computational Genome Analysis Units: 4
- BISC 480L Developmental Biology Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4
- BISC 485 Advanced Seminar in Bacterial Survival and Evolution Units: 4
- BISC 502b Molecular Genetics and Biochemistry Units: 4 (if core requirement fulfilled with BISC 505)
- BISC 505 Genomics and Molecular Genetics Units: 4 (if core requirement fulfilled with BISC 502b)
- BISC 515 Evolution and Human Biology Units: 4

Additional Requirements

Students will complete a summative research paper that is written in publication format. The student will submit a proposed outline to the faculty mentor and one other molecular biology faculty member by January 15 for initial approval. The final paper is due on April 15. In the rare event that the final paper is not acceptable to the faculty, students may enroll for one more summer semester to perform revisions. If the paper is still not acceptable, the MS component of the degree will not be granted.

Doctoral Degree

Integrative and Evolutionary Biology (PhD)

Application deadline: December 15

This program of study is designed to provide each student with a broad, fundamental background in integrative and evolutionary biology (IEB) coupled with detailed knowledge and expertise in the chosen area of concentration. The core of the course work in integrative and evolutionary biology consists of four courses — BISC 515 (4), seminar BISC 549 (2-2) and a 4-unit course to be decided upon by the student's adviser — that are taken by all first-year graduate students. Various faculty members also teach a variety of advanced courses and seminars on specialized research topics each semester. In addition, a range of courses in areas relating to IEB are available in various departments on the University Park and Health Sciences Campuses.

Course Requirements

Each student's curriculum is tailored to the particular interests of the individual and the needs and demands of the chosen research field. A minimum total of 60 units is required, consisting of formal courses, seminars and research credit. The 24 units of formal course work must include 12 units of specified course work in integrative and evolutionary biology, BISC 515, adviser-specified course, seminar BISC 549 (minimum 4 units), and 12 units of advanced electives chosen in consultation with the student's adviser.

Screening Examination

After completion of the core integrative biology and evolutionary biology course work (BISC 515 , adviserspecified, BISC 549) during the first year, the student's degree progress is discussed and evaluated by a screening committee composed of members of the IEB faculty as well as the student's principal adviser. The purpose of this written and oral evaluation is to determine

competence to continue graduate study and identify areas to be strengthened prior to the qualifying examination.

Student Teaching

Since most graduates in biological sciences will spend some part of their careers in academic work, teaching experience is considered an important part of graduate training. Each graduate student in the program is therefore required to assist in the teaching program for two semesters as a teaching assistant.

Qualifying Examination

By the end of the third semester, students should choose a qualifying exam committee consistent with the requirements of the graduate school composed of IEB faculty and one outside member. This committee will conduct the qualifying exam and provide guidance during dissertation research. The chair of the committee will serve as the principal adviser. Students should consult extensively with each committee member regarding subjects to be covered in the exam.

The qualifying exam consists of written and oral parts. Both parts must be finished before the end of the fifth semester. For the written exam, the adviser will consult with each of the members of the qualifying exam committee. The written part will incorporate evaluation and synthesis of existing knowledge related to topic areas, design of experiment to test a relevant hypothesis, and interpretation of anticipated results. The oral exam consists of an oral defense of the written part and will be conducted within a month of the written part of the qualifying exam.

Doctoral Dissertation

The dissertation is based on original, publishable and significant research conducted independently by the student under the guidance of the dissertation committee.

Defense of the Dissertation

The defense of the dissertation is either a defense oral or a final oral. In most cases a defense oral will suffice if approved by the dissertation committee.

Marine Biology and Biological Oceanography (PhD)

Application deadline: January 15

Course Requirements

In marine biology and biological oceanography, each student receives a general background in marine sciences and obtains in-depth specialization in a research area of his or her choosing. Each student's curriculum is fitted to the particular needs and demands of the chosen research field. The 24 units of formal course work must include the following: BISC 529 (4), BISC 582 (4), BISC 583 (4), BISC 584 (2), BISC 585 (2); four advanced graduate seminars (8); and a statistics course approved by the student's adviser.

For Admission Requirements, refer to the admissions section of Biological Sciences.

Core Courses (14 units)

- BISC 582 Advanced Biological Oceanography Units: 4
- BISC 583 Evolution and Adaptation of Marine Organisms Units: 4
- BISC 584 Faculty Lecture Series Units: 2
- BISC 585 Scientific Writing and Reviewing Units: 2

Two semesters of student seminar (2 units)

- BISC 529 Seminar in Marine Biology Units: 1

Core Seminar Electives (8 units)

Completion of four advanced seminars from among the following:

- BISC 530 Advanced Seminar in Plankton Biology Units: 2
- BISC 531 Advanced Seminar on the Physiology of Marine Organisms Units: 2
- BISC 532 Advanced Seminar in Molecular and Microbial Ecology Units: 2
- BISC 533 Advanced Seminar in Remote Sensing and Modeling Units: 2
- BISC 534 Advanced Seminar in Population Genetics of Marine Organisms Units: 2
- BISC 535 Seminar in Physiology Units: 2
- BISC 536 Advanced Seminar in Marine Biogeochemistry Units: 2
- BISC 538 Metals and Biology in Oceanic Regimes Units: 2
- BISC 586 Biological Oceanographic Instrumentation Units: 2
- BISC 587 Communicating Ocean Science Units: 4

Additional Requirements

A minimum total of 60 units is required, consisting of formal courses, seminars and research credit. At least 24 of the minimum 60 total units required are to be formal graduate course work (lecture and seminar courses).

Screening Examination

Candidates must also pass a screening examination to determine competence and point out deficiencies, fulfill a research tool requirement (computer skills, biostatistics, quantitative chemistry), and meet the residency and other requirements of the Graduate School. This exam is completed before completion of 24 units in the program.

Student Teaching

Since most graduates in biological sciences will spend some part of their careers in academic work, teaching experience is considered an important part of graduate training. Each graduate student in the program is therefore required to serve at least two semesters as a teaching assistant in the Department of Biological Sciences. Students must enroll in BISC 593 either before or concurrent with their first semester as a Teaching Assistant.

Qualifying Examination

Before the end of the fourth semester, each student must pass a written and oral qualifying examination given by the student's qualifying exam committee. The written part involves answering a number of questions at length. The oral part is in the area of the student's intended research, based on a project selected and developed by the student into a written proposition. After passing the qualifying examination, the student completes the research investigation and any other requirements under the guidance of the research adviser who also chairs the dissertation committee.

Doctoral Dissertation

The dissertation is based on original, publishable and significant research conducted independently by the student under the guidance of the dissertation committee.

Defense of the Dissertation

The dissertation defense includes a formal public seminar, followed by a detailed defense meeting with the full Dissertation Committee.

Molecular Biology (PhD)

Application deadline: December 15

During the first year, students rotate through three laboratories before determining their permanent research adviser. Thereafter, students determine their programs of study and dissertations through discussion with their advisers, as well as their qualifying exam and dissertation committees.

Screening Procedure

Screening is done through BISC 502a and BISC 502b. To advance beyond the second year, students must obtain at least a "B" (3.0) average in these two courses.

Course Requirements

A minimum of 24 of the 60 units required for the PhD degree must be in course work, exclusive of dissertation research. These units must include the core courses, BISC 502a (4 units) and BISC 502b (4 units) and BISC 544 (2 units), to be completed within the first year with no less than a "B" (3.0) in each class. Students are

also required to take BISC 576 or BISC 444 in their second year. Participation in the research seminar series (BISC 542) is required for three semesters and encouraged for the student's entire graduate career. At some point during their degree, students take an additional 4- unit, 400- or 500-level course in consultation with their adviser.

Language Requirement

Students in the graduate program in molecular biology are not required to pass a foreign language examination.

Student Teaching

Since most graduates in biological sciences will spend some part of their careers in academic work, teaching experience is considered an important part of graduate training. Each graduate student in the program is therefore required to serve at least one semester as a teaching assistant in the Department of Biological Sciences.

Qualifying Examination

The examinations qualifying the student for candidacy for the PhD in molecular biology must be completed by the fifth semester. The first part of the exam is a written proposal based on the student's work. The second part is an oral examination. This exam consists of general questions and the presentation and defense of a proposition outlining the student's proposed research program.

Doctoral Dissertation

The dissertation is based on original, publishable and significant research conducted independently by the student under the guidance of the dissertation committee.

Defense of the Dissertation

Prior to graduating, students are required to orally defend their dissertation in a public seminar.

Required core courses (16 units)

Enroll in the four courses below and an additional 4-unit 400- or 500- level course, selected in consultation with an adviser.

- BISC 502a Molecular Genetics and Biochemistry Units: 4
- BISC 502b Molecular Genetics and Biochemistry Units: 4
- BISC 544 Advanced Reading in Molecular Biology Units: 1, 2
- BISC 444 Practical Analysis of Biological Data in R Units: 2

or

- BISC 576 Practical Statistics and Bioinformatics Units: 2

Seminar course (3 units)

Enroll in BISC 542 for a minimum of 3 semesters.

- BISC 542 Seminar in Molecular Biology Units: 1

Lab Rotation Requirement (6 units)

Enroll in BISC 504 in the fall and spring semesters of the first year.

- BISC 504L Laboratory Techniques in Cellular and Molecular Biology Units: 1, 2, 3, 4

Chemistry

The Department of Chemistry offers degree programs that provide undergraduate and graduate students with core instruction and excellent research opportunities. Undergraduate programs leading to the BS and BA degrees are offered as well as a BS in biochemistry. The BS degree is intended for students preparing for careers in chemistry and related fields, and satisfies the guidelines for a chemistry degree recommended by the American Chemical Society. The BA degree is designed for students who wish a concentration of course work in chemistry, but who have career plans in the health sciences, business or law or other specialty areas. In addition, a chemistry minor is available for students who want a broader exposure to the chemical sciences. A minor program in biotechnology is offered by the Departments of Biological Sciences and Chemistry and the Marshall School of Business and a minor program in environmental chemistry and sustainability is also offered jointly with the Environmental Studies program. Graduate programs are offered leading to the Master of Arts, Master of Science and Doctor of Philosophy in Chemistry.

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Chair: G.K. Surya Prakash, PhD

Faculty

Distinguished Professor of Chemistry, Biological Sciences, Biochemistry and Chemical Engineering and Materials Science and Dana and David Dornsife Chair in Chemistry: Arieh Warshel, PhD

Lloyd Armstrong, Jr. Chair for Science and Engineering and Professor of Chemistry: Hanna Reisler, PhD

Robert D. Beyer ('81) Early Career Chair in Natural Sciences and Associate Professor of Physics, Biological Sciences, and Chemistry: Moh El-Naggar, PhD* *(Physics and Astronomy)*

Paul A. Miller Chair in Letters, Arts and Sciences and Professor of Chemistry and Biochemistry: Curt Wittig, PhD

Harold and Lillian Moulton Chair in Organic/Polymer Chemistry and Professor of Chemistry: Nicos Petasis, PhD

George A. and Judith A. Olah Nobel Laureate Chair in Hydrocarbon Chemistry and Professor of Chemistry: G.K. Surya Prakash, PhD

Ray Irani Chair in Chemical Engineering and Materials Science and Professor of Chemical Engineering and Materials Science, Biomedical Engineering, Electrical Engineering-Electrophysics and Chemistry: Andrea Armani, PhD *(Chemical Engineering and Materials Science)*

Ray R. Irani, Chairman of Occidental Petroleum Corporation, Chair in Chemistry and Professor of Chemistry and Chemical Engineering and Materials Science: Mark E. Thompson, PhD

Provost Professor of Biological Sciences and Chemistry: Raymond C. Stevens, PhD *(Biological Sciences)*

Viterbi Professorship in Engineering and Professor of Electrical and Computer Engineering, Chemistry, and Physics and Astronomy: Daniel A. Lidar, PhD *(Electrical and Computer Engineering)*

Judge Widney Professor of Chemical Engineering and Chemistry: Ray R. Irani, PhD

Gabilan Assistant Professor of Chemistry: Megan Fieser, PhD

Professors: Stephen E. Bradforth, PhD; Richard L. Brutchey, PhD; Lin Chen, PhD *(Biological Sciences)*; Xiaojiang Chen, PhD *(Biological Sciences)*; Vadim Cherezov, PhD; Stephen B. Cronin, PhD *(Electrical Enginnering)*; Valery Fokin, PhD; Myron F. Goodman, PhD *(Biological Sciences)*; Malancha Gupta, PhD *(Chemical Engineering);* Anna Krylov, PhD; Chi H. Mak, PhD*; Noah Malmstadt, PhD *(Chemical Engineering);* Charles E. McKenna, PhD*; Sri Narayan, PhD; Matthew Pratt, PhD; Oleg Prezhdo, PhD; Peter Z. Qin, PhD; Richard W. Roberts, PhD; Remo Rohs, PhD *(Quantitative and Computational Biology)*; Barry C. Thompson, PhD; Andrey Vilesov, PhD; Clay C. C. Wang, PhD *(Pharmacology and Pharmaceutical Sciences);* Travis J. Williams, PhD

Associate Professors: Alexander Benderskii, PhD; Jahan Dawlaty, PhD; Kyung Woon Jung, PhD; Smaranda Marinescu, PhD; Brent Melot, PhD; Susumu Takahashi, PhD; Chao Zhang, PhD

Assistant Professors: Michael Inkpen, PhD; Vsevolod Katritch, PhD *(Quantitative and Computational Biology)*; Shaama Mallikarjun Sharada, PhD *(Chemical Engineering)*; Yong Zhang, PhD *(Pharmacology and Pharmaceutical Sciences)*

Professor (Research): Karl O. Christe, PhD

Associate Professors (Teaching): Rebecca Broyer, PhD; Jasmine Bryant, PhD; Jessica Parr, PhD

Assistant Professor (Teaching): Thomas M. Bertolini, PhD

Assistant Professors (Research): Peter Djurovich, PhD; Terry Takahashi, PhD
Emeritus: Robert A. Beaudet, PhD; David A. Dows, PhD; Thomas C. Flood, PhD; Thieo Hogen-Esch, PhD; Gerald A. Segal, PhD; Kenneth L. Servis, PhD; Lawrence A. Singer, PhD; William P. Weber, PhD*
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Bachelor of Science in Chemistry

The BS degree in Chemistry offers comprehensive preparation in all the core areas of the chemical and molecular sciences. Combining rigorous course work, hands-on training with the latest chemical instrumentations as well as a rich independent research experience, the BS degree in Chemistry prepares our graduates to pursue professional careers in the field of chemical and molecular sciences, or to continue their studies toward advanced degrees, usually the PhD, in chemistry or a related field in the molecular sciences. An option of a BA degree is also available.

Bachelor of Science in Chemistry with an Emphasis in Chemical Research: Information

The BS program in Chemistry with an emphasis in research is one of the first undergraduate programs in the country that offers a research-focus undergraduate degree in chemistry. The BS degree in Chemical Research provides a rich research experience for those students whose goal is to pursue research careers in various fields of the chemical and molecular sciences. The program leverages the strength of USC's Chemistry Department to offer a curriculum in which research is integrated into the degree program under a purposeful structure:

1. immersing students in a genuine research culture from day one;
2. giving them first-hand experience in the research laboratory;
3. training them in the latest chemical research techniques and instrumentation; and
4. providing them with practical experience with how problems are formulated, investigated and solved in the process of scientific discoveries.

Research majors may choose from more than 30 active research groups in the Chemistry Department with which to complete their research requirement.

Bachelor of Science in Chemistry with an Emphasis in Chemical Biology: Information

Chemical Biology is the study of small molecules as targets to effect, manipulate or interrogate biological processes. With the rapidly expanding importance of chemical biology as a key discipline in the chemical and molecular sciences, the Chemistry Department offers a BS degree in Chemistry with an emphasis in Chemical Biology. Building on solid groundings in general, organic, analytical and physical chemistry, the BS in Chemical Biology integrates core knowledge contents from the interface between chemistry and biology, combined with practical laboratory experience and access to the latest chemical instrumentations. Chemical Biology majors will receive thorough training and in-depth preparation to enable them to pursue careers in the field of chemical and molecular biology, biochemistry or any related field in the molecular sciences.

Bachelor of Science in Chemistry with an Emphasis in Chemical Nanoscience: Information

The field of chemical nanoscience focuses on the synthesis of nanoscale materials as well as the understanding of their chemical, structure and physical properties. When the dimension of bulk materials is systematically reduced novel properties emerge on the nanoscopic scale. Nanoscale materials are substantially smaller than bulk, yet they are not small enough to be molecular, and they often exhibit properties that are surprisingly different from most molecular-size systems. This new paradigm in the chemical and molecular sciences offers exciting possibilities, both in its potential for discovering new phenomena particular to the nanoscale and as a vehicle to producing new and useful devices.

The BS degree in Chemistry with an emphasis in Chemical Nanoscience prepares students for a career in the rapidly growing field of nanoscience. The degree program enable students to understand the core chemical principles behind nanoscience and related technologies, focusing on: (1) the syntheses of nanomaterials, (2) their bonding and structural characteristics, and (3) their physical (electrical, optical and magnetic) properties. The BS degree in Chemical Nanoscience helps students build a solid foundation in chemistry and master the comprehensive core knowledge that is required for formulating and solving open problems in the field of nanoscience. The BS in Chemical Nanoscience combines rigorous course work with hands-on laboratory experience in the latest experimental techniques and instrumentation and offers a capstone research experience in the area of nanoscience.

Bachelor of Science in Biochemistry

The BS degree in Biochemistry is offered jointly with the Department of Biological Sciences. The Biochemistry degree combines core foundational backgrounds from chemical, biological and molecular sciences to offer an integrated program focusing on the chemistry and molecular mechanisms of biology, with rigorous course work and hands-on laboratory experiences. A BS degree in Biochemistry prepares students to pursue professional careers in chemistry and/or biology or for advanced studies in the field of biochemistry and molecular biology.

Chemistry Minor

A chemistry minor is available for students who wish to broaden their exposure to the chemical sciences. In addition to a core of five chemistry courses (year-long sequences in general chemistry and organic chemistry and a one semester course in analytical chemistry), students must take one upper-division chemistry elective in either advanced organic or advanced inorganic chemistry.

Environmental Chemistry and Sustainability Minor

The environmental chemistry and sustainability minor is designed for students majoring in business, engineering, law, communications and other professional fields to give them the knowledge of chemistry needed to understand, formulate and manage scientific issues related to natural environmental processes as well as technologies involving the environment.

Grade Point Average in Major Subject

A grade of C- or higher is required in each chemistry course specifically listed as a degree requirement. The GPA for all chemistry courses required for a department major or a physical sciences major must be C (2.0) or higher. The GPA for all upper-division chemistry courses must also be C (2.0) or higher.

Honors Programs in Chemistry

A degree with honors in chemistry is available for eligible Chemistry BA, Chemistry BS, Chemistry BS — Research Emphasis, Chemistry BS — Chemical Nanoscience Emphasis, and Chemistry BS — Chemical Biology Emphasis students. To meet program requirements students must submit an application to the Department of Chemistry and satisfy the objectives of the program.

Students seeking admission must have at least junior standing (64 units) with an overall USC GPA of 3.5 or better in at least 16 units of chemistry courses. Students must complete 8 units of research (CHEM 490 or CHEM 494, which may also satisfy major requirements*) under the supervision of chemistry faculty with the research results described in an undergraduate thesis reviewed

and approved by a faculty committee. To graduate with honors students must earn a GPA of 3.5 in all chemistry courses required for the major and have an overall USC GPA of 3.5.

Upon graduation, transcripts will be noted "Bachelor of Arts with Departmental Honors" for Chemistry BA students, or "Bachelor of Science with Departmental Honors" for students who pursued the various Chemistry BS majors.

**For Chemistry BS, Chemistry BS — Chemical Nanoscience Emphasis, and Chemistry BS — Chemical Biology Emphasis, 4 units CHEM 490 are required for the major; for Chemistry BS — Research Emphasis, 4 units CHEM 490 and 4 units CHEM 494 are required for the major; and for Chemistry BA, 1–8 units of CHEM 490x are required for the major.*

Honors Program in Biochemistry

A BS degree with honors in biochemistry is available for eligible students. In meeting program requirements students must submit an application and satisfy the objectives of one of the program options noted below.

Option One: Biochemistry Honors with Chemistry Research

Students seeking admission into option one must have at least junior standing (64 units) with an overall USC GPA of 3.5 or better in at least 32 units at USC, and have a 3.5 or better in at least 16 units in biological sciences and chemistry. Students in this option must complete 8 units of research (CHEM 490x) under the supervision of chemistry faculty with the results of research being described in an undergraduate thesis reviewed and approved by a faculty committee. To graduate with honors under this option students must earn a GPA of 3.5 in all biological sciences and chemistry courses required for the major.

Option Two: Biochemistry Honors with Biology Research

Students seeking admission into option two must have at least sophomore standing (32 units) with an overall USC GPA of 3.5 or better both cumulatively and in 16 units in biological sciences and chemistry. Students in this option must complete 4 units of research (BISC 490x) under faculty in biological sciences or under faculty in any other department approved by biological sciences. In addition, students must complete two semesters of Honors Seminar (BISC 493x), 1 unit each, and one semester of Honors Thesis (BISC 494x), 2 units. To graduate with honors under this option students must earn a GPA of 3.5 in all sciences and mathematics courses required for the major.

Upon graduation, transcripts of students following either option will be noted, "Bachelor of Science with Departmental Honors."

Graduate Degrees

The Chemistry department offers Doctor of Philosophy, Master of Arts, and Master of Science degrees in Chemistry, and a Doctor of Philosophy degree in Chemical Physics. Close contact between students and faculty is a seminal feature of the chemistry graduate programs. The emphasis is on individualized programs aiming at in-depth understanding and development of scientific maturity. Attention is given to career aims, including research and development; secondary, college and university teaching; and the wide variety of industrial testing, operation and management areas.

Admission Requirements

A baccalaureate degree, equivalent to the BA with a major in chemistry at USC, is prerequisite to admission to the graduate program in chemistry. A baccalaureate degree in an appropriate physical science, engineering or mathematics is prerequisite to admission to the doctoral program in chemical physics.

Application must be made to the department on a special form, which includes application for fellowship and teaching assistant appointment and is available from the department Website. Materials describing the faculty, research areas and facilities will be sent to each applicant.

The department does not accept applicants for a Master of Arts or Master of Science degree in chemistry. The MA and MS degrees are intended only as transitional degrees in the process of completing requirements for the PhD in chemistry.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Teaching Experience

Teaching experience is required for the advanced degrees in chemistry.

Bachelor's Degree

Biochemistry (BS)

This degree is offered jointly by the Departments of Biological Sciences and Chemistry.

The general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences are applicable.

Students must complete each required course in the Departments of Biological Sciences and Chemistry with a grade of C- or better, and maintain an overall GPA of 2.0 or better in all attempted courses in the two departments in the regular degree program.

Required Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 435 Advanced Biochemistry Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4 or
- CHEM 432 Physical Chemistry for the Life Sciences Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4

- BISC 305g Statistics for Biological Sciences Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4 or
- MATH 226g Calculus III Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Additional Requirements

Eight units of upper-division, non-core course work available for major credit in biological sciences or chemistry are required. Students enrolled in BISC 490 are limited to 4 units, while students enrolled in CHEM 490 may complete up to 8 units. No more than two seminars (BISC 460 to BISC 462), totaling 4 units, may be applied to the upper-division elective requirement.

Honors Program in Biochemistry

A BS degree with honors in biochemistry is available for eligible students. In meeting program requirements students must submit an application and satisfy the objectives of one of the program options noted below.

Option One: Biochemistry Honors with Chemistry Research

Students seeking admission into option one must have at least junior standing (64 units) with an overall USC GPA of 3.5 or better in at least 32 units at USC, and have a 3.5 or better in at least 16 units in biological sciences and chemistry. Students in this option must complete 8 units of research (CHEM 490) under the supervision of chemistry faculty with the results of research being described in an undergraduate thesis reviewed and approved by a faculty committee. To graduate with honors under this option students must earn a GPA of 3.5 in all biological sciences and chemistry courses required for the major.

Option Two: Biochemistry Honors with Biology Research

Students seeking admission into option two must have at least sophomore standing (32 units) with an overall USC GPA of 3.5 or better both cumulatively and in 16 units in biological sciences and chemistry. Students in this option must complete 4 units of research (BISC 490) under faculty in biological sciences or under faculty in any other department approved by biological sciences. In addition, students must complete two semesters of Honors Seminar (BISC 493), 1 unit each, and one semester of Honors Thesis (BISC 494), 2 units. To graduate with honors under this option students must earn a GPA of 3.5 in all sciences and mathematics courses required for the major.

Upon graduation, transcripts of students following either option will be noted, "Bachelor of Science with Departmental Honors."

Chemistry (BA)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226g Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4

One course from among:

- CHEM 332L Physical Chemical Measurements Units: 4
- CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

One additional upper-division science elective

Chemistry (BS)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226g Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 332L Physical Chemical Measurements Units: 4

- CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry Units: 4
  or
- CHEM 463L Chemical Nanotechnology Laboratory Units: 2
  or
- CHEM 465L Chemical Instrumentation Units: 4

or
- CHEM 467L Advanced Chemical Biology Laboratory Units: 2 (A total of 4 Units)
- CHEM 426 Advanced Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

Chemistry (Chemical Biology) (BS)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Core Courses, Lower-Division

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226g Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Required Core Courses, Upper-Division

- BISC 320Lg Molecular Biology Units: 4
- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4 or
- CHEM 432 Physical Chemistry for the Life Sciences Units: 4

- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 463L Chemical Nanotechnology Laboratory Units: 2
- CHEM 467L Advanced Chemical Biology Laboratory Units: 2
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

Advanced Laboratory Elective, Four Units From Among:

- CHEM 332L Physical Chemical Measurements Units: 4
- CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry Units: 4
- CHEM 465L Chemical Instrumentation Units: 4

Advanced Chemistry Elective, Two Courses From Among:

- CHEM 426 Advanced Organic Chemistry Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- CHEM 519 Biochemistry and Molecular Biology: An Introduction for Chemists Units: 4

Chemistry (Chemical Nanoscience) (BS)

In addition to the general education, writing and foreign language requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Core Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226g Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Core Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 332L Physical Chemical Measurements Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- CHEM 455 Chemical Nanotechnology Units: 4
- CHEM 463L Chemical Nanotechnology Laboratory Units: 2
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

Chemical Nanoscience Elective, Two Courses (5 or 6 Units) From Among:

- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 4
- CHEM 499 Special Topics Units: 2, 3, 4 (2 Units Required)
- CHEM 488 Introduction to Theory and Practice of X-ray Crystallography Units: 4
  or
- CHEM 588 Advanced Practical X-ray Structure Determination of Small Molecules Units: 2
- CHEM 561 Polymer Synthesis Units: 4

Chemistry (Research) (BS)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Core Courses, Lower-Division

- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226g Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Core Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 426 Advanced Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4

Advanced Laboratory Elective, 4 Units From Among:

- CHEM 332L Physical Chemical Measurements Units: 4
- CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry Units: 4
- CHEM 463L Chemical Nanotechnology Laboratory Units: 2
- CHEM 465L Chemical Instrumentation Units: 4
- CHEM 467L Advanced Chemical Biology Laboratory Units: 2

Required Research Courses

- CHEM 292 Supervised Research Units: 2
- CHEM 294 Undergraduate Research Seminar Units: 1
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)
- CHEM 494x Advanced Research Experience Units: 2, 4 (4 Units Required)

Minor

Chemistry Minor

A chemistry minor is available for students who wish to broaden their exposure to the chemical sciences. In addition to a core of five chemistry courses (year-long sequences in general chemistry and organic chemistry and a one semester course in analytical chemistry), students must take one upper-division chemistry elective in either advanced organic or advanced inorganic chemistry.

Biology majors must take CHEM 300L, CHEM 426 and CHEM 453.

Required Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

Required Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- CHEM 426 Advanced Organic Chemistry Units: 4 or
- CHEM 453 Advanced Inorganic Chemistry Units: 4

Environmental Chemistry and Sustainability Minor

The environmental chemistry and sustainability minor is designed for students majoring in business, engineering, law, communications and other professional fields to give them the knowledge of chemistry needed to understand, formulate and manage scientific issues related to natural environmental processes as well as technologies involving the environment.

Required Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

Required Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4

One Elective Course Chosen From:

- CHEM 322aL Organic Chemistry Units: 4
- BISC 315L Introduction to Ecology Units: 4 *
- BISC 419L Microbiology for a Sustainable Future Units: 4 *
- BISC 427 The Global Environment Units: 4 *
- GEOL 412 Oceans, Climate, and the Environment Units: 4 **

Note:

**Prerequisite required*
***Corequisite required*

Doctoral Degree

Chemistry (Chemical Physics) (PhD)

Course Requirements

Completion (with no course grade lower than B-) of 24 units of courses selected from chemistry, physics, mathematics, and engineering, with an overall grade point average not lower than B. These courses must be selected with the advisement and approval of first, the research adviser, and then the thesis chair. All other requirements and procedures are the same as for the PhD in Chemistry.

Chemistry (PhD)

Qualifying Exam Committee

The qualifying exam committee is composed of the research adviser, three other members of the Chemistry Department, and one member from outside the Chemistry Department. The committee is appointed prior to the screening procedure.

Course Requirements

The student must pass a series of graduate courses totaling at least 24 units. The qualifying exam committee may require more than 24 units of graduate course work. Sixty units of registration, including CHEM 790 and CHEM 794a CHEM 794b CHEM 794c CHEM 794d CHEM 794z, are required for the PhD Registration for CHEM 790 and CHEM 794a CHEM 794b CHEM 794c CHEM 794d CHEM 794z should be done with the approval of the staff graduate adviser.

Screening Procedure

The screening requirements designated by the department for continuation in the doctoral program are: an overall grade point average of B or better in at least 24 units by the end of the fourth semester of course work with no grade lower than B-; and a successful research seminar presented by the student to the qualifying exam committee. Only students who have passed the screening requirements are allowed to take the qualifying examination.

Qualifying Examination

The qualifying examination requires the presentation of two original research proposals, or one original research proposal and one critical review of a scientific article, and oral defense of all of these. The qualifying examination is administered by the qualifying exam committee, which should not be chaired by the research adviser.

Dissertation

An acceptable dissertation based on completion of an original research project is required. The candidate must defend an approved penultimate draft of the dissertation in an advertised oral thesis defense lecture, which is open to the scientific community. The dissertation committee consists of three members of the qualifying exam committee including the research adviser and the outside member.

Foreign Language Requirement

The department has no foreign language requirement.

Classics

Classics is a broadly interdisciplinary field. The curriculum of the Classics Department is designed to transmit knowledge and foster appreciation of the cultures of Greece and Rome in all their complexity — from study of their languages and literatures, myths and historical traditions, art and architecture, science and religion, philosophies and political thought — and aims as well to encourage reflection on the ways in which later ages have responded to the classical heritage.

The undergraduate classics major gives students an understanding of the cultures, languages and literatures of ancient Greece, Rome and the Mediterranean world. Most courses focus on ancient Greece and Rome, but students in the department also study the interactions among various ancient cultures, from the prehistoric Near East to the late antique Mediterranean, and the impact of classical cultures on later societies. Students choose one of three tracks in the major: Classical Languages and Literatures, Classical Humanities, and Ancient Civilizations. The department also offers four minors in areas of the discipline: Classics, Classical Greek, Latin and Classical Perspectives.

The graduate program in classics at USC aims to train students to become scholars, teachers and interpreters of ancient Mediterranean civilizations, of the Greek and Latin languages and literatures, and of the traditions that have developed from them. In order to prepare students to work in a variety of intellectual contexts, the department seeks to provide both a traditional, substantive training in classical philology and the intellectual flexibility that will enable them to make the world of the past available to audiences of the present.

USC is a member of the American Academy in Rome, the Intercollegiate Center for Classical Studies in Rome, the College Year in Athens program, and the American School of Classical Studies in Athens. In addition to pursuing study-abroad opportunities in Italy or Greece, Classics students also encouraged to explore courses in allied fields such as ancient philosophy, history, comparative literature, religion, art history and archaeology.

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Chair: Ann Marie Yasin, PhD

Faculty

Professors: Anthony J. Boyle, MA; Vincent Farenga, PhD*; Susan Lape, PhD

Associate Professors: Christelle Fischer-Bovet, PhD; Stefano Rebaggiani, PhD; Daniel Richter, PhD*; Ann Marie Yasin, PhD *(Art History)*

Assistant Professors: Afroditi Angelopoulou, PhD; Brandon Bourgeois, PhD; Frederic Clark, PhD; Alexandre Roberts, PhD

Assistant Professor (Teaching): Lucas Herchenroeder, PhD

Emeritus: Jane Cody, PhD; William G. Thalmann, PhD*

**Recipient of university-wide or college teaching award.*

Undergraduate Degrees Honors Program

Departmental honors will be awarded to students in all tracks of the classics major for work of exceptional academic merit in completing requirements for the capstone project (CLAS 410a and CLAS 410b). Candidates will be nominated by their faculty advisers for the project in CLAS 410b and confirmed in a review of nominees by the Undergraduate Studies Committee.

Special distinction also is conferred upon students able to demonstrate exceptional proficiency in knowledge of the classical languages. The award will be given to students who pass a sight translation exam in either Greek or Latin set by the Undergraduate Studies Committee. The exam will be offered each year at the end of the spring semester and will consist of passages drawn from authors and works read in upper-division Latin and Greek courses during the previous six semesters. The use of a dictionary is permitted for the exam.

Students Anticipating Graduate Study in Classics

Students interested in attending graduate school in classics are advised to take as many courses in Greek and/or Latin as possible.

Graduate Degrees

The graduate program in classics at USC aims to train students to become scholars, teachers and interpreters of ancient Mediterranean civilizations, of the Greek and Latin languages and literatures, and of the traditions that have developed from them. In order to prepare students to work in a variety of intellectual contexts, the department seeks to provide both a traditional substantive training in classical philology and the intellectual flexibility that will enable them to make the accomplishments of the past available to audiences of the present.

The department offers the PhD in Classics (Greek and Latin) and the MA in Greek, Latin and Classics. Collateral offerings are available in related departments, such as comparative literature, history, philosophy, art history, English and anthropology.

The graduate program offers mastery of traditional philological and linguistic skills as a basis for the study of ancient cultures, with emphasis on literature, other discursive practices and material culture. Students are encouraged to explore interdisciplinary approaches to classical studies and the relations between classics and other fields. Courses in related departments are recommended and degree requirements permit students to develop individual interests.

Admission Requirements

An applicant for admission will normally have an undergraduate major in classics, but programs may be arranged for promising students who do not. The student should have an undergraduate record satisfactory to the department. At least three letters of recommendation from the student's undergraduate teachers are required. All applicants are required to take the verbal and quantitative general tests of the Graduate Record Examinations. See the department website for detailed application instructions.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Interdisciplinary Program

Minor in Critical Approaches to Leadership

See the Department of Interdisciplinary Studies for course requirements.

Bachelor's Degree

Classics (BA)

The major in classics has three tracks, with distinct but overlapping emphases. In the Classical Languages and Literatures track, students acquire advanced reading knowledge of one or both classical languages (Greek and Latin) and study the literature of Greece and Rome in historical and cultural context. In the Classical Humanities track, students study Greek and Roman intellectual, literary and aesthetic achievements and their impact on later traditions, while also acquiring basic reading knowledge of one classical language. The Ancient Civilizations track emphasizes study of society, politics and history of Greece, Rome and other civilizations of the ancient Mediterranean world in comparative perspective.

All three tracks emphasize critical thinking as well as practice in written and oral presentation as hallmarks of a liberal arts education.

Requirements for tracks are as follows:

Track I. Classical Languages and Literatures

Recommended Preparation – any of the following:

- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4

Lower-Division Language Courses (20 units)*

Students must take three courses in one language of their choosing and two in the other language.

Greek (Choose 2-3 from the following):

- GR 120 Greek I Units: 4
- GR 150 Greek II Units: 4
- GR 220 Greek III Units: 4

Latin (Choose 2-3 from the following):

- LAT 120 Latin I Units: 4
- LAT 150 Latin II Units: 4
- LAT 222 Latin III Units: 4

Note:

**Or equivalent via placement*

Upper-Division Language and Literature Courses (16 units)

Four semesters of 300- or 400-level language courses in Greek or Latin

Additional upper-division requirements Units: 8

Two additional semesters of upper-division Greek, Latin, or Classics courses.

Capstone Units: 4

Analytical paper, oral presentation, sight reading exam in either Greek or Latin

CLAS 410a Research in Classical Studies Units: 2

CLAS 410b Research in Classical Studies Units: 2

Track II. Classical Humanities

Breadth Requirement–any one of the following

- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4

Additional Requirements

Language Requirement

Completion of at least one Greek or Latin course numbered 200 or above.

Upper-Division Requirements

Minimum seven courses, of which at least four must be from Greek, Latin, or Classics; two from Greek, Latin or Classics or from the approved list of outside electives maintained by the major adviser; one capstone.

Capstone: (enroll in Classics CLAS 410a CLAS 410b)

Analytical or research paper; oral presentation; oral examination.

Track III. Ancient Civilizations

- CLAS 101g The Ancient World Units: 4
- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4

Upper-Division Requirements

Minimum nine courses of which at least five must be upper-division courses in classics, Greek or Latin; three either upper-division courses in classics or from the approved list of outside electives maintained by the major adviser; and one capstone. One of the upper-division courses must include study of a classical civilization other than Greece and Rome.

Capstone: (enroll in Classics CLAS 410a CLAS 410b)

Research paper, oral presentation.

- CLAS 410a Research in Classical Studies Units: 2
- CLAS 410b Research in Classical Studies Units: 2

Minor

Classical Greek Minor

Four courses in Classical Greek, of which one may be GR 220 and at least three must be at the upper-division level.

One additional upper-division course: either Classical Greek or Classics (CLAS).

TOTAL: five courses

Classical Perspectives Minor

The interdisciplinary minor in Classical Perspectives provides immersion in foundational ideas, texts and histories of the Greco-Roman tradition that speak to more contemporary topics and areas of study. How did the Greeks and Romans view love and sexuality, justice and mercy, wisdom and honor, war and peace, glory and shame? What insights might classical perspectives provide into artistic and political choices, professional practices, ethical controversies and social issues in other ages; or, into the study of psychology, sex, gender and sexuality, international relations, race relations, cinema, the sciences, business, theatre or popular culture?

The interdisciplinary 20-unit minor is meant to be easily adapted to any student's program of study and allows students to double-count General Education and Thematic Option Honors courses. Students choose 20 units from the list below in consultation with a Classics faculty member or staff adviser. No more than 12 units may be taken in any one USC Dornsife department or USC school.

Foundational Courses

Choose one course from the following list (4 units)

- AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance Units: 4
- AHIS 201g Digging into the Past Units: 4
- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 160gp Ancient Lives Units: 4
- CLAS 170gp Classics of Music and Literature: from Ancient Greece Through Contemporary LA Units: 4
- CLAS 180g Classic Mythology and the Mythic Imagination Units: 4

- CLAS 190g History of Science: Antiquity to the Scientific Revolution Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- GE seminars on appropriate topics (consult an adviser)
- PHIL 115g Ancient Greek Culture and Society Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 121g The World of the New Testament Units: 4

Core Courses

Choose at least one course from the following list (4-12 units)

- CLAS 310 Pagans and Christians Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 330 Ancients VS. Moderns Units: 4
- CLAS 339 Ancient Science Units: 4
- CLAS 340 Ethics and Politics in Ancient Rome Units: 4
- CLAS 370 Leaders and Communities: Classical Models Units: 4
- CLAS 380 Approaches to Myth Units: 4
- CLAS 415 Object-Worlds: Histories and Theories of Things Units: 4
- CLAS 420 Science and Empire from Baghdad to Byzantium Units: 4
- CLAS 470 Democracies Ancient and Modern Units: 4

Electives

Choose at least one course from the following list (4-12 units)

- AHIS 301 Guardians of the Past? Art Preservation, Ethics, and the Law Units: 4
- AHIS 304gm Art, Power and Identity in Renaissance Italy Units: 4
- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4
- AHIS 325 Roman Archaeological Excavation: Methods and Practice Units: 4
- AHIS 420 Studies in Ancient Art Units: 4
- AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology Units: 4
- ANTH 372 Interpretation of Myth and Narrative Units: 4
- ARCG 323p Roman Archaeology: History, Methods and Field Work Units: 4
- CLAS 300 Women in Antiquity Units: 4
- CLAS 305 Roman Law Units: 4
- CLAS 307 Law and Society in Classical Greece Units: 4
- CLAS 310 Pagans and Christians Units: 4
- CLAS 315 Sport and Spectacle in the Ancient World Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 321 Greek Art and Archaeology Units: 4
- CLAS 322 Roman Art and Archaeology Units: 4
- CLAS 323 Aegean Archaeology Units: 4
- CLAS 324 Late Antique Art and Archaeology Units: 4
- CLAS 325 Ancient Epic Units: 4
- CLAS 328 Archaeology of Religion in the Greco- Roman World Units: 4
- CLAS 333 Cult and City in Ancient Greece Units: 4
- CLAS 336 Rome and its Discontents: Literature and Social Change Units: 4
- CLAS 337gp Ancient Drama Units: 4
- CLAS 338 Warfare, State, and Society in the Ancient World Units: 4
- CLAS 348g Athens in the Age of Democracy and Empire Units: 4
- CLAS 349gp Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- CLAS 375 Alexander the Great Units: 4
- CLAS 378 Ptolemaic Egypt Units: 4
- CLAS 390 Special Problems Units: 1, 2, 3, 4
- CLAS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology Units: 4
- CLAS 465 Archaeology and Society Units: 4
- CLAS 485 Comparative Grammar of Greek and Latin Units: 4
- CLAS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- COLT 311 Epic Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- COLT 391 Literary Criticism from Plato to Postmodernism Units: 4
- COMM 330 Rhetoric in Classical Culture Units: 4
- HIST 302 From Sappho to Stonewall: Lesbians in History Units: 4
- HIST 303 Barbarians, Romans, and Christians Units: 4
- HIST 305 Women and Gender in Pre-Modern Europe Units: 4
- HIST 306 The Early Middle Ages Units: 4
- HIST 314 Rome Through its Monuments from Antiquity to the Middle Ages Units: 4
- HIST 316 The Renaissance Units: 4
- HIST 396 Women of Rome, from Antiquity through the Middle Ages Units: 4
- HIST 401 The Roman World Units: 4
- HIST 403 Carolingian Europe Units: 4
- HIST 405 Traveling in the Early Medieval Mediterranean Units: 4
- HIST 479 History in the Museum: The Past in Objects Units: 4
- LING 466 Word and Phrase Origins Units: 4
- PHIL 314 Origins of Free Market Thought in Early Modern Europe Units: 4
- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 411 Plato Units: 4
- PHIL 415 Aristotle Units: 4
- POSC 370 European Political Thought I Units: 4
- REL 302 Religions of Ancient Egypt and the Near East Units: 4
- REL 325g Religious Experience in the Greco-Roman World Units: 4
- REL 326gp Historical Jesus Units: 4
- REL 327g Heretics, Martyrs, and Miracles Units: 4
- THTR 301 Greek and Roman Theatre Units: 4

Classics Minor

The classics department minor requires one lower-division Classics course or one third-semester Latin or Greek course, and four upper-division Classics, Latin or Greek courses.

One course from either A or B:

Lower-division course

A.

Lower division Classics courses

- CLAS 101g The Ancient World Units: 4
- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 160gp Ancient Lives Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4

B.

Third semester Latin or Greek courses:

- GR 220 Greek III Units: 4
- LAT 222 Latin III Units: 4

Additional Requirements

Four upper-division courses (16 units) drawn from classics course offerings in Classics, Latin or Greek

Total: 5 courses

Latin Minor

Four courses in Latin, of which one may be LAT 222 and at least three must be at the upper-division level.

One additional upper-division course: either Latin (LAT) or Classics (CLAS).

TOTAL: five courses

Master's Degree

Classics (MA)

The department does not accept applicants for a Master of Arts degree in classics. The MA degree is intended only as a transitional degree in the process of completing requirements for the PhD in classics.

Work toward the MA consists of six 4-unit courses (24 units) and a thesis and oral defense, or the MA comprehensive examination. Two of the core seminars (i.e. CLAS 540, CLAS 550, CLAS 560, CLAS 570) are required and five of the six courses must be taken in the Department of Classics. Under the guidance of a faculty committee, the student elects those courses appropriate to individual areas of special interest and previous academic preparation.

Doctoral Degree

Classics (PhD)

Application deadline: January 1

Course Requirements

All students must complete CLAS 540, CLAS 550, CLAS 560 and CLAS 570, plus at least five from CLAS 510, CLAS 515, CLAS 520, CLAS 525, CLAS 545, CLAS 555, CLAS 565, CLAS 575, as well as three electives to be decided on in consultation with the graduate adviser. This arrangement is designed to assure competency in core areas of classical studies while allowing for the development of individual research interests and, where appropriate, course work in related fields. In addition, all students are required to enroll in the 2-unit teaching practicum (CLAS 593x) concurrent with their first semester as a department teaching assistant.

Exams

Students are expected to complete written exams in the translation of Greek and Latin literature; in Greek and Roman history; and modern language competency exams. In addition, students take written and oral exams in major and minor fields and an oral exam on the dissertation prospectus. The field exams, prospectus, and exam on the prospectus together constitute the qualifying exam and are evaluated by a five-member committee. Students may not present themselves for the qualifying exam until all required courses and preliminary exams have been completed successfully.

Dissertation

Following the completion of the qualifying exam, the guidance committee will be reduced to three members, including one member from outside the department, who will guide and approve the dissertation.

Juries

All students make formal presentations on their research before a jury drawn from internal and external faculty twice during their graduate careers — once before taking the field exams and once while working on the dissertation.

Timetable

Required course work, written and oral exams are to be completed by the end of the third year of enrollment in the program, with the dissertation to be submitted and defended by the end of the fifth year.

Comparative Literature

Comparative Literature seeks out and encourages transnational and transcultural experiences and perspectives. Our students are trained to ask broader and better questions about the many forms of cultural production surrounding them. Comparatists study the nature of literature and other media across and between different languages and cultures. They gain a broad knowledge of different cultural traditions representing writers and artists of diverse origins and from many historical periods. In addition to cross-linguistic and cross-cultural literary studies, the undergraduate program explores literature in social, political, intellectual, and historical context and the relationship of literature to other arts, philosophy, and media, including digital media. The Department of Comparative Literature offers both a major and minor in comparative studies.

Students in Comparative Literature work with emergent and established scholars at the cutting edge of their various fields and disciplines. Our undergraduates are encouraged to adopt comparative study and literary theory not only as integral elements of interdisciplinary academic work but as crucial tools of democratic citizenship in global contexts. The department has strengths in critical theory and in both Western and non-Western literary and cultural traditions, including U.S., Latin American and Caribbean, Western European, Middle Eastern, East Asian and South Asian. The broad scope of scholarly expertise represented in the department enables students to reflect critically, across their course of studies, on the ways in which globalization affects the creation, dissemination, and consumption of culture and to analyze literature, arts, and media as sites of resistance to and rethinking of this globalization.

Our undergraduate program is more broadly conceived than at many other universities. While we offer traditional comparative literature courses that cross the boundaries of national literatures and study literary periods, movements, and genres, our courses also allow students to explore literature in its interaction with philosophy, to discover the relation of literature to other arts and media, and to reflect on practices of translation as themselves modes of transcultural exchange and production. The strong non-Western component in the undergraduate program encourages our students to think with nuance and complexity about the place of literature in wider social and political contexts.

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Interim Chair: Lydie Moudileno, PhD
Chair: Erin Graff Zivin, PhD*

Faculty

University Professor, Aerol Arnold Chair of English and Professor of English, American Studies and Ethnicity, and Comparative Literature: Viet Thanh Nguyen, PhD* *(English)*
University Professor and Professor of English and Comparative Literature: David St. John, MFA *(English)*
USC Associates Chair in Humanities and Professor of English, American Studies & Ethnicity and Comparative Literature: John Rowe, PhD *(English)*
Gender Studies Professor in Media and Gender and Professor of English, Comparative Literature and Gender Studies: Joseph A. Boone, PhD *(English)*
Marion Frances Chevalier Professor of French and Professor of French, American Studies and Ethnicity and Comparative Literature: Lydie Moudileno, PhD *(French and Italian)*
Professors: Vincent Farenga, PhD* *(Classics)*; Erin Graff Zivin, PhD* *(Latin American and Iberian Cultures)*; Julian Gutierrez-Albilla, PhD *(Latin American and Iberian Cultures)*; Aniko Imre, PhD *(Cinema and Media Studies)*; David E. James, PhD

(Cinematic Arts); Akira Mizuta Lippit, PhD *(Cinema and Media Studies);* Margaret Rosenthal, PhD* *(French and Italian)*; Hilary M. Schor, PhD *(English)*; Daniel Tiffany, PhD *(English)*; Alexander Zholkovsky, PhD* *(Slavic Languages and Literatures)*
Associate Professors: Gian-Maria Annovi, PhD *(French and Italian)*; Brian Bernards, PhD *(East Asian Languages and Cultures)*; Roberto Ignacio Díaz, PhD* *(Latin American and Iberian Cultures)*; Devin Griffiths *(English)*; Olivia C. Harrison *(French and Italian)*; Heather James, PhD* *(English)*; Neetu Khanna, PhD; Natania Meeker, PhD*, Chevalier de l'Ordre des Palmes Academiques; *(French and Italian)*; Panivong Norindr, PhD *(French and Italian)*; Samuel Steinberg, PhD *(Latin American and Iberian Cultures)*; Antonia Szabari, PhD *(French and Italian)*
Assistant Professors: Natalie Belisle, PhD *(Latin American and Iberian Cultures);* Ronald Mendoza-de Jesus, PhD *(Latin American and Iberian Cultures);* Veli N. Yasin, PhD
Associate Professors (Teaching): Mia du Plessis, PhD; Jason Webb, PhD
Emeritus Professors: Peggy Kamuf, PhD, Chevalier de l'Ordre des Palmes Academiques *(French and Italian)*; Gloria Orenstein, PhD; Albert Sonnenfeld*, PhD, Chevalier de l'Ordre des Palmes Academiques *(French and Italian)*
**Recipient of university-wide or college teaching award.*

Graduate Degrees

The MA and PhD in comparative literature are offered through the Comparative Studies in Literature and Culture program.

Bachelor's Degree

Comparative Literature (BA)

Students may earn the BA in Comparative Literature by satisfying the requirements for either of two tracks.

The Literature/Media/Critical Thought Track allows students to focus their study in one of three concentrations while also taking courses in the other two. Together, these three concentrations represent the broad range of interests in the discipline: (1) literature considered comparatively and transnationally; (2) the media of other arts and modes of communication (photography, film, music, painting and digital media); (3) modes of critical thought that inform and shape theoretical reflection on the arts and society.

This track offers the opportunity to pursue a major that is broadly based in the liberal arts. Students on this track might consider extending their concentration with a double major or minor. For example, the literature concentration could be extended with a second major or minor in a national literature (French, Spanish, Italian, Russian, English, classics or an East Asian literature); the media concentration by another major or minor in cinematic arts, art history or communication; and the critical thought concentration by a second major or minor in philosophy, religion, history, sociology or anthropology.

The Foreign Language Track incorporates the study of at least one literature in a foreign language into the comparative perspective of the comparative literature major.

Students who intend to pursue a graduate degree in either comparative literature or a foreign literature are strongly advised to choose this track, as are students who already possess advanced skills in a language other than English. Majors in comparative literature with foreign language emphasis might consider a double major or a minor in a department of foreign language or in a non-literary field such as international relations or journalism.

The requirements for both tracks of the major accommodate very well semesters of study abroad. Students are helped and encouraged to plan their programs in advance to allow for that experience.

Requirements for the Major

Literature/Media/Critical Thought Track

Students earn a BA in Comparative Literature and are required to complete at least 40 units (10 courses) as follows:

Requirements

(1)

- COLT 302 Introduction to Literary Theory Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4

(2)

At least four additional COLT courses in one of the three concentrations.

Literature Concentration:

- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- COLT 102g On Location: The Place of Literature in Global Cultures Units: 4
- COLT 250g Cultures of Latin America Units: 4
- COLT 251g Modern Literature and Thought of the West Since 1800 Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- COLT 311 Epic Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- COLT 324 Women in Medieval and Renaissance Europe Units: 4
- COLT 335 Decadence and Modernity Units: 4
- COLT 345 Realist Fiction Units: 4
- COLT 346 Fictions of the First Person Units: 4
- COLT 348 Modernist Fiction Units: 4
- COLT 374gm Women Writers in Europe and America Units: 4
- COLT 382gw Zen and Daoism in Asian Literature Units: 4
- COLT 420 The Fantastic Units: 4
- COLT 426 Utopias Units: 4
- COLT 445 Europe and the Writing of Others Units: 4
- COLT 448 Multilingual Encounters Units: 4
- COLT 472 Los Angeles Crime Fiction Units: 4
- COLT 475 Politics and the Novel Units: 4
- COLT 476 Narrative and the Law Units: 4
- COLT 485 The Shoah (Holocaust) in Literature and the Arts Units: 4
- EALC 454 Bildungsroman in Modern East Asia Units: 4
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4

Media Concentration:

- COLT 354 Revolutions in Theater Units: 4
- COLT 357 The Avant-Garde Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COLT 373 Literature and Film Units: 4
- COLT 379 Nationalism and Postcolonialism in Southeast Asian Cinema Units: 4
- COLT 451 Opera and Cultural Theory Units: 4
- COLT 462 Soundtracks of Our Lives Units: 4
- COLT 470 Literature and Media in Latin America Units: 4
- COLT 480 Dada and Surrealism Units: 4

Critical Thought Concentration:

- CLAS 370 Leaders and Communities: Classical Models Units: 4
- COLT 375 Latin American Cultural and Literary Theory Units: 4
- COLT 377 Gender and Sexuality in Literary Theory Units: 4
- COLT 381 Psychoanalysis and the Arts Units: 4
- COLT 385 Literature and Justice Units: 4
- COLT 391 Literary Criticism from Plato to Postmodernism Units: 4
- COLT 454 Aesthetic Philosophy and Theory Units: 4
- COLT 471 Literature, Theory, History Units: 4
- COLT 474 Desire, Literature, Technology Units: 4
- COLT 476 Narrative and the Law Units: 4
- COLT 478 Family in Theory and Literature Units: 4
- COLT 486 Deconstructive Thought Units: 4
- COLT 487 Critical Image Units: 4

(3)
At least four additional COLT courses. No more than two of the 10 courses required for the major may be at the 100 or 200 level.

Foreign Language Track

Students earn a BA in Comparative Literature and are required to complete 40 units (10 courses) as follows:

Requirements

(1)

- COLT 302 Introduction to Literary Theory Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4

(2)
At least five additional COLT courses, of which no more than two may be at the 100 or 200 level.

(3)
At least three upper-division courses in the literature or culture of one or more foreign languages (other than English), with all readings in that language.

Honors Program

Students who satisfy the following requirements of the honors program receive the BA in Comparative Literature with Honors. To be admissible to the honors program, an overall GPA of at least 3.0 and at least 3.5 in courses counted for major credit is required. The decision to enter the Honors Program should be made and discussed with the departmental undergraduate adviser at least one year (two semesters) before graduation.

To be awarded honors, majors in comparative literature on the literature/media/ critical thought track must complete 4 units of COLT 490x Directed Research and 4 units of COLT 495 Senior Honors Thesis. These courses replace two of the COLT courses required beyond the four-course concentration. Majors in comparative literature on the foreign language track must complete, in place of two of the five required COLT courses, an additional upper-division course in the literature or culture of a language other than English and COLT 495 Senior Honors Thesis.

The director of the senior honors thesis must be a member of the comparative literature faculty. The second reader may be any regular USC faculty. To qualify for the award of honors, the director and second reader must both approve the thesis.

Minor

Comparative Literature Minor

Students can minor in one of three tracks: the literature/media/ critical thought track, the foreign language track or the global cultures track.

Literature/Media/Critical Thought Track

Students are required to complete at least 24 units (six courses) as follows:

1. COLT 302 and COLT 303
2. At least three additional COLT courses in one of the three concentrations.
3. At least one additional COLT course in any of the three concentrations.

No more than one of the six courses required for the minor may be at the 100 or 200 level.

Foreign Language Track

Students are required to complete at least 24 units (six courses) as follows:

1. COLT 302 and COLT 303
2. At least three additional COLT courses, of which no more than one may be at the 100 or 200 level.
3. At least one upper-division course in the literature or culture of a foreign language (other than English), with all readings in that language.

Global Cultures Track

Students are required to complete at least 24 units (six courses) as follows:

1. COLT 302 and COLT 303
2. At least two additional COLT courses, of which no more than one may be at the 100 or 200 level, to be chosen from the following list: COLT 101, COLT 102, COLT 250, COLT 264, COLT 374, COLT 375, COLT 379, COLT 385, COLT 445, COLT 448, COLT 470, COLT 474
3. At least two other courses in a relevant USC College department to be decided in conjunction with the adviser according to the following guidelines:
   1. Students may choose a region of the world and take two upper-division courses related to that region in relevant departments.
   2. Students may choose a national/ linguistic tradition and take two upper-division courses related to that tradition in relevant departments.

Graduate Certificate

Translation Studies Certificate

Graduate students intending to complete a certificate in Translation Studies must be admitted to a USC graduate or professional program. While undertaking course work for an MA, PhD or other graduate degree, students may earn a certificate in Translation Studies, which confirms advanced competence in inter-linguistic and cross-cultural communication.

To earn the certificate, students must take four courses (minimum of 12 units). Of these, two are required: the theory and philosophy of translation (COLT 510), and the workshop in literary translation that will serve as the capstone experience (COLT 519). In addition, students will choose two elective courses under the rubric of linguistic, literary and cultural traditions. Electives must focus fully or partially on translation and may be taken in any department, including comparative literature. Possible electives include COLT 511, COLT 512, or any graduate course from any departments or programs. Electives need to be approved by the director of the certificate.

Requirements

Foundation

- COLT 510 Introduction to Translation Studies Units: 4

Electives in Linguistic, Literary and Cultural Traditions

Two elective courses are required for certificate completion and may be taken in any department. The courses listed below are approved to count toward the certificate. Courses outside of those listed are subject to review and approval by the certificate program director prior to the application toward the certificate.

- COLT 511 Translating Race Units: 4
- COLT 512 Literary and Cinematic Translingualism and Translation Units: 4

Capstone

- COLT 519 Translation in Theory and Practice Units: 4

Comparative Studies in Literature and Culture

The Comparative Studies in Literature and Culture Department offers the MA and PhD in three tracks: Comparative Media and Culture; Comparative Literature; and National Literatures and Cultures (French and Francophone Studies or Spanish and Latin American Studies).

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Graduate Degrees

Comparative Studies in Literature and Culture Doctoral Program

Application deadline: January 3

Through the Comparative Studies in Literature and Culture doctoral program (CSLC), students pursue master's and doctoral degrees in one of three tracks: Comparative Media and Culture; Comparative Literature; National Literatures and Cultures (French and Francophone Studies or Spanish and Latin American Studies). The three tracks share a required core curriculum.

General Admission and Application Requirements

Applications are made to CSLC for the PhD in one of the three tracks.

Successful applicants will have: a BA in a relevant discipline; satisfactory scores in both the verbal and quantitative general test of the Graduate Record Examinations; satisfactory grades on undergraduate or previous MA course work in a related field and, if appropriate, a satisfactory score on the TOEFL or IELTS examination; and advanced competence in relevant languages. Applications must also include a written statement indicating the applicant's interests in the field and proposed areas of study; a sample of scholarly or critical writing on a relevant subject; and three letters of recommendation.

Although candidates are not admitted who wish to pursue solely the MA, the degree may be awarded either as a terminal degree or as a transitional degree in the course of PhD study.

General Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. To be applied toward the degrees, courses must be accepted by the Graduate School.

Students may transfer up to 4 units toward the MA and 30 units toward the PhD.

For specific degree requirements in each track, see below.

Certificate in Foreign Language Teaching

This credential provides certification in the theory and practice of second or foreign language teaching for student language teachers concurrently enrolled in graduate degree programs in foreign languages or related graduate programs at USC; for graduates of such programs who are teaching languages; for external candidates concurrently enrolled in similar programs at accredited colleges or universities; or for graduates of such programs who are teaching languages. The certificate is meant to supplement graduate study in the literature or linguistics of foreign languages. It is also meant to supplement classroom teaching. Refer to the Department of Latin and Iberian Cultures for course work requirements.

Master's Degree

Comparative Studies in Literature and Culture (Comparative Literature) (MA)

Track II: Comparative Literature

The primary goal of graduate study in the comparative literature track is to prepare students to engage in original research and teaching after acquiring: a broadly based knowledge of literature's formal or generic development extending across linguistic boundaries; an understanding of literature's historical development within a number of specific cultural or ideological contexts; and a knowledge of the principles of literary criticism and theory essential to the analysis, interpretation and evaluation of individual works. The core of the discipline of comparative literature is advanced competence in several languages allowing research in their literary traditions.

Course Requirements

Completion of at least eight courses (29–32 units) distributed as follows: CSLC 501, CSLC 502 and CSLC 503; three courses in a first literary tradition; two courses in a second literary tradition. No more than one of these eight courses may be in directed research (590).

First-year Review

The program conducts a thorough review of all first-year students at the end of the second semester. To be permitted to continue doctoral work, students must receive a satisfactory evaluation in this review.

Track II Field Examination

A written exam based on a reading list must be successfully passed by all students in the track. It is normally taken at the end of the semester in which MA course work is completed.

Comparative Studies in Literature and Culture (Comparative Media and Culture) (MA)

Track I: Comparative Media and Culture

The primary goal of the track in comparative media and culture is to prepare students to engage in original research and teaching after acquiring: a broadly based knowledge of the formal specificity and possibilities of different print, visual, sound and digital media; an understanding of the development of different media within their specific cultural and linguistic contexts; and a knowledge of the principles of criticism and theory essential to the analysis, interpretation and evaluation of individual works.

Course Requirements

Completion of at least eight courses (29–32 units) distributed as follows: CSLC 501, CSLC 502and CSLC 503; one course in a non-Anglophone literary or cultural tradition (CLAS, EALC, FREN, SLL or SPAN); four additional courses in fields relating to the student's program, of which at least two are in CSLC. No more than one of these eight courses may be in directed research (CSLC 590).

First-Year Review

The program conducts a thorough review of all first-year students at the end of the second semester. To be permitted to continue doctoral work, students must receive a satisfactory evaluation in this review.

Track I Field Examination

A written exam based on a reading list must be successfully passed by all students in the track. It is normally taken at the end of the semester in which MA course work is completed.

Comparative Studies in Literature and Culture (French and Francophone Studies) (MA)

The Comparative Studies in Literature and Culture Department offers the MA and PhD in three tracks: Comparative Media and Culture; Comparative Literature; and National Literatures and Cultures (French and Francophone Studies or Spanish and Latin American Studies).

Track III: National Literatures and Cultures

French and Francophone Studies

The majority of students pursue the doctorate in Comparative Studies in Literature and Culture (French and Francophone

Studies) in preparation for a career of teaching and research at the college or university level in the field of French and Francophone literature and cultural studies. Students preparing for these careers must obtain a broad knowledge of major French and Francophone literary texts and traditions from the Middle Ages to the present, which is achieved through a combination of course work and exams. They should also develop the intellectual depth that allows them to produce an original dissertation in a timely manner.

Course Requirements

Completion of at least 8 courses (29–32 units) distributed as follows: (1) CSLC 501, CSLC 502 and CSLC 503; three core courses, FREN 500, FREN 501 and FREN 503; (3) two additional courses in French or, with permission, in a related field. No more than two of the eight courses may be at the 400 level and no more than one course may be in directed research (590).

First-year Review

The program conducts a thorough review of all first-year students at the end of the second semester. To be permitted to continue doctoral work, students must receive a satisfactory evaluation in this review.

Comparative Field Exercise

The exam consists of the oral defense of a paper developed in consultation with a faculty adviser. The paper must be submitted no later than the third semester.

Field Examination

A written exam based on a reading list, followed by an oral defense, must be successfully passed by all students in the track. It is normally taken at the end of the semester in which MA course work is completed.

Comparative Studies in Literature and Culture (Spanish and Latin American Studies) (MA)

Spanish and Latin American Studies

The Spanish and Latin American Studies track in Comparative Studies in Literature and Culture provides an optimal academic environment for students interested in advanced studies and research in Spanish and Latin American literature and culture studies. Students pursue a course of study designed to develop a broad knowledge of the subject matter within the framework of comparative studies as well as current developments in the field and are encouraged to devise individualized programs of specialization in keeping with the highest standards of scholarship.

Course Requirements

Students are required to complete at least eight courses (32 units), distributed as follows: CSLC 501, CSLC 502 and CSLC 503; SPAN 501; four additional Spanish courses or, with permission, courses in a related field. Students specializing in the medieval and early modern periods are encouraged to take a course in the history of the Spanish language. No more than one of the eight courses may be in directed research (590).

First-year Review

The program conducts a thorough review of all first-year students at the end of the second semester. Students must receive a satisfactory evaluation to be permitted to continue to doctoral work.

Language Requirement

Reading knowledge of a language other than Spanish and English must be demonstrated either by successfully completing a course at the 400-level or above taught in that language or by passing a reading examination in the language. Students confer with the graduate adviser to decide which option is most appropriate.

Track III Field Examination (Spanish)

A written exam based on a reading list must be successfully passed by all students in the track. It is normally taken at the end of the semester in which MA course work is completed.

Doctoral Degree

Comparative Studies in Literature and Culture (Comparative Literature) (PhD)

Track II: Comparative Literature

The primary goal of graduate study in the comparative literature track is to prepare students to engage in original research and teaching after acquiring: a broadly based knowledge of literature's formal or generic development extending across linguistic boundaries; an understanding of literature's historical development within a number of specific cultural or ideological contexts; and a knowledge of the principles of literary criticism and theory essential to the analysis, interpretation and evaluation of individual works. The core of the discipline of comparative literature is advanced competence in several languages allowing research in their literary traditions.

Course Requirements

In addition to the MA course requirements listed above, six additional 4-unit courses are required, distributed as follows: COLT 602 and two other courses in CSLC, COLT or comparative fields relating to the student's program; two additional courses in the first literary tradition; one course in a third literary tradition. Students will also complete the professional development sequence, CSLC 600 and CSLC 700, which are 2-unit courses and offered only as credit/no credit. No more than two of the total required courses may be in directed research (590 or 790).

Track II Field Examination

See the requirement in the MA section.

Foreign Language Requirements

Students must successfully complete at least three advanced courses (400-level or higher) in the original languages of two literary traditions other than Anglophone (two courses in one language and one in the other). Students will also complete a literary analysis exercise in their strongest non-native language outside their major literary tradition. This exercise is normally done in conjunction with the field examination.

Comparative Field Exercise

A 30–40 page paper with bibliography in a comparative field related but not central to the major literary tradition in which the student plans to write his or her dissertation is required.

Qualifying Examination

To be admitted to candidacy for the PhD, students must pass this examination after all course work has been completed.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Comparative Studies in Literature and Culture (Comparative Literature) is conferred when all of the degree requirements have been completed satisfactorily.

Comparative Studies in Literature and Culture (Comparative Media and Culture) (PhD)

Track I: Comparative Media and Culture

The primary goal of the track in comparative media and culture is to prepare students to engage in original research and teaching after acquiring: a broadly based knowledge of the formal specificity and possibilities of different print, visual, sound and digital media; an understanding of the development of different media within their specific cultural and linguistic contexts; and a knowledge of the principles of criticism and theory essential to the analysis, interpretation and evaluation of individual works.

Course Requirements

In addition to the MA course requirements listed above, six additional 4-unit courses are required, distributed as follows: one of the following: COLT 602, CSLC 601 or CSLC 603; two courses in non-Anglophone literary or cultural traditions; three additional courses in CSLC or in fields related to the study of media and culture. Students will also complete the professional development sequence, CSLC 600 and CSLC 700, which are 2-unit courses and offered only as credit/no credit. No more than two of the total required courses may be in directed research (590 or 790).

Foreign Language Requirements

Students must successfully complete at least three advanced courses (400-level or higher) in the original language of a tradition other than Anglophone.

Track I Field Examination

See the requirement in the MA section.

Qualifying Examination

To be admitted to candidacy for the PhD, students must pass this examination after all course work has been completed.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Comparative Studies in Literature and Culture (Comparative Media and Culture) is conferred when all of the degree requirements have been completed satisfactorily.

Comparative Studies in Literature and Culture (French and Francophone Studies) (PhD)

The Comparative Studies in Literature and Culture Department offers the MA and PhD in three tracks: Comparative Media and Culture; Comparative Literature; and National Literatures and Cultures (French and Francophone Studies or Spanish and Latin American Studies).

Track III: National Literatures and Cultures

French and Francophone Studies

The majority of students pursue the doctorate in Comparative Studies in Literature and Culture (French and Francophone Studies) in preparation for a career of teaching and research at the college or university level in the field of French and Francophone literature and cultural studies. Students preparing for these careers must obtain a broad knowledge of major French and Francophone literary texts and traditions from the Middle Ages to the present, which is achieved through a combination of course work and exams. They should also develop the intellectual depth that allows them to produce an original dissertation in a timely manner.

Course Requirements

In addition to the MA course requirements, at least five additional 4-unit courses are required distributed as follows: (1) CSLC 603; (2) four additional courses in French or, with permission, in a related field. Students will also complete the professional development sequence, CSLC 600 and CSLC 700, which are 2-unit courses and offered only as credit/no credit. No more than two of the total required courses may be in directed research (590 or 790). The total unit requirement for the PhD is 60 units.

Language Requirement

The language requirement may be fulfilled either by successfully completing a course at the 400-level or above taught in a language other than French or English or by passing a reading examination in the relevant language. Students confer with the graduate adviser to decide which option is most appropriate. This requirement must be fulfilled at least 60 days before the qualifying examination.

Qualifying Examination

To be admitted to candidacy for the PhD, students must pass this examination after all course work has been completed.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Comparative Studies in Literature and Culture (French and Francophone Studies) is conferred when all of the degree requirements have been completed satisfactorily.

Comparative Studies in Literature and Culture (Spanish and Latin American Studies) (PhD)

Spanish and Latin American Studies

The Spanish and Latin American Studies track in Comparative Studies in Literature and Culture provides an optimal academic environment for students interested in advanced studies and research in Spanish and Latin American literature and culture studies. Students pursue a course of study designed to develop a broad knowledge of the subject matter within the framework of comparative studies as well as current developments in the field and are encouraged to devise individualized programs of specialization in keeping with the highest standards of scholarship.

Course Requirements

In addition to the MA course requirements listed above, six additional 4-unit courses are required distributed as follows: one of the following: COLT 602, CSLC 601 or CSLC 603; five additional courses in Spanish or, with permission, courses in a related field. Students will also complete the professional development sequence, CSLC 600 and CSLC 700, which are 2-unit courses and offered only as credit/no credit. No more than two of the total required courses may be in directed research (590 or 790).

Language Requirement

Reading knowledge of two languages in addition to Spanish and English must be demonstrated either by successfully completing a course at the 400-level or above taught in the languages or by passing a reading examination in the languages. Students confer with the graduate adviser to decide which option is most appropriate. This requirement must be fulfilled at least 60 days before the qualifying examination.

Qualifying Examination

To be admitted to candidacy for the PhD, students must pass this examination after all course work has been completed.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Comparative Studies in Literature and Culture (Spanish and Latin American Studies) is conferred when all of the degree requirements have been completed satisfactorily.

Earth Sciences

The Department of Earth Sciences includes a spectrum of disciplines united by curiosity about the Earth and its natural environment, from microbial to planetary scales, and from human to geologic time periods. Teaching and research in the department focus on integrative understanding of Earth's systems and the processes that influence the environmental "state" of the planet, on using this understanding to read the record of Earth's history written in rocks and sediments, and on developing models that can be used to understand mechanisms at work in the past and to predict future changes due to natural phenomena and recent perturbations caused by humans. Earth Sciences involves many issues of societal concern including: seismic risk and other natural hazards; climate change; sustainability of natural resources including petroleum and natural gas as well as water and air; origins and limits of life and survival/adaptation strategies; and environmental contamination. Subdisciplines housed in the department include geophysics, geochemistry, geobiology, hydrology, structural geology, petrology, marine geology, sedimentology, physical and chemical oceanography, climate science, paleoceanography and paleontology.

The department is committed to emphasizing both educational and research programs and views these efforts as complementary. Instruction is offered on several levels and includes an emphasis on hands-on learning through lab and field experiences. Courses include introductory classes for non-science majors, undergraduate courses that are appropriate for those majoring in Earth Sciences or other science and engineering disciplines, and graduate classes appropriate for advanced degrees. A close working relationship exists between students and faculty members. Classes beyond the introductory level are usually small, permitting personalized instruction. Field trips are an important part of the instructional program. Two major research centers are led by faculty within the department: the Southern California Earthquake Center and the Center for Dark Energy Biosphere Interactions. The department also hosts one of NASA's Astrobiology Institutes. The graduate program is closely linked to faculty research efforts, and both graduate and undergraduate students participate in research projects and workshops that include oral and poster presentations. Collaboration in both research and teaching has led to close ties with other programs, including the Department of Biological Sciences (Marine Biology), the Environmental Studies program, the graduate program in Ocean Sciences and several other departments in Dornsife and in other schools (Viterbi School of Engineering, Price School of Public Policy, Annenberg School for Communication and Journalism).

For students interested in pursuing careers in the Earth and environmental sciences, the department offers BA, BS, MS and PhD degrees. The undergraduate majors offer student-focused, experiential training, with capstone experiences including a unifying course on Earth systems and field training in locations including Catalina Island, Spain, Morocco and South America. Many graduates now hold positions in academia as faculty and researchers, in industry as environmental consultants or geologists, in government and private industry as managers or researchers, and as teachers. The BA degree is recommended for students interested in the Earth Sciences but who intend to pursue careers in other fields, such as business, law, medicine or education.

Three minors are available. The Geohazards minor is recommended for those who wish to broaden their background in natural hazards, global change, or environmental problems. It is accessible to both non-science and science majors. The Geobiology minor is recommended for those interested in interdisciplinary work in Earth and biological sciences. The Earth Sciences minor in Climate Change, Stewardship, and Resiliency is recommended for those interested in international relations, public policy, economics, business, management and/or politics. In addition, the department works closely with the Dornsife Environmental Studies program, offering science-focused course work for students in this program and facilitating joint degrees (double-major or major/minor combinations) for students seeking further scientific grounding in their study of the natural environment.

The Los Angeles and Southern California regions provide diverse and spectacular geological settings, enabling students easy access to varied field sites. The department conducts field trips to study Southern California geology, has access to oceanographic vessels for marine research, and regularly conducts workshops and research at the Wrigley Marine Lab on Catalina Island. Many state-of-the-art laboratory instruments are available for use in research and instruction, and both undergraduate and graduate students are involved significantly in most research groups.

Proof of health insurance is mandatory when participation in field trips is required for credit in any Earth Sciences class.

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Chair: Frank Corsetti, PhD

Faculty

University Professor, W.M. Keck Foundation Chair in Geological Sciences and Professor of Earth Sciences: Thomas H. Jordan, PhD

Wilford and Daris Zinsmeyer Early Career Chair in Marine Studies and Professor of Earth Sciences and Biological Sciences: A. Joshua West, PhD

Dean's Professor of Earth Sciences: John Vidale, PhD

Professors: Jan Amend, PhD; Yehuda Ben-Zion, PhD; William M. Berelson, PhD; David J. Bottjer, PhD*; Frank A. Corsetti, PhD*; James F. Dolan, PhD*; Sarah J. Feakins, PhD; Douglas E. Hammond, PhD*; Heidi Houston, PhD; Steven P. Lund, PhD*; James W. Moffett, PhD *(Biological Sciences)*; Scott R. Paterson, PhD; John P. Platt, PhD*; Sergio Sanudo-Wilhelmy, PhD *(Biological Sciences)*; Lowell D. Stott, PhD

Associate Professors: Julien Emile-Geay, PhD

Assistant Professors: Sylvain Barbot, PhD; Emily Cooperdock, PhD; Seth John, PhD; Naomi Levine, PhD *(Biological Sciences)*

Associate Professors (Research): Douglas LaRowe, PhD; David A. Okaya, PhD

Emeritus Professors: Gregory A. Davis, PhD; Thomas L. Henyey, PhD; Teh-Lung Ku, PhD; Terence G. Langdon, PhD, DSc *(Materials Science)*; Kenneth H. Nealson, PhD; Bernard W. Pipkin, PhD*; Charles G. Sammis, PhD*; Ta-liang Teng, PhD

**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Honor Society

The Department of Earth Sciences has one honor society: the Omega Chapter of Sigma Gamma Epsilon, the national honorary earth sciences fraternity. "Sig Gam" is an undergraduate organization that sponsors undergraduate activities within the department.

Undergraduate Honors Program

The department offers an honors program for students pursuing either a BS or a BA in Earth Sciences. Students wishing to participate in this program must complete GEOL 494x Senior Thesis. Honors will be awarded upon successful completion of the thesis and attainment of an overall GPA of 3.0 and a GPA of 3.5 in courses in the major.

Grade Point Average in Major Subject

A grade of C or higher is required in each course in the earth sciences courses used to complete the department or physical sciences major.

Progressive Degree Program in Geological Sciences

This program permits exceptional students to receive both a BS and MS in geological sciences in not more than 10 semesters. It is intended for students with extraordinary geological sciences preparation and performance who demonstrate a superior level of overall scholarship, including a GPA of 3.5 or better. Students may apply on completion of 64 units of course work but not later than the end of the junior year (or the completion of 96 units). The application for admission to a progressive degree program must be accompanied by an approved course plan proposal and letters of recommendation from two USC faculty members in the Department of Earth Sciences. The requirements for both the BS and MS degrees must be satisfied. Further details about progressive degree programs can be found here.

Graduate Degrees

The department prepares professional Earth Scientists for careers in academia, government and industry. A wide range of specializations is offered in the department including climate science, sedimentary geology, paleobiology, paleoclimatology, paleoecology, micro paleontology, paleoceanography, geochemistry, geobiology, geophysics, geodesy, geomorphology, seismology, engineering geology and properties of Earth materials, igneous and metamorphic petrology, structural geology and tectonics, and interdisciplinary options. Degrees in ocean sciences (through the Graduate Program in Ocean Sciences) are available.

Admission Requirements

Prerequisites

An applicant for admission should have the equivalent of the courses in Earth sciences, chemistry, mathematics, and physics required for the BS degree in geological sciences. Applicants with an undergraduate degree in science or engineering who lack required Earth sciences courses will also be given consideration. Other degrees may be acceptable on a case-by-case basis.

Criteria

The Department of Earth Sciences requires the following evidence for admission to its doctoral program: strong undergraduate background and a superior academic record as documented by GPAs in undergraduate and any completed graduate work, Graduate Record Examinations scores no more than five years old in the verbal and quantitative General Test, and at least three letters of recommendation from undergraduate and, if applicable, graduate advisers and professors. The number of students accepted in any one year depends on available space in the department and acceptance for advisement by one or more professors.

Funding is offered for MS degrees only when completed en route to the pursuit of a PhD degree.

Procedure

The online USC graduate admissions application will refer applicants to a required supplemental departmental application. The department admits students for both the fall and spring semesters; however, applicants for assistantships and fellowships are encouraged to apply for the fall semester.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Interdisciplinary Programs

Interdisciplinary programs can be arranged for students also interested in astronomy, bioscience, chemistry, engineering, oceanography and physics. The Department of Earth Sciences maintains laboratories for micro-paleontologic, paleobiologic, mineralogic, petrologic, geophysical, geochemical and oceanographic research, and collections are available for comparative work in invertebrate paleontology. Students interested in systematic studies will find a wealth of material, available for comparative purposes, in the adjacent Los Angeles County Museum. Facilities for research in sedimentation, oceanography and marine geology are provided in the department and by the university's research fleet.

Bachelor's Degree

Earth Sciences (BA)

Required Courses

Introduction:

Any GEOL 100- or 200-level course (4 units):

Required:

- GEOL 315L Minerals and Earth Systems Units: 4

Electives:

28 additional units must be selected from MATH 225, MATH 226, or any upper-division course listed or cross-listed as GEOL (28 units):

Required courses in other departments (8 units):

- CHEM 105aLg General Chemistry Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

Choose any one of the following (4 units):

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- CHEM 105bL General Chemistry Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4

Total units: 48

Geological Sciences (BS)

Required Courses

Introduction:

(4 units):

Any GEOL 100- or 200-level course (4 units):

- GEOL 105Lg Planet Earth Units: 4
- GEOL 107Lg Oceanography Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 125Lg Earth History: A Planet and Its Evolution Units: 4
- GEOL 130Lg The Nature of Scientific Inquiry Units: 4
- GEOL 150Lg Climate Change Units: 4
- GEOL 240Lg Earthquakes Units: 4

Required courses from other departments (24 units)

- CHEM 105aLg General Chemistry Units: 4 and
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 and
- CHEM 115bL Advanced General Chemistry Units: 4
- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 and
- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 and
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4 or
- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 and
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4 and
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Required upper-division courses (12 units):

- GEOL 315L Minerals and Earth Systems Units: 4
- GEOL 387ag Undergraduate Team Research Units: 2

- GEOL 465L Field Geology Units: 4 or
- GEOL 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

- GEOL 494x Senior Thesis Units: 2

Electives (28 units):

28 additional units must be selected from MATH 225, MATH 226 or any upper-division course listed or cross-listed as GEOL.*

Note:

**Up to two upper-division courses from other science departments may be substituted for any two in this group, on approval of the departmental undergraduate adviser.*

Total units: 68

Physical Sciences (BS)

Required Courses

Lower division:

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- GEOL 105Lg Planet Earth Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Upper division:

- Astronomy elective Units: 4 *
- Chemistry elective Units: 4 *
- Earth Sciences elective Units: 4 *
- Physics elective Units: 4 *
- Three additional electives from these fields Units: 12 *

Other courses:

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4

Total units: 64

**Upper-division courses must be applicable to majors in their respective departments.*

Minor

Earth Sciences Minor: Climate Change, Stewardship and Resiliency

This minor is intended to provide background for students who plan careers in business with companies who recognize the necessity to respond to environmental change as scientists understand it. Students who complete the minor will gain insight that will facilitate discussions with both scientists in the field and professionals in the public, private and non-profit sectors.

COURSE REQUIREMENTS

Prerequisites (8 units)

- MATH 125g Calculus I Units: 4 and
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
  or
- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4

Lower-division Requirement

Choose one course from the following three (4 units):

- GEOL 150Lg Climate Change Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- GEOL 241Lg Energy Systems Units: 4

Upper-division Requirements

Core Course (4 units)

- GEOL 351L Climate Systems Units: 4 *

Science Electives

Choose two courses among the following (8 units):

- GEOL 412 Oceans, Climate, and the Environment Units: 4 **
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 427 The Global Environment Units: 4 ***
- GEOL 450L Geosystems Units: 4 ****
- GEOL 470L Environmental Hydrogeology Units: 4

Applications of Climate Change

Choose one course among the following (4 units):

- ECON 487 Resource and Environmental Economics Units: 4 *****
- IR 305w Managing New Global Problems Units: 4
- IR 323 Politics of Global Environment Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 436 Environmental Politics Units: 4
- COMM 475 Environmental Communication Units: 4

Note:

Minor requires 28 units, including 16 upper division units that are unique to the minor.
** Prerequisite: MATH 125*
*** Co-requisites: MATH 126 and CHEM 105b*
**** Prerequisites: BISC 120Lg or BISC 121Lg and CHEM 105b or CHEM 115bL*
**** Prerequisite: MATH 125*
****** Prerequisite: ECON 303*

Geobiology Minor

The minor in geobiology is designed to allow students majoring in biology to incorporate interdisciplinary courses in earth sciences into their program or to allow students majoring in geology to incorporate interdisciplinary courses in biology into their program. This field represents the intersection of what have been traditional disciplines and is valuable for understanding evolution, environmental contaminant behavior and ocean sciences. Students with majors offered by biological or earth or geological sciences will be able to complete this minor with 16 to 24 units of course work beyond their major requirements. Other students may need to complete up to 48 units of course work beyond their major requirements. For example, students majoring in biological sciences might take an introductory GEOL course; GEOL 315L; GEOL 433L or BISC 483; and two additional upper-division elective courses from the list below. Students majoring in earth or geological sciences must take BISC 120Lg and BISC 220Lg; GEOL 433L or BISC 483; and three additional elective courses. Courses selected must include at least 16 units unique to the minor and at least 16 units in a department outside the major.

Required Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
- GEOL 315L Minerals and Earth Systems Units: 4

Elective Courses

- BISC 483 Geobiology and Astrobiology Units: 4 * or
- GEOL 433L Paleontology and Evolution in Deep Time Units: 4

- Three upper-division BISC courses ** Units: 12

One introductory GEOL course:

- GEOL 105Lg Planet Earth Units: 4
- GEOL 107Lg Oceanography Units: 4

- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 125Lg Earth History: A Planet and Its Evolution Units: 4
- GEOL 130Lg The Nature of Scientific Inquiry Units: 4
- GEOL 150Lg Climate Change Units: 4
- GEOL 240Lg Earthquakes Units: 4

Two courses from the following (8 units):

- BISC 474L Ecosystem Function and Earth Systems Units: 4 *
- BISC 483 Geobiology and Astrobiology Units: 4 *
- GEOL 320L Surficial Processes and Stratigraphic Systems Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 433L Paleontology and Evolution in Deep Time Units: 4
- GEOL 450L Geosystems Units: 4
- GEOL 460L Geochemistry Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4

Note:

**Indicates BISC course that is also cross-listed under GEOL*
***Must carry credit for a biology major*

Geohazards Minor

The geohazards minor allows students who are not geology majors to pursue a course of study that will lead to greater understanding of geohazards such as climate change, earthquakes, volcanic eruptions, floods, environmental contamination and availability of natural resources. These issues are examined in a number of upper-division geology courses, and each student can select from the list below depending on the particular area of interest and whether previous course work has been completed to meet prerequisites for some of the choices. The minor requires an introductory class, an upper-division course in either formation of minerals or geosystem behavior and three elective courses from the list below. The minimum number of units to complete the minor is 24, including the introductory course CHEM 105aLg (a corequisite for GEOL 315L) or MATH 125 (prerequisite for GEOL 450L) and three of the group: BISC 427, GEOL 305L, GEOL 315L, GEOL 316L, GEOL 320L, GEOL 321L, GEOL 433L and GEOL 450L. The remaining courses listed have additional prerequisites.

Required Courses (8 Units)

- CHEM 105aLg General Chemistry Units: 4
- GEOL 315L Minerals and Earth Systems Units: 4 or

- MATH 125g Calculus I Units: 4
- GEOL 450L Geosystems Units: 4

Elective Courses

One introductory GEOL course:

- GEOL 105Lg Planet Earth Units: 4
- GEOL 107Lg Oceanography Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 125Lg Earth History: A Planet and Its Evolution Units: 4
- GEOL 130Lg The Nature of Scientific Inquiry Units: 4
- GEOL 150Lg Climate Change Units: 4
- GEOL 240Lg Earthquakes Units: 4

Three of the following (12 units):

- BISC 427 The Global Environment Units: 4
- GEOL 305L Introduction to Engineering Geology Units: 4
- GEOL 315L Minerals and Earth Systems Units: 4
- GEOL 316L Petrologic Systems Units: 4
- GEOL 320L Surficial Processes and Stratigraphic Systems Units: 4
- GEOL 321L Structural Geology and Tectonics Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 433L Paleontology and Evolution in Deep Time Units: 4
- GEOL 440L Geophysics and Geoengineering Units: 4
- GEOL 450L Geosystems Units: 4
- GEOL 460L Geochemistry Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4

Master's Degree

Geological Sciences (MS)

Foreign Language/Research Tool Requirements

There is no language or research tool requirement for the master's degree.

Course Requirements

The MS degree in geological sciences requires 24 units of course work plus at least four thesis units. These restrictions apply: at least 16 units must be 500 level or higher; no more than eight units can be 590 Directed Research; and a maximum of four units, with superior grades, can be transferred from an accredited graduate school. Students are required to have an overall GPA of at least 3.0 (A = 4.0) in all graduate work. Students are also required to attend a series of departmental seminars.

Thesis

Students should arrange for the appointment of a thesis adviser and committee after the first semester, or, at the latest, after the first year of graduate work. The thesis committee should consist of the adviser plus two other faculty members, all of whom are generally selected from the department faculty. Once the committee is arranged, the student may make formal application to the Graduate School for the MS degree.

Doctoral Degree

Geological Sciences (PhD)

Application deadline: January 1

Course Requirements

For students who have earned a master's degree, the minimum number of course credits required for the PhD is 40 units. No more than four of these units may be earned in 794 Doctoral Dissertation. For students who have not earned a master's degree, the minimum number of course credits required is 60 units, including a maximum of eight units of 794 Doctoral Dissertation. The qualifying exam committee may require additional course work to insure a sufficient background in the student's area of specialization. At least two-thirds of the number of units presented for the degree must be 500 level or higher. Although the official minimum GPA for all graduate work attempted at USC is 3.0, the department does not consider a doctoral candidate in good standing unless the graduate GPA is considerably higher than the minimum (approximately 3.25 or above in graduate courses taken within the department).

Screening Procedure

Students in the PhD program must pass the screening procedure before their 25th unit of graduate credit. Screening consists of a review of the student's progress and is usually done by the chair following a written recommendation by the student's adviser(s).

Qualifying Exam Committee

The doctoral qualifying exam committee is formed after the student has passed the screening procedure. The committee is appointed by the department with the advice of the student's research adviser. The five-member committee consists of the adviser, a minimum of three other members from the Department of Earth Sciences, and one from outside the department. The committee consults with the student, recommends an appropriate program of study and administers the written and oral qualifying examinations.

Qualifying Examination

This examination consists of two parts, one written and the other oral. The written exam, which precedes the oral, includes

questions submitted by committee members on current geological problems and theory. The oral portion of the exam consists of the defense of two propositions written by the candidate prior to the oral exam. In addition, general questions are posed to test the student's breadth of scientific and earth science background. The student's performance is evaluated by the qualifying exam committee, with a pass based on not more than one negative vote or abstention. Those who intend to take the exam must meet all the conditions specified in the section on general requirements for the PhD.

Defense of the Dissertation

When the candidate has passed the qualifying examination, a dissertation committee replaces the qualifying exam committee. The latter is appointed by the adviser and qualifying exam committee in conjunction with the student. The dissertation committee administers the final defense of the dissertation.

The defense takes place after the dissertation is substantially complete, and upon unanimous approval by the dissertation committee. It is conducted in the form of an open departmental seminar, but is evaluated by the dissertation committee alone.

East Asian Area Studies

The East Asian Studies Center supports the interdisciplinary study of China, Japan and Korea. It offers an undergraduate major in East Asian Area Studies (with an optional honors track), minors in East Asian Area Studies and Korean Studies, and a progressive degree program for students interested in graduate education.

The center offers the Master of Arts in East Asian Area Studies and the Master of Arts/Master of Business Administration dual degree programs. It also offers a graduate certificate in East Asian Area Studies for continuing graduate students who want to pursue special area competence beyond discipline requirements.

The East Asian Studies Center faculty are professors from departments throughout the college and professional schools who teach and engage in research on East Asia. The center's interdisciplinary approach allows students the flexibility to acquire country-specific expertise as well as a transnational understanding of the region from nearly any discipline. The center promotes and coordinates teaching, research and development of academic programs concerning East Asia, regardless of discipline or school, on a university-wide basis. Scholars from outside the university conduct research at USC and contribute toward the center's goals as EASC visiting scholars and postdoctoral fellows.

The center also promotes and coordinates academic exchange with other institutions with which USC maintains cooperative relations in the United States and abroad. Undergraduate students can conduct research in East Asia through the EASC Global East Asia program or participate in semester -or year-long study abroad programs through the Office of Overseas Studies. Graduate students with special interests in East Asia are eligible to receive summer funding through the East Asian Studies Center for research or related professional development.

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Director: Sonya Lee, PhD

Associated Faculty

Professors: Jonathan Aronson *(Communication)*; Bettine Birge *(East Asian Languages and Cultures)*; Baizhu Chen *(Finance and Business Economics)*; Meiling Cheng *(Dramatic Arts Critical Studies)*; Iris Chi *(Social Work)*; Ruth Gim Chung (*Education)*; Robert Dekle *(Economics)*; JoAnn Marie Farver *(Psychology)*; Eric Heikkila *(Public Policy)*; Velina Hasu Houston *(Dramatic Arts)*; Janet Hoskins *(Anthropology)*; David James *(Cinematic Arts)*; David Kang *(International Relations)*; Saori Katada (*International Relations);* Namkil Kim *(East Asian Languages and Cultures)*; Dorinne Kondo *(Anthropology)*; Lon Kurashige *(History);* Audrey Li *(Linguistics)*; Akira Mizuta Lippit *(Cinematic Arts)*; Qingyun Ma *(Architecture)*; Roger Moon *(Economics)*; Jeffrey B. Nugent *(Economics)*; C.W. Park *(Business)*; Rhacel Parreñas *(Sociology)*; Joan Piggott *(History)*; Nandini Rajagopalan *(Management and Organization)*; Stanley Rosen *(Political Science)*; Ellen Seiter *(Cinematic Arts)*; Brett Sheehan *(History)*; Jean Shih *(Molecular Pharmacology and Toxicology)*; Andrew Simpson *(Linguistics)*; James Steele *(Architecture)*; John Strauss *(Economics)*; Guofu Tan *(Economics)*; Shui Yan Tang *(Public Policy)*; Duncan Williams *(Religion)*; Carol Wise *(International Relations)*; Tak-Jun Wong *(Accounting)*; Sha Yang *(Marketing)*

Associate Professors: Brian Bernards *(East Asian Languages and Cultures)*; David Bialock *(East Asian Languages and Cultures)*; Jenny Chio (*East Asian Languages and Cultures*); Youngmin Choe *(East Asian Languages and Cultures)*; Robeson Taj Frazier *(Communication)*; Joshua Goldstein *(History)*; Hajime Hoji *(Linguistics)*; Jacques Hymans *(International Relations)*; Nan Jia *(Management and Organization)*; Annette Kim *(Public Policy)*; Sonya Lee *(Art History)*; Jenny Lin *(Critical Studies)*; Lori Meeks *(Religion)*; Eunjoo Pacifici *(Clinical Pharmacy)*; Sunyoung Park *(East Asian Languages and Cultures)*; Gary Seaman *(Anthropology)*; Douglas Thomas *(Communication);* Jay Wang *(Communication)*; Shiing-Wu Wang *(Accounting)*; Aimei Yang *(Journalism)*; Lori Qingyuan Yue *(Management and Organization)*; Leon Yang Zhu *(Data Science and Operations)*

Assistant Professors: Erin Baggott Carter *(International Relations)*; Lindsey Bier (*Clinical Business Communication)*; Adrian De Leon *(American Studies and Ethnicity)*; Jonathan Markowitz *(International Relations)*; Rebecca Myerson (*Pharmaceutical and Health Economics*); Stephanie Shih *(Linguistics)*; Tianshu Sun (*Data Sciences and Operations*); Benjamin Uchiyama *(History)*; Yanhui Wu *(Finance and Business Economics)*; Kerim Yasar *(East Asian Languages and Cultures);* Jessica Xiaomin Zu *(Religion)*

Adjunct Clinical, Research, Teaching and Visiting Faculty: Hyunjung Ahn *(East Asian Languages and Cultures)*; John Alexander (*East Asian Languages and Cultures)*; Vinayak Bharne *(Architecture)*; John Chang *(East Asian Languages and Cultures)*; Jinhee Choung *(Political Science)*; Mina Chow (*Architecture)*; Helen Chung *(East Asian Languages and Cultures)*; Xianxian Fang *(East Asian Languages and Cultures)*; Mayumi Ikeda *(East Asian Languages and Cultures)*; Maki Irie *(East Asian Languages and Cultures)*; Xiang Jian *(East Asian Languages and Cultures)*; Woojoo Kim *(East Asian Languages and Cultures)*; Yuka Kumagai *(East Asian Languages and Cultures)*; Ben Lee *(Communication)*; Hye Jin Lee *(Communication)*; Shanshan Li *(East Asian Languages and Cultures)*; Hsiao-Yun Liao *(East Asian Languages and Cultures)*; Yi-Hsien Liu *(East Asian Languages and Culture)*; Christopher Magriney *(East Asian Languages and Cultures)*; Yumi Matsumoto *(East Asian Languages and Cultures)*; Miya Mizuta Lippit *(East Asian Languages and Cultures)*; Sooran Pak (*East Asian Languages and Cultures)*; Masako Tamanaha *(East Asian Languages and Cultures)*; Tin-yu Tseng *(East Asian Languages and Cultures)*; Jason Webb *(Comparative Literature)*; Yan Xiao *(Engineering)*

Librarians: Rebecca Corbett *(Japanese Studies)*; Joy Kim *(Korean Heritage Library)*; Sun-Yoon Lee *(Multimedia Collections)*; Tang Li *(Chinese Studies)*

Emeritus Professors: Gordon Berger *(History)*; Philip B.H. Birnbaum-More *(Business Management and Organization)*; Harrison Cheng *(Economics)*; Dominic Cheung *(East Asian Languages and Cultures)*; Roger Dingman *(History);* Charlotte Furth *(History)*; George Hayden *(East Asian Languages and Cultures)*; Douglas Joines *(Finance and Business Economics)*; Kenneth Klein *(East Asian Library)*; Thomas Lin *(Accounting)*

Bachelor's Degree

East Asian Area Studies (BA)

Requirements for the lower division are: EALC 110 and EASC 150 or the equivalent; a minimum of four courses in one East Asian language (or the proficiency equivalent); and seven upper-division courses approved for the major in addition to the language courses used to meet the requirements. One lower-division course other than EALC 110 and EASC 150 may be substituted for one of the seven upper-division courses. Upper-division courses must include those from at least three departments, one of which must be History. At least one course must be taken on two of the following: China, Japan or Korea.

Minor

East Asian Area Studies Minor

The minor in East Asian Area Studies gives students the opportunity to supplement more narrowly defined departmental majors with a multidisciplinary focus on an area of increasingly great importance to our nation in general and our region in particular. There is no language requirement.

Twenty-four units are required from among the more than 120 courses offered on East Asia at the university. Students are required to take EALC 110 and EASC 150; and at least four upper-division four-unit courses (16 units). At least one of these courses must be from the History Department and one from the humanities area. At least one course must be taken on two of the following: China, Japan or Korea.

Korean Studies Minor

The minor in Korean studies offers an interdisciplinary approach to studying a dynamic and crucial region. Drawing on courses from departments across the social sciences, humanities and professional schools, the minor challenges and stimulates students who wish to learn about the political, economic, social and cultural changes of the area.

Twenty units (five courses) are required. All students must take EASC 150gp East Asian Societies or HIST 105g The Korean Past as a gateway course, as well as four upper-division four-unit courses from the list below. There is no language requirement for the minor.

Required Courses

- EASC 150gp East Asian Societies Units: 4 or
- HIST 105g The Korean Past Units: 4

Four 4-unit courses from the following:

- CTCS 403 Studies in National and Regional Media Units: 4 max 8 **
- CTCS 494 Advanced Cinema and Media Studies Seminar Units: 4 max 8 **
- EALC 315 Advanced Korean I Units: 4 *
- EALC 317 Advanced Korean II Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 415 Advanced Korean III Units: 4
- EALC 417 Advanced Korean IV Units: 4
- EALC 418 Korean Writing in Mixed Script Units: 4 *
- EALC 419 Newspaper and Documentary Korean Units: 4 *
- EALC 429 Gender in Korean Film and Literature Units: 4
- EALC 499 Special Topics Units: 2, 3, 4 max 8 **
- HIST 333 Korea: The Modern Transformation Units: 4
- HIST 404 Seminar in Korean History Units: 4
- HIST 498 Seminar on Selected Historical Topics Units: 4 max 8 **
- IR 499 Special Topics Units: 2, 3, 4 max 8 **

Note:

**Prerequisite:* EALC 217

***For these repeatable courses, only classes with Korean-based foci will count.*

Master's Degree

East Asian Area Studies (MA)

The East Asian Studies Center offers an interdisciplinary master's degree in East Asian Area Studies. The program provides a wide range of language, cultural, social, historical, political and economic courses and faculty expertise; individual courses of study may be designed to meet both continuing academic and professional objectives. Students may concentrate primarily on one country (China, Japan, Korea) or develop region-wide expertise through a combination of course work and the thesis project.

Admission Requirements

Prerequisites

While an applicant for admission will normally have significant experience in East Asian language(s) and area studies as demonstrated through course work completed for the undergraduate degree, programs may be arranged for promising students without prior experience in East Asian studies. *There is no formal language requirement for admission.*

Criteria

Please refer to the EASC website for a detailed explanation of application requirements: dornsife.usc.edu/eascenter/masters.

Degree Requirements

This degree is under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses acceptable to the Graduate School.

Foreign Language Requirement

Students must be able to demonstrate oral and written proficiency in Chinese, Korean or Japanese through the third year level (equivalent to six semesters) before the MA program is completed.

Course and Thesis Requirements

Six courses (24 units), four of which must be at the 500 level or above, plus the thesis (4 units) are required. All students must complete: (1) EASC 592; (2) EALC 531, EALC 532 or EALC 533; and (3) one other course from a Dornsife College of Letters, Arts and Sciences department. The three additional courses (12 units) may be taken from college departments or professional schools. All courses must be approved by the center director or adviser. A maximum of two courses at the 400 level may be counted toward the degree. All students must register for EASC 594a Master's Thesis EASC 594b Master's Thesis for the thesis project.

Dual Degree

Master of Arts, East Asian Area Studies/Master of Business Administration (MA/MBA)

The Marshall School of Business in conjunction with the East Asian Studies Center offers a joint MA/MBA degree that combines graduate business education with training in the cultures and societies of East Asia. Students enrolled in the joint degree program are required to complete a minimum of 72 units. All students must complete 48 units in the Marshall School of Business. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units. In East Asian Area Studies, students have the option of taking five courses and writing a thesis (for a total of 24 units) or taking six courses and passing a comprehensive examination (for a total of 24 units).

Applicants for the joint MA/MBA are required to follow the admission procedures for the full-time MBA program. GRE scores are not required for admission into the joint program.

Required Courses

Required MBA courses: all required courses in an MBA program.

Required EASC Courses

- EASC 592 Proseminar on Issues and Trends in Contemporary East Asia Units: 4, 2 years

and one course from the following list:

Cultural/Historical Foundations of East Asia

- AHIS 518 Seminar in Chinese Art Units: 4 max 16
- AHIS 519 Seminar in Japanese Art Units: 4 max 16
- EALC 501 History of Chinese Literature Units: 4
- EALC 506 Selections from Classical Chinese Literature Units: 4
- EALC 515 Classical Japanese Poetics Units: 4
- EALC 531 Proseminar in Chinese Cultural History Units: 4
- EALC 532 Proseminar in Korean Cultural History Units: 4
- EALC 533 Proseminar in Japanese Cultural History Units: 4
- EALC 541 Seminar: Japan Units: 4
- EALC 543 Seminar: Japanese Literature Units: 4
- EALC 551 Seminar: China Units: 4
- EALC 553 Seminar: Chinese Literature Units: 4
- EALC 610 Seminar: Buddhism and the Literary Arts in Japan Units: 4
- HIST 535 Studies in Japanese History Units: 4
- HIST 536 Studies in Chinese History Units: 2 or 4
- HIST 540 Studies in Modern East Asian History Units: 4 max 8
- HIST 630 Seminar in Japanese History Units: 2 or 4
- HIST 635 Seminar in Chinese History Units: 2 or 4

Additional Requirements

Elective Courses (Thesis Option)

During the second and third years of the program students must complete enough graduate units to bring the total number of units completed in the Marshall School of Business to 48, complete 12 units of East Asian Area Studies elective courses (three courses), and complete a four-unit thesis under the guidance of a faculty committee of three members. The subject will concern East Asia and may focus on business/finance.

Elective Courses (Comprehensive Examination Option)

During the second and third years of the program students must complete enough graduate units to bring the total number of units completed in the Marshall School of Business to 48, complete 16 units of East Asian Area Studies elective courses (four courses) and must pass a comprehensive examination in East Asian Area Studies.

Foreign Language Requirement

Students must be able to demonstrate oral and written proficiency in Chinese, Japanese or Korean language through the third year level (equivalent to six semesters) before the joint MA/MBA program is completed. Language course work taken to meet this requirement will not count toward the minimum unit or course requirements for completion of the degree program. Therefore, students without sufficient under graduate language course work, native speaker capability or other prior training, are advised that additional units and course work beyond the minimum 72 units may be required in order to satisfy the foreign language requirement. USC offers beginning, intermediate and advanced Chinese, Japanese and Korean language courses during the academic year (fall/spring).

Graduate Certificate

East Asian Area Studies Graduate Certificate

Students interested in pursuing the East Asian Area Studies Graduate Certificate must be enrolled in an advanced degree program in the Graduate School or in a professional school at the university. While preparing for an MA, PhD or other graduate degree, they may earn a certificate in East Asian Studies, which certifies special area competence beyond discipline requirements.

To fulfill the certificate requirements, the student must take four graduate-credit courses in East Asian studies in any department. The student will also be given an oral examination on three research papers and on relevant graduate course work.

Basic East Asian history and at least two years of study or the equivalent of an East Asian language are required. The student makes the basic decisions on the program to be followed in consultation with a three-member interdisciplinary committee approved by the director of the East Asian Studies Center.

For further information, interested students can email the East Asian Studies Center at easc@usc.edu.

East Asian Languages and Cultures

East Asian Languages and Cultures offers undergraduate and doctoral programs in Chinese, Japanese and Korean studies. The department fosters original approaches in East Asian studies. With an emphasis on interdisciplinary and innovative research, the program provides students with systematic training in East Asian languages, literatures and cultures. The faculty is committed to intra-regional and interdisciplinary studies of East Asia, which includes critical interaction among the cultures of China, Japan and Korea across historical times and through diverse media. The department engages the arts, languages, literatures, theatre and performance, histories, media, religions, visual and material cultures of East Asia.

Taper Hall of Humanities 356
(213) 740-3707
Email: ealc@dornsife.usc.edu
dornsife.usc.edu/ealc

Chair: Brett Sheehan, PhD

Faculty

Maria Crutcher Professor in International Relations and Professor of International Relations, Business and East Asian Languages and Cultures: David Kang, PhD *(Political Science and International Relations)*

T.C. Wang Family Endowed Chair in Cinematic Arts and Professor of Cinema and Media Studies, Comparative Literature and East Asian Languages and Cultures: Akira Mizuta Lippit, PhD *(Cinema and Media Studies)*

Gordon L. MacDonald Chair in History and Professor of History and East Asian Languages and Cultures: Joan R. Piggott, PhD *(History)*

Professors: Bettine Birge, PhD; Namkil Kim, PhD; Brett Sheehan, PhD* *(History);* Duncan Williams, PhD *(Religion)*

Associate Professors: Brian Bernards, PhD; David T. Bialock, PhD; Jenny Chio, PhD; Youngmin Choe, PhD; Joshua Goldstein, PhD *(History)*; Young-Min Jeon, PhD; Sonya Lee, PhD *(Art History)*; Lori Meeks, PhD *(Religion)*; Sunyoung Park, PhD

Assistant Professors: Mengxiao Wang, PhD; Kerim Yasar, PhD

Artist in Residence: John Alexander, MFA

Associate Professor (Teaching): Jason Webb, PhD *(Comparative Literature)*

Assistant Professors (Teaching): Mengjun Li, PhD; Masako Tamanaha, PhD; Tin-Yu Tseng, PhD; Yi Walker, PhD

Master Lecturers: John Chang, MA; Yuka Kumagai, MA

Senior Lecturers: Xianxian Fang, MA; Mayumi Ikeda, MA; Maki Irie, MA; Hsiao-Yun Liao, MA; Yumi Matsumoto, MA

Lecturers: Hyunjung Ahn, PhD; Xian Jian, MA; Woojoo Kim, MA; Shanshan Li, MA; Christopher Magriney, MA; Sooran Pak, PhD

Adjunct Associate Professor (Teaching): Miya Elise Desjardins, PhD

Undergraduate Degree

The core requirements for the EALC major allow students flexibility in designing their own courses of study. Majors typically select one language and cultural area (Chinese, Japanese or Korean) in which they do most of their course work. Majors are

encouraged to explore beyond their individual language focus by enrolling in the full range of EALC courses available in literature, film, history, media and other aspects of East Asian cultures.

All EALC majors and minors are required to take at least one course in each of the following two categories. Cross-Cultural Survey courses, to be taken within the first two years, offer students a broad, interregional introduction to East Asian philosophy, literature, film and culture. Cultural Studies courses, also to be completed before advancing to more theme-specific courses, provide students with an in-depth introduction to a cultural tradition within its regional context. For specific courses in these categories as well as upper-division electives (four for majors and two for minors), please refer to the course list on the department's website and the Schedule of Classes.

Study Abroad Programs

East Asian Languages and Cultures majors and minors are encouraged to take advantage of the numerous semester and year-long study abroad opportunities sponsored by the Office of Overseas Studies. Currently, the office offers programs in China (Beijing and Nanjing), Taiwan (Taipei), Korea (Seoul), and Japan (Tokyo, Nagoya). Each of the programs is affiliated with a world-class institution, such as Waseda University in Tokyo, National Chengchi University in Taipei or Yonsei University in Seoul. Contact the Office of Overseas Studies at (213) 740-3636 for further details or visit online at dornsife.usc.edu/overseas.

The majority of course work offered by these programs may be counted toward the EALC major or minor requirements. Students who receive major credit from any of these programs must still take at least eight units of non-language courses within EALC at the upper-division level while at USC (specifically an EALC civilization and an EALC literature course). Students interested in attending one of these programs must meet with an EALC academic adviser to ensure that the courses enrolled in overseas will meet EALC major or minor requirements.

Chinese Summer Programs in Beijing and Taipei

The Department of East Asian Languages and Cultures offers its Chinese language summer courses in Beijing and Taipei. Participants can transition seamlessly to the next level courses upon returning to campus. Cultural visits and excursions are included in the tuition fee. All courses count toward a major and minor in East Asian Languages and Cultures.

Graduate Degrees

EALC offers graduate students advanced training in the languages, literatures, and cultures of China, Japan and Korea. Our students have combined approaches from cultural studies, literature, film and media studies, theater and other disciplines to broaden more traditional paradigms and provide a different perspective on the reading of the texts in their fields. By allowing a greater degree of flexibility, our interdisciplinary approach enhances students' research skills and enables them to become well-rounded scholars. Appropriate cross-registration with other departments allows students to enhance their theoretical and methodological training.

Bachelor's Degree

East Asian Languages and Cultures (BA)

The core requirements for the EALC major allow students flexibility in designing their own course of study. Majors typically select one language and cultural area (Chinese, Japanese, or Korean) in which they do most of their course work. For this reason, one frequently hears students on campus speaking about "majoring" in Japanese, Chinese, or Korean, though strictly speaking all these students are actually majoring in EALC. Majors are encouraged to explore beyond their individual language focus by enrolling in the full range of EALC courses available in literature, film, history, media, and other aspects of East Asian cultures.

Core requirements for EALC majors consist of a cross-cultural survey course, a cultural studies course, and a language requirement that may be waived by placement test. Students then also take four upper-division elective courses (16 units), one of which can be replaced by a fourth-year language course. In addition, one upper-division course on East Asia from another department may be used to count toward the 16 units, if approved by the adviser.

Cross-Cultural Survey Course (Choose One)

Cross-Cultural Survey courses offer students a broad, interregional introduction to East Asian philosophy, literature, film, and culture. All EALC majors are required to take at least one of these courses within the first two years of their study.

- EALC 110gp East Asian Humanities: The Great Tradition Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- EALC 130gp Introduction to East Asian Ethical Thought Units: 4

Cultural Studies Course (Choose One)

Cultural Studies courses provide students with an in-depth introduction to a cultural tradition within its regional context. Students are required to take one of these gateway courses preferably before advancing to more specialized, theme-specific courses.

- EALC 150gw Global Chinese Cinema and Cultural Studies Units: 4
- EALC 333g Introduction to Korean Film Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 350gp Chinese Civilization Units: 4

Language Requirement

This requirement may be waived by placement test.

- EALC 306 Advanced Modern Chinese II Units: 4
  or
- EALC 317 Advanced Korean II Units: 4
  or
- EALC 322 Advanced Japanese II Units: 4

Upper-Division Electives (Choose Four)

Our faculty teach new courses every year. Please check the department's Schedule of Classes to see the full range of courses. One fourth-year language or professionalization course can be used to count for one elective. In addition, one upper-division course on East Asia from another department may likewise be used to count toward the 16 units with adviser's approval.

- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 346g Hallyu, the Korean Wave Units: 4
- EALC 358g Transnational Chinese Literature and Culture Units: 4
- EALC 360g Performing Japan: Bodies, Media, and Textuality Units: 4
- EALC 374 Language and Society in East Asia Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- EALC 387 Early Japanese Art Units: 4
- EALC 426 Classical Japanese Units: 4
- EALC 428 Nature and the Ecological Imagination in Japanese Literature Units: 4
- EALC 430 Gender and Sexuality in Korean Literature and Culture Units: 4
- EALC 450 Contemporary Japanese Literature and Global Modernity Units: 4
- EALC 455 Japanese Fiction Units: 4
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4
- EALC 465 Topics in Korean Visual and Cultural Studies Units: 4
- EALC 470 Introduction to East Asian Linguistics Units: 4
- EALC 499 Special Topics Units: 2, 3, 4

Language Courses

Fourth-year courses and a professionalization course can be used to count towards the upper-division elective requirement.

- EALC 366 Chinese Professional Internship: Communication and Culture Units: 2
- EALC 404 Advanced Modern Chinese III Units: 4
- EALC 406 Advanced Modern Chinese IV Units: 4
- EALC 407 News and Web Chinese Units: 4
- EALC 412a Business Chinese Units: 4
- EALC 412b Business Chinese Units: 4
- EALC 413 Business Japanese Units: 4
- EALC 418 Korean Writing in Mixed Script Units: 4
- EALC 419 Newspaper and Documentary Korean Units: 4
- EALC 422 Advanced Japanese III Units: 4
- EALC 424 Advanced Japanese IV Units: 4

Minor

Chinese for the Professions Minor

The Department of East Asian Languages and Cultures offers a minor for undergraduate students who wish to pursue a future career in the greater China region or communities requiring advanced Chinese linguistic and cultural competence. The minor provides opportunities for students to gain real world experiences in work environments and explore career opportunities from various perspectives. The language prerequisite for admission to the program is the completion of EALC 206 at USC or its equivalent.

Four EALC upper-division courses (16 units) and 4 units of EALC 366 are required to complete the minor. The four upper-division courses must include at least two from EALC 404, EALC 406, EALC 407, EALC 412a, EALC 412b, or the equivalent. Course selections must be approved by the faculty adviser for the minor.

Required Courses (12 Units)

Internship (4 units)

- EALC 366 Chinese Professional Internship: Communication and Culture Units: 2

Choose two of the following (8 units)

- EALC 404 Advanced Modern Chinese III Units: 4
- EALC 406 Advanced Modern Chinese IV Units: 4
- EALC 407 News and Web Chinese Units: 4
- EALC 412a Business Chinese Units: 4
- EALC 412b Business Chinese Units: 4

Electives (8 units)

Choose two of the following:

- EALC 304 Advanced Modern Chinese I Units: 4
- EALC 306 Advanced Modern Chinese II Units: 4
- EALC 334 Chinese Language Through Films and Television Units: 4
- EALC 336 Chinese Language through Films and Television II Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 355 Studies in Chinese Thought Units: 4
- EALC 374 Language and Society in East Asia Units: 4
- EALC 470 Introduction to East Asian Linguistics Units: 4

Cultures and Politics of the Pacific Rim Minor

This interdisciplinary minor introduces students to the cultural heritage and political contexts of the United States' most important trading partners on the Pacific Rim. Students study East Asia and Latin America, and the cultural, economic and political dimensions of international trade. It is intended for students who are interested in or considering diplomatic or commercial careers that require knowledge about the people and cultures of the Pacific Rim.

As with all minors, students must choose at least four classes dedicated to this minor and four classes outside their major department, which may be the same four courses.

Requirements (Five Courses, 20 Units)

International Trade

(choose one course from the list below)

- ECON 450 International Trade Units: 4 (prerequisite: ECON 303 or BUAD 351)
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 470 Comparative Regionalism Units: 4 (prerequisite: IR 210)
- POSC 345 International Law Units: 4
- POSC 451 Politics of Resources and Development Units: 4

Area Studies

(choose two courses, each from a different list below)

Latin America:

- AHIS 319 Mesoamerican Art and Culture Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- HIST 374 History of Mexico Units: 4
- HIST 451 The Mexican Revolution Units: 4
- HIST 473 Colonial Latin America Seminar Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- POSC 350 Politics of Latin America Units: 4
- SPAN 320 Politics, Thought, Society Units: 4 (in Spanish)
- SPAN 321 Sounds, Images, Objects Units: 4 (in Spanish)
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4 (in Spanish)
- SPAN 380g Literature of Mexico Units: 4 (in Spanish)

East Asia:

- ANTH 323 Southeast Asian Cultures Today: Globalization and Multiple Modernities Units: 4
- ECON 343 Economic Development of East Asia Units: 4 (prerequisite: ECON 203 or ECON 205)
- IR 358 The Asia Pacific in World Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 384 Asian Security Issues Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 355 Politics of East Asia Units: 4
- POSC 377 Asian Political Thought Units: 4
- POSC 453 Political Change in Asia Units: 4
- REL 331 Religions of East Asia Units: 4

Country Study

(choose two courses from the lists below)

China:

- AHIS 384 Early Chinese Art Units: 4
- AHIS 385 Later Chinese Art Units: 4
- ANTH 324gw Contemporary China: Cultural Politics and Social Realities Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 352g Chinese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- EALC 355 Studies in Chinese Thought Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- HIST 338 China to 960 A.D. Units: 4
- HIST 339 China, 960–1800 A.D. Units: 4
- HIST 340 History of China since 1800 Units: 4
- IR 333 China in International Affairs Units: 4
- POSC 356 Politics in the People's Republic of China Units: 4

Japan:

- AHIS 386 Early Japanese Art Units: 4
- AHIS 387 Later Japanese Art Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 365 Studies in Japanese Thought Units: 4

- EALC 428 Nature and the Ecological Imagination in Japanese Literature Units: 4
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4
- HIST 335 History of Japan to 1550 Units: 4
- HIST 336 History of Japan, 1550–1945 Units: 4
- HIST 337 Japan since 1945 Units: 4
- HIST 438 Seminar in Pre-Modern Japanese History Units: 4
- HIST 464 Culture, Money, and Power: Japanese-American Relations since 1853 Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- POSC 354 Japanese Politics Units: 4

Korea:

- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 335m Korean American Literature Units: 4
- EALC 345 Korean Civilization Units: 4
- HIST 333 Korea: The Modern Transformation Units: 4

East Asian Languages and Cultures Minor

The core requirements for the EALC minor allow students flexibility in designing their own course of study. Students typically select one language and cultural area (Chinese, Japanese or Korean) in which they do most of their course work. For this reason, one frequently hears students on campus speaking about "minoring" in Japanese, Chinese or Korean, though strictly speaking all these students are actually "minoring" in EALC. Minors are encouraged to explore beyond their individual language focus by enrolling in the full range of EALC courses available in literature, film, history, media and other aspects of East Asian cultures.

Core requirements for EALC minors consist of a cross-cultural survey course, a cultural studies course, and a language requirement that may be waived by diagnostic exam. Students then also take two upper-division elective courses (8 units). One upper-division course on East Asia from another department may be used to count toward the 8 units, if approved by the adviser.

Cross-Cultural Survey Course (Choose One)

Cross-Cultural Survey courses offer students a broad, interregional introduction to East Asian philosophy, literature, film, and culture. All EALC minors are required to take at least one of these courses within the first two years of their study.

- EALC 110gp East Asian Humanities: The Great Tradition Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- EALC 130gp Introduction to East Asian Ethical Thought Units: 4

Cultural Studies Course (Choose One)

Cultural Studies courses provide students with an in-depth introduction to a cultural tradition within its regional context. Students are required to take one of these gateway courses preferably before advancing to more specialized, theme-specific courses.

- EALC 150gw Global Chinese Cinema and Cultural Studies Units: 4
- EALC 333g Introduction to Korean Film Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 350gp Chinese Civilization Units: 4

Language Requirement

This requirement may be waived by placement test.

- EALC 206 Chinese IV Units: 4
  or
- EALC 217 Korean IV Units: 4
  or
- EALC 222 Japanese IV Units: 4

Upper Division Electives (Choose Two)

Our faculty teach new courses every year. Please check the department's Schedule of Classes to see the full range of courses. One upper-division course on East Asia from another department may likewise be used to count toward the 8 units with adviser's approval.

- EALC 304 Advanced Modern Chinese I Units: 4
- EALC 306 Advanced Modern Chinese II Units: 4
- EALC 315 Advanced Korean I Units: 4
- EALC 317 Advanced Korean II Units: 4
- EALC 320 Advanced Japanese I Units: 4
- EALC 322 Advanced Japanese II Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 346g Hallyu, the Korean Wave Units: 4
- EALC 358g Transnational Chinese Literature and Culture Units: 4
- EALC 360g Performing Japan: Bodies, Media, and Textuality Units: 4
- EALC 374 Language and Society in East Asia Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- EALC 387 Early Japanese Art Units: 4
- EALC 426 Classical Japanese Units: 4
- EALC 428 Nature and the Ecological Imagination in Japanese Literature Units: 4
- EALC 430 Gender and Sexuality in Korean Literature and Culture Units: 4
- EALC 450 Contemporary Japanese Literature and Global Modernity Units: 4
- EALC 455 Japanese Fiction Units: 4
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4
- EALC 465 Topics in Korean Visual and Cultural Studies Units: 4
- EALC 470 Introduction to East Asian Linguistics Units: 4
- EALC 499 Special Topics Units: 2, 3, 4
  (4 units required)

Master's Degree

East Asian Languages and Cultures (MA)

The Department of East Asian Languages and Cultures offers instruction in the languages, literatures and cultures of East Asia. The graduate program offers the master's degree with specialties in Chinese, Japanese and Korean. Programs of study may emphasize foreign language teaching, applied linguistics, literature, thought, religions or area studies.

Admission Requirements — Prerequisites

An applicant for admission will normally have the equivalent of an undergraduate major in East Asian languages and cultures at USC, but programs may be arranged for promising students who do not have the prerequisites. Such students may be required to make up the deficiencies.

Criteria

All applicants are required to take the Graduate Record Examinations verbal and quantitative General Test and submit their complete undergraduate record: at least three letters of recommendation and a statement of purpose should be sent to the chair of the department. Applicants are urged to submit written materials as supporting evidence.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Foreign Language Requirement

Competence is required in Chinese, Japanese or Korean.

Course Requirements

Six courses, four of which must be at the 500-level or above, are required. Those students whose concentration is in language and literature should take a fourth year of language.

Final Research Paper

The research paper must demonstrate the student's ability to use source materials in the East Asian language of his or her area.

Doctoral Degree

East Asian Languages and Cultures (PhD)

Course Requirements

A student's total graduate course work must be at least 60 units including 4 units of doctoral dissertation (794ab) and the following courses:

Core Courses

- COLT-603 Professional Development II: Publication Units: 2
- EALC 505 Introduction to East Asian Languages and Cultures Units: 4

Additional Requirements

A theory and methodology course in EALC or an equivalent course in a related program.

Four courses on East Asian languages and literatures.

Four courses on East Asian cultures and civilizations.

Three additional courses in a target discipline or field.

No more than four courses at the 400-level may be applied to the total requirement of 60 units. The fulfillment of the course requirements is determined by the Graduate Studies Committee in EALC.

Screening Procedure

A screening procedure will be conducted before the student completes 24 units of course work, which typically means by the end of the first year. The Graduate Studies Committee will review the student's performance comprehensively and meet the student after a statement describing his/her research ideas is submitted.

Qualifying Exam Committee

Upon successful completion of the screening procedure, the student is encouraged to begin forming a five-member qualifying exam committee, whose purpose is to help the student prepare for the qualifying examination. The committee must be approved by the Graduate School at the time the student applies to schedule a qualifying examination.

Qualifying Procedure

A student takes examinations in three different fields approved by the qualifying exam committee. An oral - examination based on the written exams will follow. After successful completion of the examinations, the student will submit a dissertation prospectus, which must be approved by the qualifying exam committee and the Graduate Studies Committee in EALC.

Foreign Language Requirement

A student must have at least four years of course work or its equivalent in the language of his/her specialization. In addition, the student should acquire or demonstrate competence in a second East Asian language. This requirement may be met by two years' worth of course work. Whether the second East Asian language should be classical or modern will be determined by the Graduate Studies Committee in consultation with a student's academic adviser.

Dissertation

Defense and presentation of the dissertation will follow regulations defined by the Graduate School.

Economics

The economics curriculum is oriented toward a general, liberal education. The study of economics requires adequate preparation in mathematics and statistics. The department offers a BA degree in Economics, a BA degree in Political Economy, a BA degree in Social Sciences with an emphasis in Economics, a BS in Economics and Data Science, BS in Economics/Mathematics and minors in Economics and Behavioral Economics. The BA degrees require a total of 32 upper-division units for the major. The department offers a Master of Arts in Economics, a Master of Science in Applied Economics and Econometrics, a Master of Science in Mathematical Finance, a Master of Science in Spatial Economics and Data Analysis (with the Spatial Sciences Institute) and a Doctor of Philosophy in Economics.

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Chair: Romain Rancière, PhD

Faculty

Robert C. Packard Trustee Chair in Law and Professor of Law, Political Science and Economics: Edward McCaffery, PhD *(Law)*
John E. Elliott Distinguished Chair in Economics: M. Hashem Pesaran, PhD
Robert R. and Katheryn A. Dockson Chair in Economics and International Relations and Professor of International Relations and Economics: Joshua Aizenman, PhD *(Political Science and International Relations)*
Leonard D. Schaeffer Director's Chair of the USC Leonard D. Schaeffer Center for Health Policy and Economics and Professor of Public Policy, Pharmacy, and Economics: Dana Goldman, PhD *(Public Policy)*
Presidential Professor of Economics: Angus Deaton, PhD
Professors: Anindya Banerjee, PhD; Antonio Bento, PhD *(Public Policy)*; Isabelle Brocas, PhD; Juan Carrillo, PhD; Thomas Chaney, PhD; Giorgio Coricelli, PhD; Robert Dekle, PhD; Cheng Hsiao, PhD; Ayse Imrohoroglu, PhD *(Business)*; Selahattin Imrohoroglu, PhD *(Business)*; Matthew Kahn, PhD; Michael J. P. Magill, PhD; Hyungsik Roger Moon, PhD; Jeffrey B. Nugent, PhD*; Vincenzo Quadrini, PhD *(Business)*; Romain Rancière, PhD; Geert Ridder, PhD; Arthur Stone, PhD *(Psychology)*; John Strauss, PhD; Guofu Tan, PhD; Donald E. Yett, PhD
Associate Professors: Timothy Armstrong, PhD; Caroline Betts, PhD; Michael E. DePrano, PhD; Yingying Fan, PhD *(Data Science and Operations)*; Pablo Kurlat, PhD; Robert Metcalfe, PhD; Paulina Oliva, PhD
Assistant Professors: Marianne Andries, PhD; Vittorio Bassi, PhD; Fanny Camara, PhD; Michael Leung, PhD; Jonathan Libgober, PhD; Monica Morlacco, PhD; Afshin Nikzad, PhD; Jeffrey Weaver, PhD; David Zeke, PhD
Professor of the Practice: Lord John Eatwell, PhD
Professor (Teaching): Mark Moore, PhD
Professors (Research): Arie Kapteyn, PhD; Jinkook Lee, PhD; Soeren Mattke, PhD
Associate Professors (Research): Daniel Bennett, PhD; Titus Galama, PhD; Anya Samek, PhD
Assistant Professors of the Practice: Jaime Meza Cordero, PhD; Brijesh Pinto, PhD; Malgorzata Switek, PhD
Assistant Professors (Teaching): Ergin Bayrak, PhD; Yilmaz Kocer, PhD; Ladan Masoudie, PhD; Ratika Narag, PhD; Lodovico Pizzati, PhD; Manochehr Rashidian, PhD; Michael Sproul, PhD
Assistant Professors (Research): Marco Angrisani, PhD; Silvia Barcellos, PhD; Leandro Carvalho, PhD; Simone Schaner, PhD; Patrick Turley, PhD
Emeritus: Harrison Cheng, PhD; Richard H. Day, PhD; Richard A. Easterlin, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advisement

Upon declaring a major or minor in Economics, students should consult with the department's undergraduate adviser. Students can check their academic progress on the USCweb under OASIS.

Progressive Degree Program in Economics

The Economics department offers students who have demonstrated exceptional academic success the opportunity to earn both bachelor's and master's degrees in a progressive degree program. This program allows students to earn both the Bachelor of Arts and the Master of Arts degrees in five years. Students may also pursue the Bachelor of Science in Economics/Mathematics and the Master of Science in Mathematical Finance.

Admission

Admission is available after the completion of 64 units of course work toward the undergraduate degree. Students must apply for admission to the progressive degree program after completing 64 units of applicable course work to their undergraduate program, but prior to the completion of 96 units of course work. The application for admission to the progressive degree program must be accompanied by a course proposal plan and two letters of recommendation from USC Economics faculty.

Awarding of Degrees

The bachelor's and master's degrees may be awarded separately upon completion of all degree requirements, but the master's degree will not be awarded before the bachelor's degree. Students who elect not to complete the master's must complete 128 units to earn the bachelor's degree.

Undergraduate Honors Program

The department offers an honors program. First and second semester seniors can enroll in ECON 495 Honors Thesis. Honors will be awarded upon completion of the thesis, an overall GPA of 3.0 or higher and a major GPA of 3.5.

Department Policy Regarding Transfer Credits

Students who have taken courses equivalent to ECON 303, ECON 305 or ECON 317 from an economics department at another four-year college or from a program deemed comparable by the director of undergraduate studies, can earn transfer credits provided they received a B (3.0) or better in the courses.

Graduate Degrees

The graduate program in Economics is designed to prepare students for careers in teaching, research, industry and government. The department emphasizes economic theory and econometrics; applied economic analysis, including microeconomics, macroeconomics, international and development economics, urban and regional economics; and political economy.

Admission Requirements

Prerequisites

The typical applicant for admission will normally have completed an undergraduate major in economics. Minimal prerequisites for admission to a master's degree program include courses in intermediate microeconomic and macroeconomic theory, a year of calculus, and a semester of statistics. Applicants for the PhD program are normally expected to have completed more than the minimum, particularly in the areas of mathematics and statistics.

Procedure

The application deadline for master's degrees is April 1. Completed doctoral applications are due by December 1.

Placement Examinations

Students whose native language is other than English may be required to take an English placement examination. Course work in English may be required.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Foreign Language/Research Tool Requirements

There is no foreign language requirement. However, competence in the use of one computer programming language is required for all graduate degrees offered through the Department of Economics.

Doctor of Philosophy in Pharmaceutical Economics and Policy

Application deadline: December 1

The Department of Economics and the Department of Pharmaceutical Economics and Policy (USC School of Pharmacy) jointly offer a program of study leading to the PhD degree and to the MA degree in the process of work toward the PhD degree.

Required courses include both core requirements and area requirements. Core requirements include courses in economic theory, econometrics and research methods. Area requirements include courses in health economics, pharmaceutical economics, welfare theory and applied econometrics.

For a detailed description of this program, see the USC School of Pharmacy section of this catalogue.

Bachelor's Degree

Economics (BA)

Students are required to take ECON 203, ECON 205, ECON 303, ECON 305, ECON 317, ECON 318 and four economics elective courses. Of the four elective courses (300 level or above) a minimum of two must be economics courses at the 400 level or higher. The remaining two economics courses must be approved by the department's director of undergraduate studies. A grade of C (2.0) or better is required for each of the core courses ECON 303, ECON 305, ECON 317 and ECON 318. MATH 118gx or MATH 125 is required for the major; students are advised to meet the requirement by their sophomore year. Majors are also required to take at least one two-unit course on computing chosen from ITP 101 or CSCI 101L.

Economics and Data Science (BS)

This 60-unit major blends core economics instruction with course work in data science, computer science and mathematics to train students to apply advanced data science techniques to the analysis and formulation of economic problems.

Admission

Students can apply to the EDS major during the spring semester of their sophomore year. Prerequisites include ECON 203g, ECON 205g, MATH 125g, MATH 126g and ITP 115, with a minimum grade of B in each and a minimum overall GPA of 3.0.

Transfer students can apply spring of sophomore year or fall of junior year. The same prerequisites apply, except that for fall applicants ITP 115 would be a corequisite rather than a prerequisite and DSCI 250 would be added as a corequisite (to allow completion of the degree within four years).

Economics (28 units)

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- ECON 303 Intermediate Microeconomic Theory Units: 4
- ECON 305 Intermediate Macroeconomic Theory Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4 *
- ECON 318 Introduction to Econometrics Units: 4
- ECON 460 Economic Applications of Machine Learning Units: 4

Note:

*The sequence MATH 307/MATH 308 or the sequence MATH 407/MATH 408 may be substituted for ECON 317.

Mathematics (12 units)

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4

Computer Science (6 units)

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4

Information Technology Program and Data Science (10 units)

- DSCI 250 Introduction to Data Science Units: 4
- DSCI 351 Foundations of Data Management Units: 4
- ITP 115 Programming in Python Units: 2

Elective (4 units)

- DSCI 352 Applied Machine Learning and Data Mining Units: 4
- DSCI 454 Data Visualization and User Interface Design Units: 4
- ECON 419 Advanced Econometrics Units: 4
- MATH 226g Calculus III Units: 4

Political Economy (BA)

The Bachelor of Arts in Political Economy explores the intersection of economics with politics in domestic and international contexts. It prepares students for engagement with global and regional questions that require analysis of economic and political causes and consequences and provides a useful background for a wide variety of entry positions in the public and private sectors.

Lower-Division Courses (16 Units)

Complete two ECON and one MATH course (12 units):

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

Choose one (4 units):

- IR 210gw International Relations: Introductory Analysis Units: 4
- POSC 120 Comparative Politics Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4

Upper-Division Requirements (32 Units)

- ECON 303 Intermediate Microeconomic Theory Units: 4

Choose three, at least two from ECON (12 units):

- ECON 305 Intermediate Macroeconomic Theory Units: 4 or
- ECON 330 The Political Economy of Institutions Units: 4

- ECON 332 Contracts, Organizations and Institutions Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4
- ECON 360 Public Finance Units: 4
- ECON 366 Urban Economics Units: 4
- ECON 395 Economic Policy Issues Units: 4
- POSC 335 Political Parties, Campaigns, and Elections Units: 4

Choose one (4 units):

- FBE 402 Government and Business Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 308w Economic Globalization Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 333 China in International Affairs Units: 4
- IR 358 The Asia Pacific in World Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- POSC 320 Urban Politics Units: 4
- POSC 321 Urban Political Problems Units: 4
- POSC 325 State Politics Units: 4
- POSC 334 Interest Groups and Elite Behavior Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- POSC 380 Political Theories and Social Reform Units: 2, 4
- PPD 357 Government and Business Units: 4

Choose two, at least one from ECON (8 units):

- ECON 450 International Trade Units: 4
- ECON 487 Resource and Environmental Economics Units: 4
- IR 430 The Politics of International Trade Units: 4
- POSC 425 Legislative Process Units: 4
- POSC 437 Mass Media and Politics Units: 4

Choose one (4 units):

- IR 430 The Politics of International Trade Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 454 The International Political Economy of Development Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 451 Politics of Resources and Development Units: 4
- POSC 453 Political Change in Asia Units: 4
- POSC 456 Women in International Development Units: 4
- POSC 463 European Politics Units: 4

Total: 48 units required for the major

Social Sciences, with an Emphasis in Economics (BA)

Students are required to take ECON 203, ECON 205, ECON 303, ECON 305 and three economics elective courses numbered 300 or 400. A grade of C (2.0) or better is required for each of the core courses ECON 303 and ECON 305. MATH 118gx or MATH 125 is required and an additional 12 units of upper-division courses from departments in the social sciences (anthropology, geography, international relations, history, political science, psychology, sociology).

Combined Major

Economics/Mathematics (BS)

Students are required to take seven courses in economics, seven courses in mathematics and two courses in information technology. Pre-major requirement: MATH 125 or equivalent.

In Economics: ECON 203, ECON 205, ECON 303, ECON 305, ECON 318 and at least two other ECON courses at the 400 level or above.

In Mathematics: MATH 126 or MATH 127; MATH 225 or MATH 245; MATH 226 or MATH 227; and either sequence one: MATH 407, MATH 408 or sequence two: MATH 307, MATH 308; and at least two other MATH courses at the 400 level or above (for both sequences).

In Information Technology: Two courses required. At least one course from ITP 109, ITP 115, or ITP 165; and ITP 249.

Electives must be approved by the program advisers.

Minor

Behavioral Economics Minor

This minor offers a series of classes that offer a broad perspective of recent research on economic decision-making. Theoretical classes will review traditional theories of decision-making based on the economic rational paradigm as well as new behavioral theories designed to better capture actual decision-making. Experimental classes will cover standard and novel experimental methods used to study economic decision-making and game theoretical paradigms.

Required Lower-Division Courses (12 units)

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

Required Upper-Division Course (4 units)

- ECON 303 Intermediate Microeconomic Theory Units: 4

Required Upper-Division Electives (16 units)

Choose any four of the following courses:

- ECON 404 Games and Economics Units: 4
- ECON 405 Neuroeconomics Units: 4
- ECON 415 Behavioral Economics Units: 4
- ECON 420 Experimental Economics Units: 4
- ECON 432 Economics of Happiness Units: 4

Economics Minor

Students from all disciplines will benefit from an economics minor. The economics minor is offered in three tracks. Each track is designed to help the student explore a coherent area of economic thought and methodology. Students minoring in economics must maintain at least a 2.0 GPA (cumulative) in courses taken for the minor.

The minor includes the core courses ECON 203, ECON 205, ECON 303 or ECON 305, MATH 118gx or MATH 125 plus three courses chosen from one of the following tracks:

Law and Political Economy

This track introduces students to the economic theory that underlies the economic choices made by individuals and the ways in which law and policy combine to regulate such behavior. Economic models of individual choice, contracts, and law are analyzed in courses in this track. Choose three courses from: ECON 317, ECON 330, ECON 332, ECON 434.

Finance and Money

This track guides students through the economic thought and theory that underlie the importance of money. Courses cover topics that shed light on the ways in which institutions, individual preferences and financial markets affect the allocation and investment of money. Choose three courses from: ECON 317, ECON 350, ECON 357, ECON 360, ECON 450, ECON 452, ECON 457.

International Economics

This track concentrates on the foundations, complexities and importance of the global economy as well as the role of economics and political economy in societies outside of the United States. Choose three courses from: ECON 317, ECON 330, ECON 340, ECON 342, ECON 343, ECON 346, ECON 350.

Master's Degree

Applied Economics and Econometrics (MS)

This program is designed to provide advanced training in the basic tools of economics and their application to practical problems. The curriculum incorporates a systematic study of mathematical and statistical analysis of economic phenomena and problems. This includes instruction in cost/benefit analysis, price theory, economic modeling, as well as economic forecasting and evaluation.

Core Courses: 12 units

Students are required to take ECON 500, ECON 501, and ECON 513. Successful completion of these three courses will satisfy 12 units of the program's 32-unit requirement.
Students must earn a "B" grade or higher in ECON 500 and in ECON 501.

- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 501 Macroeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4

Additional Econometrics Course: 4 units

Students are required to take at least one of these two econometrics courses: ECON 570 or ECON 584. Successful completion of one of these courses will satisfy 4 units of the program's 32-unit requirement.

- ECON 570 Big Data Econometrics Units: 4 or
- ECON 584 Economic Consulting and Applied Econometrics Units: 4

Electives: 16 units

Students are encouraged to explore the diverse collection of courses offered by the Department of Economics and USC. Stipulations concerning elective courses are as follows:

- Only 400-level, 500-level and 600-level coursework can be applied toward degree requirements.
- At least 8 of these 16 units must be ECON courses.
- At least 8 of these 16 units must be in courses that are 500-level or higher.
- No more than 4 units of ECON 590 may be applied to the degree.

All elective courses (ECON and non-ECON) must be approved by the Master's Programs Adviser. It is important that students receive approval prior to enrolling in elective courses.

Economics (MA)

The Department of Economics will not admit outside applicants to its MA in Economics program. Enrollment in this degree program is reserved for students currently in the department's PhD in Economics program.

If a student enrolled in the doctoral program does not already have a master's degree, the department strongly recommends that such a student work toward satisfying the degree requirements for the MA in Economics. This involves a minimum of 32 units of course work, which a student can meet while working to complete their doctorate.

Required Courses: 16 Units

Students are required to take ECON 601, ECON 602, ECON 609 and ECON 611. Successful completion of these four courses will satisfy 16 units of the program's 32-unit requirement.

- ECON 601 Microeconomic Theory I Units: 4
- ECON 602 Macroeconomic Theory I Units: 4
- ECON 609 Econometric Methods Units: 4
- ECON 611 Probability and Statistics for Economists Units: 4

Electives: 16 Units

Students are encouraged to explore the diverse collection of courses offered by the Department of Economics and USC. Stipulations concerning elective courses are as follows:

- Only 400-level, 500-level and 600-level course work can be applied toward degree requirements.
- At least 8 of these 16 units must be ECON courses.
- At least 8 of these 16 units must be in courses that are 500-level or higher.
- No more than 4 units of ECON 590 may be applied to the degree.

All elective courses (ECON and non-ECON) must be approved by an academic adviser. It is important that students receive approval prior to enrolling in elective courses.

Doctoral Degree

Economics (PhD)

The PhD in Economics program requires students to complete a total of 60 units of graduate-level course work. The 60 units include ECON 794a and ECON 794b. Those interested in applying to the PhD program should review information concerning admission procedures and requirements within the following Websites:

- USC Department of Economics
- USC Office of Graduate Admission

In addition to the course requirements listed below, students

within the PhD in Economics program must also satisfy these requirements:

Core Theory Examination

Before beginning the third semester of graduate study, each student must pass a written examination in general economic theory including applications. A maximum of two attempts is allowed. Not taking the examination at a given due time is considered as failing the examination once. The core theory examination is offered twice every year during the summer session. Any exceptions are subject to approval of the Director of Graduate Studies (DGS).

Second-Year Paper

During the summer after the fourth semester of study, each student must submit an empirical paper using quantitative methods to the examination committee. The paper may use field, experimental or simulated data. In this paper, each student should demonstrate competence in using a computer programming language and software.

Third-Year Paper and Presentation

During the summer after the sixth semester of study, each student must submit and present a research paper to a committee of faculty. The paper must be of publishable quality.

Qualifying Examination

Upon successful completion of course requirements, the second- and third-year paper requirements, and the core theory examination, each student stands for a qualifying examination that focuses on the presentation and defense of the written dissertation proposal. After passing the qualifying examination, a student is admitted to candidacy for the PhD degree. This examination must be taken no later than the end of the eighth semester of study.

Doctoral Dissertation

Following passage of the core theory examination and approval of a dissertation topic by the qualifying exam committee, each student accelerates their dissertation-focused research under the supervision of the dissertation committee. The primary requirement of the PhD is a quality dissertation that is based on a substantial amount of original research conducted.

It is also each student's responsibility to carefully follow Graduate School procedures and requirements pertaining to formal submission of their dissertation.

Master of Arts in Economics (optional)

PhD students may earn an MA degree as they progress through their doctoral studies.

ECON 601, ECON 602, ECON 609 and ECON 611 may be substituted for ECON 500, ECON 501 and ECON 513 requirements of the MA in Economics degree. The remaining elective units may be selected from graduate-level ECON courses that the Department has approved.

First-Year Courses (24 units)

Each student must complete the following courses during their first year in the PhD program:

- ECON 601 Microeconomic Theory I Units: 4
- ECON 602 Macroeconomic Theory I Units: 4
- ECON 603 Microeconomic Theory II Units: 4
- ECON 605 Macroeconomic Theory II Units: 4
- ECON 609 Econometric Methods Units: 4
- ECON 611 Probability and Statistics for Economists Units: 4

Seminar Courses (6 Units)

All seminar courses are repeatable. Each student must complete six units from amongst the following courses:

- ECON 690 Seminar in Economic Theory Units: 2
- ECON 691 Seminar in Econometrics Units: 2
- ECON 692 Seminar in Economic Development Units: 2
- ECON 693 Seminar in Applied Economics and Public Policy Units: 2
- ECON 694 Seminar in Dynamic Economics Units: 2
- ECON 696 Empirical Microeconomics Seminar Units: 2

Frontier Research (8 Units)

Each semester, the Department offers multiple sections of ECON 700 with each section focusing on a distinct field. Each student must complete this repeatable course four times:

- ECON 700 Research on Frontier Economics Units: 2

Elective Courses (18 Units)

The Director of Graduate Studies (DGS) must approve all elective courses. ECON and non-ECON courses may count toward the elective requirement. Each student must complete eighteen units of elective coursework.

Dissertation Courses (4 Units)

Each student must complete at least these two dissertation courses:

- ECON 794a Doctoral Dissertation Units: 2
- ECON 794b Doctoral Dissertation Units: 2

English

The Department of English offers a broad range of courses in English, American and Anglophone literature of all periods and genres, and in related areas such as creative and expository writing, literature and visual arts, ethnic literature and cultural studies, history of the English language and of literary criticism, and literary and cultural theory. Instructors assign extensive reading and writing in order to help students become perceptive readers, critical thinkers and strong writers. Class sizes are kept at 19 to enable full discussion in literature classes and at 12 in creative writing workshops.

Taper Hall of Humanities 404
(213) 740-2808
Email: english@dornsife.usc.edu
dornsife.usc.edu/engl
Chair: David St. John, MFA

Faculty

University Professor and Leo S. Bing Chair in English and American Literature and Professor of English, Art History and History: Leo Braudy, PhD
University Professor and Aerol Arnold Chair of English and Professor of English, American Studies & Ethnicity, and Comparative Literature: Viet Thanh Nguyen, PhD*
University Professor and Professor of English and Comparative Literature: David St. John, MFA
USC Associates Chair in Humanities and Professor of English, American Studies and Ethnicity, and Comparative Literature: John Carlos Rowe, PhD
Distinguished Professors of English: Aimee Bender, MFA; Percival Everett, AM
Provost Professor of Art History and English: Kate Flint, PhD *(Art History)*
Provost Professor of Humanities and Arts: Enrique T. Martinez Celaya, MFA
Dean's Professor of English and Professor of English and Theatre: Bruce Smith, PhD
Gender Studies Professor in Media and Gender and Professor of English, Comparative Literature, and Gender Studies: Joseph A. Boone, PhD
Writers in Residence: Geoffrey Dyer, BA; Robin Coste Lewis, PhD
Professors: Emily Anderson, PhD*; Lawrence D. Green, PhD; Mark Irwin, PhD; Dana Johnson, MFA; Rebecca Lemon, PhD; Susan McCabe, PhD; Edwin McCann, PhD* *(Philosophy)*; Carol Muske-Dukes, MFA*; Maggie Nelson, PhD; David Rollo, PhD*; David Román, PhD*; Margaret E. Russett, PhD; Hilary M. Schor,

PhD; Andrew Stott, PhD; Daniel Tiffany, PhD; Karen L. Tongson, PhD *(Gender and Sexuality Studies)*; David Treuer, PhD
Associate Professors: Marjorie Becker, PhD *(History)*; Alice Gambrell, PhD*; Devin Griffiths, PhD; Thomas Gustafson, PhD*; William R. Handley, PhD; Heather James, PhD*; Anna Journey, PhD; Anthony Kemp, PhD; Danzy Senna, MFA; Elda María Román, PhD
Assistant Professors: Ashley L. Cohen, PhD; Corrine Collins, PhD; Melissa Daniels-Rauterkus, PhD; Sarah Kessler, PhD; Jonathan Leal, PhD; Zakiyyah Iman Jackson, PhD
Professor of the Practice: Brighde Mullins, MFA
Professors (Teaching): Mary A. Bendall, MA; Christopher Freeman, PhD; Susan Segal, MFA; Thea Tomaini, PhD
Associate Professor (Teaching): Richard Berg, PhD
Associate Professors of the Practice: M.G. Lord, MFA; David Ulin, BA
Assistant Professors (Teaching): K. Brian Ingram, MFA; Beatrice Sanford Russell, PhD
Adjunct Professors of the Practice: Andrew Chater, MA; Richard Fliegel, PhD; Christopher Hawthorne, PhD; Karen Lawrence, PhD
Lecturers: Brian K. Ingram, MFA; Benjamin Levine, PhD; Amanda Ruud, PhD
Emeritus: Charles B. Berryman, PhD; T. Coraghessan Boyle, PhD; Joseph Dane, PhD; Donald C. Freeman, PhD; James R. Kincaid, PhD; Jay Martin, PhD; Teresa McKenna, PhD; Tania Modleski, PhD; Stephen C. Moore, PhD; Marjorie Perloff, PhD; Max F. Schulz, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advisement

During the mandatory advisement period, all students must meet with a faculty mentors before registering for courses each semester. With the support of faculty, undergraduate studies coordinators help students shape their majors according to their evolving interests, the requirements of the majors, and the requirements of the university. Students should consult the undergraduate studies coordinators about departmental clearances and course substitutions.

Double Majors

The department strongly encourages majoring in both English and in another department in the USC Dornsife College of Letters, Arts and Sciences or in another school of the university.

English Honors Program

Candidates for the BA in English can receive a designation on their transcripts of departmental honors by successfully completing a senior honors thesis while enrolled in ENGL 496, and having a 3.5 final GPA. ENGL 491 Senior Seminar in Literary Studies is a prerequisite for ENGL 496. Students with a minimum GPA of 3.0 overall and 3.5 in English courses can apply for ENGL 496; application is due at the start of fall semester of senior year. For additional information, contact a departmental adviser or the director of undergraduate studies.

Graduate Degrees

Admission Requirements

Requirements for admission to study in the department of English include: GRE scores that are satisfactory to the department on the General Test of the Graduate Record Examinations; evidence of competence in writing English and interpreting English literature, as demonstrated by two samples of written work by the applicant on literary subjects; a satisfactory written statement by the applicant of aims and interests in graduate work; letters of recommendation from at least three college instructors (English instructors preferred); and grades satisfactory to the department earned by the applicant at other institutions.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Common Requirements

Transfer of Credit

A Transfer Credit Statement is prepared by the Degree Progress Department for students admitted to full graduate standing. The application of any available transfer credit is contingent on successful completion of the screening procedure and is determined by the director of graduate studies no later than the end of the second year according to the following guidelines: credit will only be allowed for courses (1) from accredited graduate schools; (2) of grade B (3.0 on a four-point scale) or better; (3) constituting a fair and reasonable equivalent to current USC course work at the graduate level and fitting into the program for the degree; and (4) approved by the Graduate School. Graduate transfer credit will not be granted for life experience, credit by examination, non-credit extension courses, correspondence courses or thesis course supervision.

The maximum number of transfer credits that may be applied toward the Master of Arts degree is 4 units. The maximum number of transfer credits that may be applied toward the PhD degree is 12 units. The Graduate School stipulates that transfer units must have been completed within 10 years of admission for the doctoral program to be applied toward the degree.

Experience in Teaching

This requirement may be fulfilled by one or more years' service as an assistant lecturer in the Writing Program or equivalent experience as determined by the director of the Graduate Studies Program.

Graduate Activity and Support

The English Department is committed to the development of its graduate students as professionals. To this end, the department provides a number of opportunities for professional activity. In addition, the Association of English Graduate Students (AEGS) hosts a variety of lectures, discussions and forums throughout the year. To support the student's professional activities outside of USC, the department also provides some funding for travel to conferences and professional meetings, along with a full range of placement, advising and support activities. Graduate creative writing students will host lectures, discussions and forums in poetry and fiction studies.

Bachelor's Degree

English (BA)

Undergraduate majors in English are required to take 40 units (usually 10 courses) for a BA in English with an emphasis in either literature or creative writing.

All majors must take three introductory courses:

- ENGL 261g English Literature to 1800 Units: 4
- ENGL 262g English Literature since 1800 Units: 4
- ENGL 263g American Literature Units: 4

Additional Requirements

Students should take at least two introductory courses before enrolling in upper-division literature courses or creative writing workshops.

Majors emphasizing English literature must take seven upper-division courses, including two courses in literature written before 1800, one course in 19th-century literature, one course in American literature, and two electives.

Majors emphasizing creative writing must take seven upper-division courses, including two introductory creative writing workshops in poetry and prose, and a third workshop at the 400-level. The remaining upperdivision courses must include one course in literature written before 1900, one course in literature written after 1900 and one elective.

All major students must complete ENGL 491 Senior Seminar in Literary Studies.

Narrative Studies (BA)

Narrative Studies prepares students for the development and evaluation of original content for novels, films, theatre and other narrative platforms, but recognizes that the range of professional opportunities in literature and the performing arts is much wider than the roles of author, screenwriter or playwright. To recognize a good story, to critique, help shape, realize and transform it, requires a background in the history of narrative, crosscultural and contemporary models, and an understanding of the broader context of popular culture.

Narrative Studies assumes that an effective narrative will be adapted from the medium in which it first appears as new media become available. To prepare students for a future in which the platform is likely to change, the Bachelor of Arts in Narrative Studies allows students to study across the current platforms while concentrating on the techniques of effective construction common to them all.

In so doing, it draws upon course work from several schools of art but finds its home in the humanities. To help develop the flexibility necessary to understand how stories change across platforms, students are expected to complete at least three courses in literary and three courses in performance-based media. The remaining three courses may be chosen to reflect the student's personal preference and initial career aspirations.

MDA 490x Directed Research or MDA 494 Directed Creative Project are capstone experiences: Students work under the guidance of a faculty member in a relevant discipline or professional field, which may include fulltime faculty from the college or the participating schools of the arts. Projects intended for the stage should be done under the direction of School of Dramatic Arts faculty.

Requirements

The Narrative Studies major requires 36 units distributed across six required categories, two upper-division electives, and a senior capstone project. Of the 36 units, only 12 units can be from schools outside of Dornsife (i.e. Cinematic Arts, Thornton, Roski, Dramatic Arts, etc.) and only 8 units can be lower-division (100-200 level).

Introduction to Narrative Media (choose one course):

- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 191 Introduction to Television and Video Units: 4
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- ENGL 261g English Literature to 1800 Units: 4
- ENGL 262g English Literature since 1800 Units: 4
- ENGL 263g American Literature Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- ENGL 381 Narrative Forms in Literature and Film Units: 4
- PHIL 446 Aesthetics and the Film Units: 4
- THTR 125 Text Studies for Production Units: 4
- THTR 403 The Performing Arts Units: 4

  Or other appropriate course work as determined by the department.

Writing and Narrative Forms (choose one or two courses, totaling 4 units):

- CTWR 412 Introduction to Screenwriting Units: 2
- CTWR 415a Advanced Writing Units: 2
- ENGL 105x Creative Writing for Non-Majors Units: 4 , max 8
- ENGL 302 Writing Narrative Units: 4
- ENGL 402 Narrative Composition Units: 4 , max 8 *
- THTR 365 Playwriting I Units: 4
- THTR 366 Playwriting II Units: 4 *

  Or other appropriate course work as determined by the department.

Popular Culture and Ethnicity (choose one course):

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 333 Religion in the Borderlands Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- HIST 380 American Popular Culture Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4

  Or other appropriate course work as determined by the department.

Narrative in Cross-cultural Perspective (choose one course):

- ANTH 372 Interpretation of Myth and Narrative Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 452 Chinese Fiction Units: 4
- EALC 455 Japanese Fiction Units: 4
- ENGL 444m Native American Literature Units: 4
- ENGL 445m The Literatures of America: Cross-Cultural Perspectives Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- GERM 360g 20th Century German Prose: Texts and Films Units: 4
- ITAL 360g Italian Cinema Units: 4

  Or other appropriate course work as determined by the department.

Western Narrative in Historical Perspective (choose one course):

- CLAS 325 Ancient Epic Units: 4
- CLAS 337gp Ancient Drama Units: 4
- CLAS 380 Approaches to Myth Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- ENGL 423 English Literature of the 18th Century (1660–1780) Units: 4 *
- ENGL 424 English Literature of the Romantic Age (1780–1832) Units: 4 *
- ENGL 425 English Literature of the Victorian Age (1832–1890) Units: 4 *
- ENGL 426 Modern English Literature (1890–1945) Units: 4 *
- ENGL 430 Shakespeare Units: 4
- ENGL 440 American Literature to 1865 Units: 4 **
- ENGL 441 American Literature, 1865 to 1920 Units: 4 **
- GERM 340 German Prose Fiction from Goethe to Thomas Mann Units: 4
- GERM 372g Literature and Culture in Berlin in the 1920s Units: 4
- SLL 302g Modern Russian Literature Units: 4
- SLL 344g Tolstoy: Writer and Moralist Units: 4
- SLL 345g Literature and Philosophy: Dostoevsky Units: 4

- SLL 346 Russian Drama and the Western Tradition Units: 4
- SPAN 304 The Art of Fiction Units: 4 (taught in Spanish)
- THTR 301 Greek and Roman Theatre Units: 4 ***
- THTR 302 Shakespeare in His World Units: 4 ***

Or other appropriate course work as determined by the department.

Contemporary Fiction and Drama (choose one course):

- AMST 448m Chicano and Latino Literature Units: 4
- AMST 449m Asian American Literature Units: 4
- COLT 345 Realist Fiction Units: 4
- COLT 348 Modernist Fiction Units: 4
- COLT 420 The Fantastic Units: 4
- COLT 472 Los Angeles Crime Fiction Units: 4
- COLT 475 Politics and the Novel Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- ENGL 361g Contemporary Prose Units: 4
- ENGL 363g Contemporary Drama Units: 4
- ENGL 375 Science Fiction Units: 4
- ENGL 442 American Literature, 1920 to the Present Units: 4 **
- ENGL 447m African-American Narrative Units: 4
- FREN 347g Race, Gender and Power in Francophone Literature Units: 4
- SLL 303 Contemporary Russian Literature Units: 4
- SLL 348g The Novels of Vladimir Nabokov Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4 ***

Or other appropriate course work as determined by the department.

Two additional courses

(three if CTWR 412/CTWR 414 are chosen) (8 units) at the upper-division 300 or 400 level, from different departments, chosen from the lists above.

Capstone Enrollment:

- ENGL 492 Narrative Studies Capstone Seminar Units: 4

or

- MDA 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

or

- MDA 494 Directed Creative Project Units: 2, 3, 4 (4 Units Required)

Or other appropriate course work as determined by the department.

Total: 36 units

Nine or 10 courses, including at least seven at the upper-division level, for a total of 36 units.

**Prerequisite required*
***Corequisite required*
****Recommend preparation suggested*

Minor

Cultural Studies Minor

Cultural studies is an interdisciplinary field of study that examines a broad array of issues of culture, including popular culture, identity, subcultures, nationalism, global culture and ethnography. This minor is designed for students majoring in the humanities or in the professional schools who wish to complement their majors with courses that investigate the politics of culture and cultural negotiation. Students are required to have a minimum 3.0 GPA and the completion of 32 units for admission to the minor.

Required Courses

- COMM 384 Interpreting Popular Culture Units: 4

- CTCS 407 African American Cinema Units: 4 or
- CTCS 411 Film, Television and Cultural Studies Units: 4

- ENGL 392 Visual and Popular Culture Units: 4 or

Elective Courses

Choose three courses from the following. Students must take two electives outside the department of their major. Students may not take any more than two electives from any one department or school.

- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 469 Critical Approaches to Photography Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- COMM 340 The Cultures of New Media Units: 4
- COMM 360 Los Angeles: Communication and Culture Units: 4
- COMM 395m Gender, Media and Communication Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- HIST 225g Film, Power, and American History Units: 4
- SOCI 342m Race Relations Units: 4

Total Units: 24

For more information or to apply to this minor, contact the Department of English, USC Dornsife College of Letters, Arts and Sciences.

Early Modern Studies Interdisciplinary Minor

This minor brings together the resources of the departments of English, History and Art History to study the literatures and cultures of Europe and the Americas from the late medieval period to 1800. It draws upon courses from the departments of French and Italian, Spanish and Portuguese, Philosophy, American Studies and Ethnicity, the USC Thornton School of Music, and the USC School of Dramatic Arts.

The minor focuses on the interplay of literary and historical methodologies while promoting an area study in a wide context. Majors in any participating department can complement the strengths in their home department with courses in other participating departments; students with majors in most other areas should have room for the 20 units necessary to complete the minor.

The minor includes a capstone course, a senior seminar based on the resources of the Early Modern Studies Institute (a consortium between USC and the Huntington Library), which enables students to learn about current issues in this cross-disciplinary field and about research techniques employed to deal with those emergent issues.

Through its Early Modern Studies Institute, USC has recognized that the study of the literatures and cultures of Europe and the Americas prior to 1800 reaches beyond disciplinary boundaries. English studies are also historical, continental, multinational and multilingual. Historical studies are also literary and sociological. Both studies are enmeshed in art history and music. This cross-disciplinary understanding of early modern studies provides a model for research in many areas of the humanities and social sciences. Students who complete this minor will be able to use both literary and historical analyses to investigate other questions in which they are interested.

The minor requires 20 units. As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (not used for credit toward a major, another minor or general education requirements). Students must select four courses outside their major department.

Requirements, Lower-Division

Choose one, 4 units:

- AHIS 230 Art and Culture in Early Modern Europe Units: 4
- ENGL 261g English Literature to 1800 Units: 4
- HIST 103g The Emergence of Modern Europe Units: 4

Requirements, Upper-Division

Choose at least one course from each of the following four categories:

Literary Studies (4 units):

- ENGL 420 English Literature of the Middle Ages (1100–1500) Units: 4
- ENGL 421 English Literature of the 16th Century Units: 4
- ENGL 422 English Literature of the 17th Century Units: 4
- ENGL 423 English Literature of the 18th Century (1660–1780) Units: 4
- FREN 401 Studies in Early Modernity Units: 4
- ITAL 350g Gender and Sexuality in Renaissance Italy Units: 4
- SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages Units: 4
- SPAN 352 The Transatlantic Golden Age: New Worlds Real and Imagined Units: 4

Historical Analysis (4 units):

- AHIS 304gm Art, Power and Identity in Renaissance Italy Units: 4
- AHIS 343 Renaissance Art Units: 4
- AHIS 344 Baroque Art Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- HIST 309 Britain and Ireland, 1100–1500 C.E. Units: 4
- HIST 312 The Age of the French Revolution and Napoleon Units: 4
- HIST 316 The Renaissance Units: 4
- HIST 325 Early Modern Britain Units: 4
- HIST 331 The British Empire: 1588–1834 Units: 4
- HIST 410 The Age of Humanism and Reformation Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4

Case Studies in Early Modern Discourse and History (4 units):

- AHIS 430 Studies in Renaissance Art Units: 4
- AHIS 433 Studies in Medieval Art Units: 4
- AHIS 453 Studies in Baroque Art Units: 4
- AMST 373m History of the Mexican American Units: 4
- ENGL 430 Shakespeare Units: 4
- ENGL 444m Native American Literature Units: 4
- ENGL 461 English Drama to 1800 Units: 4
- ENGL 465 The English Novel to 1800 Units: 4
- HIST 307 The High Middle Ages: 1100-1400 Units: 4
- HIST 349 Colonial North America 1600–1760 Units: 4
- HIST 351 The American Revolution Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- HIST 473 Colonial Latin America Seminar Units: 4
- MPEM 450 Collegium Workshop Units: 1
- PHIL 421 Continental Rationalism Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- SPAN 455 Picaresque Itineraries: Empire and Its Discontents Units: 4
- SPAN 460 Don Quijote: Text and Film Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 354 Acting Shakespeare Units: 2

Senior Seminar in Early Modern Studies (capstone):

- ENGL 497 Senior Seminar in Early Modern Studies Units: 4

English Minor

The minor in English requires 20 units, or five courses, including at least two introductory courses (from among ENGL 261, ENGL 262 and ENGL 263) and at least three upper-division courses including one in literature written before 1800 and one in American literature. An English minor may enroll in no more than one creative writing workshop.

Interdisciplinary Minors

Narrative Structure Interdisciplinary Minor

This interdisciplinary minor is intended for students with an interest in story-telling who are majoring in programs and disciplines other than narrative studies. The minor, based in the humanities, provides opportunities for undergraduates to study story structure from the perspective of several disciplines. As with all minors, students must choose at least four courses (16 units) outside their major department and four courses (16 units) that are not being used to satisfy any other subject requirement.

Course Requirements: five courses (20 units)

Lower-Division Requirement

Choose one course (4 units) from the following list.

- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- ENGL 105x Creative Writing for Non-Majors Units: 4
- ENGL 262g English Literature since 1800 Units: 4
- ENGL 263g American Literature Units: 4

Upper-Division Requirements

Choose four courses (16 units) from the lists below, one from each list.

Core Course

- ENGL 302 Writing Narrative Units: 4

European and American Literary Narratives

- CLAS 325 Ancient Epic Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- COLT 345 Realist Fiction Units: 4
- COLT 472 Los Angeles Crime Fiction Units: 4
- ENGL 361g Contemporary Prose Units: 4
- ENGL 375 Science Fiction Units: 4
- ENGL 425 English Literature of the Victorian Age (1832–1890) Units: 4 *
- ENGL 426 Modern English Literature (1890–1945) Units: 4 *
- ENGL 440 American Literature to 1865 Units: 4 **
- ENGL 441 American Literature, 1865 to 1920 Units: 4 **
- ENGL 442 American Literature, 1920 to the Present Units: 4
- ENGL 447m African-American Narrative Units: 4
- FREN 383 French Women Writers Units: 4 (taught in French) **
- FREN 404 Studies in an Author Units: 4 (taught in French)
- GERM 340 German Prose Fiction from Goethe to Thomas Mann Units: 4
- GERM 372g Literature and Culture in Berlin in the 1920s Units: 4
- SLL 302g Modern Russian Literature Units: 4
- SLL 303 Contemporary Russian Literature Units: 4
- SLL 344g Tolstoy: Writer and Moralist Units: 4
- SLL 345g Literature and Philosophy: Dostoevsky Units: 4
- SLL 348g The Novels of Vladimir Nabokov Units: 4
- SPAN 304 The Art of Fiction Units: 4 (taught in Spanish)

Note:

**Prerequisite required*
***Corequisite required*

Global Narrative Traditions

- ANTH 372 Interpretation of Myth and Narrative Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- EALC 428 Nature and the Ecological Imagination in Japanese Literature Units: 4

- EALC 452 Chinese Fiction Units: 4
- EALC 455 Japanese Fiction Units: 4
- ENGL 444m Native American Literature Units: 4
- ENGL 445m The Literatures of America: Cross-Cultural Perspectives Units: 4

Narratives in Visual Media

- CLAS 337gp Ancient Drama Units: 4
- CTCS 367 Global Media Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 407 African American Cinema Units: 4
- ENGL 363g Contemporary Drama Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- ENGL 381 Narrative Forms in Literature and Film Units: 4
- ENGL 430 Shakespeare Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- GERM 360g 20th Century German Prose: Texts and Films Units: 4
- ITAL 360g Italian Cinema Units: 4
- SLL 346 Russian Drama and the Western Tradition Units: 4
- SPAN 302 Screen Cultures: From Film to the Internet Units: 4 (taught in Spanish)
- SPAN 306 Performance from Street to Stage Units: 4 (taught in Spanish)

Master's Degree

English (MA)

The department does not accept applicants for a Master of Arts degree. All graduate work in English at USC is taken as part of a PhD program, and the MA in English is intended only as a transitional degree in the process of completing requirements for the PhD

A student admitted to the graduate program may choose later to earn a terminal MA degree, or may be invited by the department to attempt a terminal degree. The terminal MA in English may be earned by completing 30 units (normally eight courses) of graduate study in English or in other departments at USC (as approved by the graduate director) with an accumulated GPA of at least 3.0, and by passing the screening procedure. A maximum of 4 units of 590 Directed Research and 4 transfer units may count toward the 30 units minimum required for the MA degree.

Literary Editing and Publishing (MA)

The master's degree in Literary Editing and Publishing is intended for students with strong backgrounds in English literature, creative writing and narrative studies to explore the roles of the professional editor and publisher, with an emphasis in literary nonfiction.

Exceptional USC undergraduate students accepted to this degree program may combine their baccalaureate and masters studies during their senior (fourth) year, in accordance with USC policy on Progressive Degree Programs. Applicants without appropriate preparatory course work in literature and creative writing may be required to complete more course work. All applicants must have completed ENGL 300 or ENGL 310 with a grade of A- or better. The master's degree in Literary Editing and Publishing requires a year of supervised external professional internship in lieu of a thesis.

Advisement

Students interested in applying to the Progressive Degree Program in Literary Editing and Publishing will propose a plan of study in consultation with an academic adviser. Advisers will work with students throughout the final years of undergraduate study and the master's program to help students select courses based on remaining undergraduate degree requirements, recommended preparation for the master's degree, and the core requirements for the master's degree in Literary Editing and Publishing. Students in the English department are required to meet with an adviser before registering for courses each semester.

Degree Requirements

The master's degree in Literary Editing and Publishing is under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Required Courses

A minimum of 28 units of graduate-level course work is required. All courses are 4 units unless otherwise noted.

- ENGL 601 Introduction to Literary Editing and Publishing Units: 4
- ENGL 602 Writers in the World: Text and Context Units: 4
- ENGL 603 The Editorial Experience: The Craft of Publication Units: 4
- ENGL 604 The Nonfiction Experience: A Literary-Editorial Focus Units: 4
- ENGL 607 Digital Publishing and Literary Writing for New Media Units: 4
- ENGL 608 Publishing on Both Sides of the Transom Units: 4
- ENGL 609a Internship in Editing and Publishing: Eloquence and Ethics Units: 2
- ENGL 609b Internship in Editing and Publishing: Eloquence and Ethics Units: 2

Recommended Course

- ENGL 600 Publication in Humanities Journals Units: 4

Doctoral Degree

English and American Literature (PhD)

Students may earn the PhD in English by successfully completing requirements in the English and American literature track.

Application deadline: December 1

This program prepares students for research and teaching in all areas of English and American literary studies. The program offers the study of texts in their historical and cultural contexts as well as theoretical, interdisciplinary and cross-cultural approaches to literature.

Graduate Curriculum and Unit Requirements

The graduate curriculum is divided into 500-level foundation courses and 600-level advanced courses. The 500-level courses offer fundamental work in theory and in the history of British and American literatures and cultures. The 600-level courses feature advanced studies in theory, core requirements in film and literature, interdisciplinary studies, transhistorical studies in genres and sub-genres, individual writers, gender studies, multi-cultural literatures and societies, and special topics. Although students will normally take 500-level courses leading up to the screening procedure (see Screening Procedure) and 600-level courses thereafter, students, after consultation with their advisers, may be permitted to take 600-level courses in the first semesters of their graduate training.

Occasionally students who lack adequate undergraduate training in any given area may be required by the graduate director to enroll in appropriate 400-level courses.

The student's course work must total at least 64 units. No more than 8 units of 794 Doctoral Dissertation and no more than four units of 790 Research may count toward the 64 units. A maximum of 12 transfer units, approved by the graduate director, is allowed toward the 64 units minimum required by the PhD (See Transfer of Credit.)

Advisement

The student will be assigned a faculty mentor in his or her first semester in the graduate program and will be encouraged in subsequent semesters to begin putting together an informal qualifying exam committee. The makeup of the qualifying exam

committee may change as the interests of the student change. The faculty mentor and informal qualifying exam committee will assist the student in planning a program of study appropriate to the student's interests leading to the screening procedure.

Screening Procedure

In the semester immediately following the completion of 20 units of courses, the students will be screened. Passing this procedure is prerequisite to continuation in the doctoral program. The faculty mentor will write a report summarizing the student's course work, grades and instructor comments. The graduate studies committee will consider the student's record and determine if he or she is qualified to go on to the PhD. On successful completion of screening, the student may apply for the transfer of graduate credit from other institutions, up to a maximum of 12 units.

Qualifying Exam Committee

Immediately following successful completion of the screening procedure, the student will nominate formally a five-member qualifying exam committee, including a chair and three other members from the English Department who are in the student's areas of interest and an outside member from another PhD-granting department. The committee must be in place and approved by the Graduate School at the time the student chooses a dissertation topic, writes the dissertation prospectus and schedules a qualifying examination.

Field Examinations

In the semester following the completion of courses, and before submission of the dissertation prospectus, the student must take the field examinations. These are take-home essays in three broad fields preparatory to the dissertation. The fields are chosen and the questions developed by the student in consultation with a committee of three examiners chosen by the student. The field examinations may be repeated once in the semester immediately following an unsuccessful attempt. The committee may ask the student to retake one, two or all three fields.

Qualifying Examination

Following completion of course work and the field examinations, the student must sit for a qualifying examination, at a time mutually agreed upon by the student and the qualifying exam committee. This is an examination given in the subject of the student's proposed dissertation research. No less than one month before the qualifying examination, the student will submit to the qualifying exam committee a dissertation prospectus. The prospectus, it is understood, will not be a polished dissertation proposal, but at a minimum it should display a strong knowledge of the subject, much of the relevant secondary material and other contexts crucial to the writing of the dissertation, and should present a workable plan of attack as well as a reasonably sophisticated understanding of the theoretical assumptions involved in the subject.

The qualifying examination will consist of both written and oral portions. It will focus on the dissertation area and its contexts with the specific format and content of the examination being negotiated among the student and all members of the examination committee. Upon successful completion of the qualifying examination, the student proceeds to the writing of the doctoral dissertation.

Dissertation

The final stage of the program is the submission of a dissertation that makes an original and substantial contribution to its field of study. Dissertations being written in the department are now richly varied, and this diversity is encouraged.

Foreign Language

PhD students are required to demonstrate proficiency in at least one foreign language. This may be demonstrated by completing a course in the literature of that language at the 400 or 500 level (with a grade of B [3.0] or better), or by passing a foreign language exam that tests proficiency in reading comprehension and translation. PhD students may also be required to demonstrate proficiency in additional languages, as determined by the qualifying exam committee in view of the student's proposed field of research.

Literature and Creative Writing (PhD)

Application deadline: December 1

The program provides dual emphasis in literature and creative writing, culminating in the dissertation, which combines critical analysis with creative originality. Roughly half of the dissertation is based on original research, that is to say, research contributing to knowledge which enriches or changes the field. Doctoral candidates not only read and write texts as finished products of scholarship in researching their creative work's literary and historical milieu, but also consider the text as writers create it, then compose texts as writers, a process that goes to the source of the study of literature and of literature itself. This integration of literature and creative writing is reflected in the structure of the dissertation, which introduces the creative work within a context of critical inquiry, bringing together the examination and embodiment of the literary act, a new model of scholarship and creative innovation.

PhD candidates in literature and creative writing must pass the same departmental screening examination taken by PhD candidates in Literature who are not working in the area of creative writing. The exam tests students in various areas of emphasis (British literature, American literature, poetry, prose, etc.) and literature and historical periods as a measure of their preparedness to undertake independent research.

The literature and creative writing student takes 64 units in all, 32 in literature, 24 in creative writing workshops and seminars and 8 units of dissertation studies credits.

Admission Requirements

Requirements for admission to study in the department of English include: scores satisfactory to the department in both the verbal and quantitative General Test and the literature Subject Test of the Graduate Record Examinations; evidence of experience and ability in creative writing, as demonstrated by a creative writing sample; evidence of competence in writing English and interpreting English literature, as demonstrated by a sample of written work by the applicant on literary subjects; a satisfactory written statement by the applicant of aims and interests in graduate work; letters of recommendation from at least three college instructors; and grades satisfactory to the department earned by the applicant at other institutions. This program will accept applicants with BA degrees or transfer students with an MA or MFA in creative writing.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Graduate Curriculum and Unit Requirements

The graduate curriculum is divided into 500-level foundation courses and 600-level advanced courses. The 500-level courses offer fundamental work in theory and in the history of British and American literatures and cultures. The 600-level courses feature advanced studies in theory, creative writing seminars and workshops and special topics. Although students will normally take 500-level courses leading up to the screening procedure (see Screening Procedure) and 600-level courses thereafter, students after consultation with their advisers may be permitted to take 600-level courses in the first semester of their graduate training.

The student's course work must total at least 64 units. No more than eight units of 794 Doctoral Dissertation and no more than four units of 790 Research may count toward the 64 units. A maximum of 12 transfer units, approved by the graduate director, is allowed toward the 64 units minimum required by the PhD (See Transfer of Course Work.)

Advisement

The student will be assigned a faculty mentor in his or her first semester in the graduate program and will be encouraged in subsequent semesters to begin putting together an informal qualifying exam committee. The makeup of the qualifying exam committee may change as the interests of the student change. The faculty mentor and informal qualifying exam committee will assist the student in planning a program of study appropriate to the student's interests leading to the screening procedure.

Screening Procedure

At the end of the student's fourth semester (second semester for students who enter with an MA or MFA degree or near equivalent), the student will sit for a departmental examination, which is part of a comprehensive screening procedure. Rarely, and only with the approval of the graduate director and the graduate committee, will a student be allowed to postpone the departmental examination and the screening procedure, and then only for one year. Prior to the screening procedure, the student will be allowed to take a maximum of four units of independent study (ENGL 590), and that independent study will normally be used to prepare for the departmental examination; all other units must be in the 500- or 600-level seminar.

Qualifying Exam Committee

Immediately following successful completion of the screening procedure, the student will nominate formally a five-member qualifying exam committee, including a chair and three other members from the English Department who are in the student's areas of interest and an outside member from another PhD-granting department. The committee must be in place and approved by the Graduate School at the time the student chooses a dissertation topic, writes the dissertation prospectus and schedules a qualifying examination.

Qualifying Examination

Following completion of course work, the student must sit for a qualifying examination, at a time mutually agreed upon by the student and the qualifying exam committee.

This is a field examination given in the subject of the student's proposed dissertation research. No less than one month before the qualifying examination, the student will submit to the qualifying exam committee a dissertation prospectus. The prospectus, it is understood, will not be a polished dissertation proposal, but at a minimum it should display a strong knowledge of the subject, much of the relevant secondary material and other contexts crucial to the writing of the dissertation, and should present a workable plan of attack as well as a reasonably sophisticated understanding of the theoretical assumptions involved in the subject.

The qualifying examination will consist of both written and oral portions with special emphasis areas in creative writing. It will focus on the dissertation area and its contexts with the specific format and content of the examination being negotiated among the student and all members of the examination committee. Upon successful completion of the qualifying examination the student proceeds to the writing of the doctoral dissertation.

Dissertation

The final stage of the program is the submission of a creative dissertation that makes an original, substantial and publishable contribution to creative literature: a book of poems, a novel, a collection of short stories.

Foreign Language

PhD students are required to demonstrate proficiency in at least one foreign language. This may be demonstrated by completing a course in the literature of that language at the 400 or 500 level (with a grade of B [3.0] or better) or by passing a foreign language exam that tests proficiency in reading comprehension and translation. PhD students may also be required to demonstrate proficiency in additional languages, as determined by the qualifying exam committee in view of the student's proposed field of research.

Environmental Studies

The Environmental Studies Program offers two undergraduate majors, Environmental Studies (ENVS) and Environmental Science and Health (ENSH). Each of these majors leads to either the BA or BS degree. Each of the Environmental Studies degrees are built on specialized natural science and social science courses and a set of interdisciplinary courses focusing on sustainability. The social science core courses focus on environmental problems from political, legal, economic and international perspectives. Specially designed one-semester surveys of biology, earth science and chemistry provide the natural science competency for subsequent policy or science advanced course work in environmental studies. Two concentrations are available in the Environmental Studies BA degree: Science and Management; and Policy and Management. Four concentrations are available in the Environmental Studies BS degree: Sustainability and Society; Oceans and People; Climate and Environment; and Environmental Policy. Both the Environmental Studies BA and BS culminate in the capstone experience of a senior seminar focusing on environmental problem-solving by interdisciplinary teams. A single 24-unit environmental studies minor is derived from the core major curriculum.

The Environmental Science and Health degrees combine the interdisciplinary courses on sustainability described above and some of the environmental social science content with traditional biology and chemistry content to provide options for students preparing for one of the health professions with an undergraduate emphasis on environmental sustainability. The Environmental Science and Health BS degree incorporates recommended preparation for medical schools. The Environmental Science and Health BA degree may be appropriate for students preparing for other graduate or professional training as well as students pursuing double majors. The Environmental Studies courses common to both majors emphasize the interdisciplinary nature of environmental problems. A number of opportunities are provided for field studies from the urban Los Angeles environment to marine protected areas on the coasts of the California Channel Islands. More intensive field study opportunities include "Problems Without Passports" courses with international components. Note that some of the field studies opportunities require travel to remote, rural locations and study under sometimes physically and mentally demanding conditions. These trips require a willingness to conform to the announced guidelines for conduct and safety.

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Director: Jill Sohm, PhD

Faculty

Harold Quinton Chair in Business Policy and Professor of Management and Organization, Environmental Studies, and Sociology: Paul Adler, PhD *(Management and Organization)*
Professors: William M. Berelson, PhD *(Earth Sciences)*; David J. Bottjer, PhD *(Earth Sciences)*; William F. Deverell, PhD *(History)*; John F. Heidelberg, PhD *(Biological Sciences)*; Steven Lamy, PhD *(Political Science and International Relations)*; Joshua West, PhD *(Earth Sciences)*
Associate Professors: Robert English, PhD *(Political Science and International Relations)*; Eric Webb, PhD *(Biological Sciences)*
Professor (Teaching): Karla B. Heidelberg, PhD *(Biological Sciences)*

Professor of the Practice: Yael Wolinsky-Nahmias, PhD
Associate Professors (Teaching): Shannon Gibson, PhD *(Political Science and International Relations)*; David Ginsburg, PhD*; Jill Sohm, PhD
Assistant Professors (Teaching): Scott Applebaum, PhD; Douglas Becker, PhD *(Political Science and International Relations)*; Victoria Campbell-Arvai, PhD; Monalisa Chatterjee, PhD; Victoria Petryshyn, PhD
Lecturer: Audra Bardsley, PhD
Emeritus: Thomas Flood, PhD *(Chemistry)*

Undergraduate Programs

Catalina Sustainability Semester

The Environmental Studies Program in collaboration with the Department of Biological Sciences and the Wrigley Marine Science Center offers a Catalina sustainability semester focusing on California marine, coastal and island sustainability. This semester-long program is offered during the Spring. The 16 units of course work in this program is taught in a block format (sequential) and are designed to take advantage of the unique facilities and settings of Catalina Island. Enrolled students are provided with food and lodging at the Wrigley Marine Science Center at rates comparable to the services offered to students on the University Park Campus.

Suggested preparation for the Catalina sustainability semester includes completion of either ENST 100, BISC 120Lg or comparable experience. Prospective applicants are urged to contact the Environmental Studies Office in CAS 116 early in the fall semester prior to enrollment and no later than October 15 for consideration.

Graduate Programs

The Master of Arts degree program in Environmental Studies is interdisciplinary and focuses on environmental science, planning and public policy. Those who graduate with an MA in Environmental Studies are well prepared to pursue careers in policy, planning or management in the public, private or nonprofit sector in either this country or abroad. In addition, the curriculum provides students with a foundation for acquiring a PhD in Environmental Studies or a related field, or a professional degree such as a JD. Upon completion of the graduate program, students will possess extensive knowledge of environmental science, environmental statistics and economics, law and regulation, policy and planning, development and economic growth, and global issues and problems.

The Master of Science degree program in Environmental Data Science is a joint program between the Environmental Studies Program and the Viterbi School of Engineering. Students will learn core environmental science principles and receive training in data science skills. The curriculum is designed to prepare individuals to develop and use sophisticated analytical and computer-based methods to assess and protect the Earth's natural resources and is designed to be accessible to students with any background.

The Master of Science degree in Environmental Risk Analysis focuses on providing advanced professional training for students with a BS degree in natural sciences or engineering. Students will pursue a core program encompassing science, engineering and finance supplemented with important skills courses in risk assessment, statistics and computer modeling and simulations. Those who graduate with the MS degree will be well prepared to pursue professional careers in business and industry, which build on their degrees in the natural sciences. This degree will produce individuals with the analytical and problem-solving skills of natural scientists combined with the necessary training in finance and management needed in the business world.

Progressive Degree Program in Environmental Studies

This progressive degree program allows advanced USC undergraduates completing a bachelor's degree in a related natural science or environmental policy area to also complete a master's degree in environmental studies in as little as five years. An overall GPA of 3.2 or higher in all courses taken at USC is preferred. A 3.2 GPA does not guarantee acceptance.

Bachelor's Degree

Environmental Science and Health (BA)

Required Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or

- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4 *
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4 *
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- HP 408 Environmental Health in the Community Units: 4
  or
- ENST 335 Science, Health and the Environment Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 125g Calculus I Units: 4 *

- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Total units: 52

**Prerequisite or recommended preparation*

Environmental Science and Health (BS)

Required Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or

- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4 *
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4 *
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- HP 408 Environmental Health in the Community Units: 4

or

- ENST 335 Science, Health and the Environment Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 125g Calculus I Units: 4 *

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4 *

Total units: 72

**Prerequisite or recommended preparation*

Environmental Studies (BA)

Common Courses (40 units)

Math Requirement:

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

Choose one:

- BISC 305g Statistics for Biological Sciences Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- MATH 114gx Foundations of Statistics Units: 4
- PSYC 274Lg Statistics Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4

Natural Science Core Experiences:

Choose two.

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4

Environmental Studies Core Experiences:

- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4

Social Science Core Experience:

Choose one.

- IR 323 Politics of Global Environment Units: 4
- POSC 270 Introduction to Environmental Law and Politics Units: 4

Concentrations (16 Units)

Choose 16 units from one concentration.

Science and Management

Four of the following (a minimum of two classes must have the ENST prefix):

- ENST 310 Sustainable Fisheries Management Units: 4
- ENST 335 Science, Health and the Environment Units: 4
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- BISC 412 Oceans, Climate, and the Environment Units: 4 or
- ENST 445 Earth Climate: Past, Present, and Future Units: 4
- ENST 480 Integrated Ecosystem Management in Micronesia Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4

- ENST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 or
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- BISC 315L Introduction to Ecology Units: 4 or
- BISC 469L Marine Biology Units: 4 or
- BISC 473L Biological Oceanography Units: 4
- GEOL 351L Climate Systems Units: 4
- HP 408 Environmental Health in the Community Units: 4 or
- HP 448 Global Environmental Changes and Health Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4

Policy and Management

Four of the following (a minimum of two classes must have the ENST prefix):

- ECON 203g Principles of Microeconomics Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4
- ENST 344 Environmental Ethics Units: 4
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 432 Environment and Governance: International and National Policy Units: 4
- ENST 442 Global Climate Change: Policy and Society Units: 4

- ENST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 units) or
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 (4 units)
- IR 323 Politics of Global Environment Units: 4 or
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- HP 446 Poisons, People, and Politics Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4
- POSC 418 Environmental Sustainability and Public Participation Units: 4
- POSC 436 Environmental Politics Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4

Minimum Units Required (56)

Environmental Studies (BS)

The Environmental Studies Program offers two undergraduate majors, Environmental Studies (ENVS) and Environmental Science and Health (ENSH). Each of these majors leads to either a BA or BS degree. The environmental studies degrees are built on specialized natural science and social science courses and a set of interdisciplinary courses focusing on sustainability. The social science core courses focus on environmental problems from political, legal, economic and international perspectives. Specially designed one-semester surveys of biology, earth science and chemistry provide the natural science competency for subsequent policy or science advanced course work in environmental studies. Two concentrations are available in the BA in Environmental Studies degree: science and management and policy and management. Four concentrations are available in the BS in Environmental Studies degree: sustainability and society; oceans and people; climate and environment; and environmental policy. Both the Environmental Studies BA and BS culminate in the capstone experience of a senior seminar focusing on environmental problem-solving by interdisciplinary teams. A single 24-unit environmental studies minor is derived from the core major curriculum.

The environmental science and health degrees combine the interdisciplinary courses on sustainability described above

and some of the environmental social science content with traditional biology and chemistry content to provide options for students preparing for one of the health professions with an undergraduate emphasis on environmental sustainability. The BS in Environmental Science and Health incorporates recommended preparation for medical schools. The BA in Environmental Science and Health may be appropriate for students preparing for other graduate or professional training as well as students pursuing double majors. The environmental studies courses common to both majors emphasize the interdisciplinary nature of environmental problems. A number of opportunities are provided for field studies from the urban Los Angeles environment to marine protected areas on the coasts of the California Channel Islands. More intensive field study opportunities include "Problems Without Passports" courses with international components. Note that some of the field studies opportunities require travel to remote, rural locations and study under sometimes physically and mentally demanding conditions. These trips require a willingness to conform to the announced guidelines for conduct and safety.

Common Courses (48 Units)

Math Requirement

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

Choose one:

- BISC 305g Statistics for Biological Sciences Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- MATH 114gx Foundations of Statistics Units: 4
- PSYC 274Lg Statistics Units: 4

Note

MATH 125g has a prerequisite of either the math placement exam or MATH 108g. MATH 118gx is not available as an alternative to MATH 125g for the BS ENVS with a concentration in Climate, Earth and Environment since this concentration requires MATH 125g and MATH 126g.

Natural Science Core Experiences:

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4

Environmental Studies Core Experiences:

- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4

Social Science Core Experience:

- IR 323 Politics of Global Environment Units: 4
- POSC 270 Introduction to Environmental Law and Politics Units: 4

Concentrations (23-24 units)

Concentration in Climate and Environment

- MATH 126g Calculus II Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Electives

Four of the following (a minimum of two classes must have the ENST prefix):

- ENST 335 Science, Health and the Environment Units: 4
- ENST 344 Environmental Ethics Units: 4
- ENST 442 Global Climate Change: Policy and Society Units: 4
- ENST 445 Earth Climate: Past, Present, and Future Units: 4 or
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- ENST 483 Tropical Coastal Zone Sustainability Units: 4
- ENST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 or
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- GEOL 470L Environmental Hydrogeology Units: 4
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 450L Geosystems Units: 4
- HP 448 Global Environmental Changes and Health Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4

Concentration in Environmental Policy

Four of the following (a minimum of three classes must have the ENST prefix):

- ECON 203g Principles of Microeconomics Units: 4 or
- ECON 205g Principles of Macroeconomics Units: 4
- ENST 344 Environmental Ethics Units: 4
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 432 Environment and Governance: International and National Policy Units: 4
- ENST 442 Global Climate Change: Policy and Society Units: 4
- ENST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 or
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- HP 446 Poisons, People, and Politics Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4 or
- PHIL 258g Probability and Rational Choice Units: 4
- MDES 401 Environment and Politics in the Middle East Units: 4
- POSC 418 Environmental Sustainability and Public Participation Units: 4
- POSC 436 Environmental Politics Units: 4
- PPD 315 Analytic Foundations for Public Policy Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 420 Environmental Impact Assessment Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4

Concentration in Oceans and People

Six of the following (a minimum of three classes must have the ENST prefix):

- BISC 315L Introduction to Ecology Units: 4
- BISC 431L Aquatic Microbiology Units: 4 or
- BISC 457L Methods in Marine Biology and Biological Oceanography Units: 4
- BISC 469L Marine Biology Units: 4 or
- BISC 473L Biological Oceanography Units: 4
- ENST 310 Sustainable Fisheries Management Units: 4
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 483 Tropical Coastal Zone Sustainability Units: 4
- ENST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 or
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 450L Geosystems Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4

Concentration in Sustainability and Society

Six of the following (a minimum of three classes must have the ENST prefix):

- ANTH 302 Humans and Ancient Environments Units: 4
- ARCH 447 Ecological Factors in Design Units: 3
- ENST 310 Sustainable Fisheries Management Units: 4
- ENST 344 Environmental Ethics Units: 4
- ENST 432 Environment and Governance: International and National Policy Units: 4

- ENST 445 Earth Climate: Past, Present, and Future Units: 4
- ENST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 or
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- MDES 401 Environment and Politics in the Middle East Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4
- POSC 418 Environmental Sustainability and Public Participation Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4

Minimum of 71 units required

Minor

Environmental Studies Minor

Required Core Courses

- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4

Two Elective Social Sciences Courses Chosen From:

- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- IR 323 Politics of Global Environment Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4

One Elective Course Chosen From:

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4 *

Total units: 24

*ENST 100 *is a corequisite for* GEOL 160Lg.

Master's Degree

Environmental Risk Analysis (MS)

The focus of the MS, Environmental Risk Analysis degree is on advanced training for students with an existing science background. Students will enter the MS program with a BS degree in a core natural science field or in engineering, environmental science and certain fields of geography. Students take a core curriculum in science, engineering and finance, which is supplemented by important tools courses in risk assessment, statistics and computer modeling. Students learn about the basics of environmental science in a two-semester combination of courses and seminars (ENST 501, ENST 502, ENST 503, ENST 504). An advanced environmental science seminar (ENST 505a, ENST 505b) is offered in a two-semester sequence and ties together science, technology and finance with risk assessment and policy. The first semester of the course is devoted to analyzing case studies taken from business, industry and government. During the second semester students work on a project that employs the tools they have acquired in linking science, policy, technology and finance.

A master's thesis is not required for the MS degree. The MS degree in environmental risk analysis will give students the quantitative skills needed to understand and assess environmental risks and to use that information in business, industry, government and society.

Required Courses

A minimum of 48 units is required.

Environmental Risk Analysis

- ENST 530 Environmental Risk Analysis Units: 4

Environmental Science

- ENST 501 Environmental Science I Units: 2 *
- ENST 502 Environmental Science Seminar I Units: 1
- ENST 503 Environmental Science II Units: 2
- ENST 504 Environmental Science Seminar II Units: 1
- ENST 505a Advanced Environmental Science Seminar Units: 2
- ENST 505b Advanced Environmental Science Seminar Units: 2

Note:

*ENST 502 *and* ENST 504 *are corequisites for* ENST 501 *and* ENST 503*, respectively, and* ENST 501 *is a prerequisite for* ENST 503.

Natural Science

One graduate-level science course from outside undergraduate major and two graduate-level science courses

Finance

- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3

- GSBA 543 Managerial Perspectives Units: 3 or
- MOR 569 Negotiation and Deal-Making Units: 3

- GSBA 548 Corporate Finance Units: 2, 3

Technical Skills

- ENST 510 Statistics for Environmental Analysis Units: 4
- One modeling course
- Two technology/engineering courses

Additional Requirements

Admission Requirements

Students who wish to enter the Master of Science program in environmental risk analysis are expected to have a GPA of at least 3.0 (A = 4.0). Students with a baccalaureate degree in the natural sciences, mathematics, environmental science, geography and engineering will be admitted into the program. It is recommended that students have completed an introductory human environment, social ecology or environmental studies course in the social sciences as well as a course in economics and/or environmental policy. The director of the Environmental Studies Program will consider relevant course work and work experience as a possible substitute for the required and recommended course work.

Selection Criteria

Selection for graduate study is based on letters of reference, the student's previous academic record, the Graduate Record Examinations and a statement of purpose of graduate study.

Application Procedure

Applicants should contact the Environmental Studies Program office for an admission package. All applicants should return their applications by March 1 for full consideration. The following components of the application are required: (1) a completed USC Application for Admission to Graduate Studies; (2) official transcripts of all undergraduate and graduate course work taken to date; (3) the results of the General Test of the GRE or notification of when it will be taken and that a request has been made to send the results to USC; and (4) at least three letters of recommendation from persons directly familiar with the student's academic work and potential for successful graduate study.

Advisement

Advisement for the graduate program in environmental studies is viewed as an ongoing process. Before entering graduate

school and during the first months of graduate school, each student should work with the director of the Environmental Studies Program on devising a plan for completing his or her course work.

Degree Requirements

The master's degree in environmental risk analysis is under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Environmental Studies (MA)

The MA in Environmental Studies program's mission is to provide an interdisciplinary perspective on environmental issues and problem solving. Students have access to faculty expertise in the natural sciences, engineering, social and behavioral sciences, business and economics. The program is designed to provide advanced training and skills important for professionals in the environmental science and policy fields.

Core Courses (16 Units):

- ENST 500 Interdisciplinary Approaches to Environmental Studies Units: 4
- ENST 520 Environmental Law and Policy Units: 4
- ENST 530 Environmental Risk Analysis Units: 4
- ENST 540 California Coastal Zone Science and Policy Units: 4

Skills and Methods Courses (8 units):

Choose one methods course from below:

- ENST 510 Statistics for Environmental Analysis Units: 4
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- ANTH 562 The Practice of Ethnography Units: 4

Choose one skills course from below:

- DSCI 510 Principles of Programming for Data Science Units: 4
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 576 Remote Sensing Applications and Emerging Technologies Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4

Electives (6-8 units):

Advanced 500-level courses selected in consultation with an adviser.

French and Italian

The Department of French and Italian offers majors and minors in French and in Italian. The study of French or Italian involves the mastery of the languages and their literary and cultural expressions in fiction and non-fiction, dramatic, cinematic and poetic texts, as well as the study of social and political institutions in their relationship to cultural production.

The department offers a variety of classes in French and Italian, as well as some courses with readings and discussion in English to satisfy diverse needs, and courses that count toward GE credit, including GE-A, B and G. Topics range broadly from the study of a single author or literary genre to examining current event issues such as immigration, racism and human rights through cinema and new media, gender and postcolonial studies, and literary criticism. New curricular offerings emphasize specialties in business, law, the environment, urban affairs, and medical and health issues.

Courses are kept small to allow for maximum interaction between students and professors. Students in both French and Italian work closely with their academic advisers as well as with the director of Undergraduate Studies to develop an appropriate course of study. This often involves study abroad. The department offers a number of programs to this end: Spring Maymesters in Rome as well as a number of Francophone countries, summer programs in Dijon, France and Rome, Italy, and semester- or year-long programs in Paris, Milan, Florence or Rome.

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Chair: Margaret Rosenthal, PhD

Faculty

Marion Frances Chevalier Professor of French and Professor of French and American Studies & Ethnicity: Lydie Moudileno, PhD
Professor: Margaret F. Rosenthal, PhD*
Associate Professors: Gian-Maria Annovi, PhD; Olivia C. Harrison, PhD; Edwin C. Hill, PhD; Natania Meeker, PhD, Chevalier de l'Ordre des Palmes Academiques; Panivong Norindr, PhD; Antonia Szabari, PhD
Professor (Teaching) of Italian: Francesca Italiano, PhD
Professor (Teaching) of French: Béatrice Mousli Bennett, PhD, Chevalier de l'Ordre des Palmes Academiques
Associate Professors (Teaching) of French: Guilan Siassi, PhD; Julie Van Dam, PhD
Associate Professors (Teaching) of Italian: Alessio A. Filippi, PhD; James Fortney, PhD; Antonio Idini, PhD; Francesca Leardini, PhD
Master Lecturers: Nathalie C. Burle, EdD; Julia Chamberlin, MPhil; Atiyeh Doreen Showrai, MA
Lecturers: Jennifer Misran, PhD; Scott Taylor, PhD
Emeritus Professors: Arthur E. Babcock, PhD; Marie-Florine Bruneau, PhD; Carol A. Hofmann, PhD; Peggy Kamuf, PhD, Chevalier de l'Ordre des Palmes Academiques; Albert Sonnenfeld, PhD, Chevalier de l'Ordre des Palmes Academiques
**Recipient of university-wide or school teaching award.*

Undergraduate Degrees

Advisement

All French and Italian department majors should consult with the department student adviser and with our faculty adviser for French and Italian. Students should seek an appointment early in each semester so that an advisement file may be established for each student.

Sequence

A placement test is required of all students with prior knowledge of French or Italian.

Honors Program - French

The BA in French with Honors is available to students who have an overall GPA of 3.0 and a GPA of at least 3.5 in courses counted for major credit. To complete the honors program the student must complete three 400-level courses and write an honors thesis of 25–30 pages in French in one of the 400-level courses. The topic of the thesis must be agreed upon with the instructor.

French Honors Society: Pi Delta Phi

Qualifications

Undergraduate students must have completed one semester of upper-division French with a minimum GPA of 3.0 in French and overall. Graduate students must be candidates for advanced degrees in French.

Honors Program - Italian

The BA in Italian with Honors is available to students who have an overall GPA of 3.0 and a GPA of at least 3.5 in courses counted for major credit. To complete the honors program the student must complete three 400-level courses and write an honors thesis of

25–30 pages in Italian in one of the 400-level courses. The topic of the thesis must be agreed upon with the instructor.

Italian Honors Society: Gamma Kappa Alpha

Qualifications

Undergraduate students must have completed one semester of upper-division Italian with a minimum GPA of 3.0 in Italian and overall.

Graduate Programs

The MA and PhD degrees in Comparative Studies in Literature and Culture (French and Francophone Studies) are offered through the Comparative Studies in Literature and Culture program.

Bachelor's Degree

French (BA)

For the lower division, FREN 250 French IV is required. The upper-division requirements include two core courses plus an additional five courses to be selected in consultation with the department adviser (no more than two of which may be in English). Of the additional five courses, at least two must be at the 400 level.

Lower Division

- FREN 250 French IV Units: 4

Upper Division (7 Courses)

Required core courses:

- FREN 300 French Grammar and Composition Units: 4
- FREN 330 Critical Writing in French Units: 4

Suggested courses to fulfill requirement of five upper-division French courses, two of which must be 400-level courses:

- FREN 305 Global Women's Narratives Units: 2
- FREN 307g Public Memory and the Ghosts of History Units: 4
- FREN 309 Voices of Change: Writers, Filmmakers and Artists of Contemporary Senegal Units: 4
- FREN 310 Media French Units: 4
- FREN 315 Inside the Courts: the French Legal Language and Culture Units: 4
- FREN 318 Global Cyphers: Hip Hop Circles Around the World Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- FREN 340g Italian and French Cinema and Society Units: 4
- FREN 347g Race, Gender and Power in Francophone Literature Units: 4
- FREN 351 Introduction to Research in French and Francophone Cultures Units: 4
- FREN 357 Popular Music in France - Culture, Politics, Protest Units: 4
- FREN 360 Business and Technical French Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- FREN 373g Remembering Loss, Writing Memory Units: 4
- FREN 375gmw Global Narratives of Illness and Disability Units: 4
- FREN 382 Paris Avant-Gardes Units: 4 (Paris semester only)
- FREN 383 French Women Writers Units: 4
- FREN 392 Seminar in Literary and Cultural Studies Units: 4, max 8
- FREN 393 Seminar in French Thought and Theory Units: 4
- FREN 401 Studies in Early Modernity Units: 4 , max 8
- FREN 402 Studies in Modernity Units: 4 , max 8
- FREN 403 Studies in Colonialism and Postcolonialism Units: 4 , max 8
- FREN 404 Studies in an Author Units: 4
- FREN 410 Actualités Françaises Units: 4 (Paris semester only)
- FREN 432 French Theatre Units: 4 (Paris semester only)
- FREN 445 Studies in Gender, Feminism and Sexuality Units: 4
- FREN 446 Contemporary French Thought Units: 4 , max 8
- FREN 448m France and Islam Units: 4
- FREN 449 Studies in French Civilization Units: 4 (Paris semester only)
- FREN 464 Colloquium: French Civilization Units: 4 , max 8
- FREN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12
- FREN 499 Special Topics Units: 2, 3, 4, 5, 6, 7, 8 , max 8

Honors Program

The BA in French with Honors is available to students who have an overall GPA of 3.0 and a GPA of at least 3.5 in courses counted for major credit. To complete the honors program the student must complete three 400-level courses and write an honors thesis of 25–30 pages in French in one of the 400-level courses. The topic of the thesis must be agreed upon with the instructor.

Italian (BA)

The upper-division requirements include one core course plus an additional five courses to be selected in consultation with the department adviser (no more than three of which may be in English). Of the additional five courses, at least two must be at the 400 level.

Required Courses — Lower Division

Some or all of these courses may be waived by examination.

- ITAL 120 Italian I Units: 4
- ITAL 150 Italian II Units: 4
- ITAL 220 Italian III Units: 4
- ITAL 224 Constructing Today's Italy Through the Lens of the Media Units: 4

Upper Division (6 Courses)

No more than *three* courses conducted in English may be counted toward the major.

Core course:

- ITAL 320 Critical Writing in Italian Units: 4

Five upper-division Italian courses to be chosen from the following:

- ITAL 340g Italian and French Cinema and Society Units: 4
- ITAL 345 Contemporary Italy Units: 4 (in English)
- ITAL 350g Gender and Sexuality in Renaissance Italy Units: 4 (in English)
- ITAL 352 The Holocaust in Italian Fiction and Film Units: 4
- ITAL 360g Italian Cinema Units: 4
- ITAL 380 Italian Women Writers Units: 4
- ITAL 381 Storytelling in the Italian Tradition Units: 4
- ITAL 382g Dante Units: 4
- ITAL 392 Seminar in Literary and Cultural Studies Units: 4
- ITAL 393 Seminar in Italian Thought Units: 4
- ITAL 401 Studies in Early Modernity Units: 4
- ITAL 402 Studies in Modernity Units: 4
- ITAL 403 Studies in Colonialism and Postcolonialism Units: 4
- ITAL 440 Futurism and Fascism in Italy Units: 4
- ITAL 461 Italian Theatre Units: 4
- ITAL 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ITAL 499 Special Topics Units: 2, 3, 4 , max 8

Honors Program

The BA in Italian with Honors is available to students who have an overall GPA of 3.0 and a GPA of at least 3.5 in courses counted for major credit. To complete the honors program the student must complete three 400-level courses and write an honors thesis of 25–30 pages in Italian in one of the 400-level courses. The topic of the thesis must be agreed upon with the instructor.

Minor

French Minor

For the lower division, FREN 250 French IV is required. The upper-division requirements include two core courses plus an

additional three courses to be selected in consultation with the department adviser (no more than one of which may be in English). FREN 310 and FREN 360 may not both be taken for credit toward the minor in French.

Lower Division

- FREN 250 French IV Units: 4

Upper Division (5 Courses)

Required core courses:

- FREN 300 French Grammar and Composition Units: 4
- FREN 330 Critical Writing in French Units: 4

Suggested courses to fulfill the requirement of three upper-division French courses:

- FREN 305 Global Women's Narratives Units: 2
- FREN 307g Public Memory and the Ghosts of History Units: 4
- FREN 309 Voices of Change: Writers, Filmmakers and Artists of Contemporary Senegal Units: 4
- FREN 310 Media French Units: 4
- FREN 315 Inside the Courts: the French Legal Language and Culture Units: 4
- FREN 318 Global Cyphers: Hip Hop Circles Around the World Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- FREN 340g Italian and French Cinema and Society Units: 4
- FREN 347g Race, Gender and Power in Francophone Literature Units: 4
- FREN 351 Introduction to Research in French and Francophone Cultures Units: 4
- FREN 357 Popular Music in France - Culture, Politics, Protest Units: 4
- FREN 360 Business and Technical French Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- FREN 373g Remembering Loss, Writing Memory Units: 4
- FREN 375gmw Global Narratives of Illness and Disability Units: 4
- FREN 382 Paris Avant-Gardes Units: 4 (Paris semester only)
- FREN 383 French Women Writers Units: 4
- FREN 392 Seminar in Literary and Cultural Studies Units: 4, max 8
- FREN 393 Seminar in French Thought and Theory Units: 4
- FREN 401 Studies in Early Modernity Units: 4 , max 8
- FREN 402 Studies in Modernity Units: 4 , max 8
- FREN 403 Studies in Colonialism and Postcolonialism Units: 4 , max 8
- FREN 404 Studies in an Author Units: 4
- FREN 410 Actualités Françaises Units: 4 (Paris semester only)
- FREN 432 French Theatre Units: 4 (Paris semester only)
- FREN 445 Studies in Gender, Feminism and Sexuality Units: 4
- FREN 446 Contemporary French Thought Units: 4
- FREN 448m France and Islam Units: 4
- FREN 449 Studies in French Civilization Units: 4 (Paris semester only)
- FREN 464 Colloquium: French Civilization Units: 4 , max 8
- FREN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12
- FREN 499 Special Topics Units: 2, 3, 4, 5, 6, 7, 8 , max 8

Note:

*FREN 310 *and* FREN 360 *cannot both be taken for credit toward the minor in French.*

Italian Minor

The upper-division requirements include one core course plus an additional three courses to be selected in consultation with the department adviser (no more than two of which may be in English). Of the additional four courses, at least one must be at the 400 level.

Lower Division

Some or all of these classes may be waived by examination.

- ITAL 120 Italian I Units: 4
- ITAL 150 Italian II Units: 4
- ITAL 220 Italian III Units: 4
- ITAL 224 Constructing Today's Italy Through the Lens of the Media Units: 4

Upper Division (4 Courses)

Required core course:

- ITAL 320 Critical Writing in Italian Units: 4

Three upper-division Italian courses to be chosen from the following and to include at least one 400-level course:

No more than two courses conducted in English may be counted toward the minor.

- ITAL 340g Italian and French Cinema and Society Units: 4
- ITAL 345 Contemporary Italy Units: 4 (in English)
- ITAL 350g Gender and Sexuality in Renaissance Italy Units: 4 (in English)
- ITAL 352 The Holocaust in Italian Fiction and Film Units: 4
- ITAL 360g Italian Cinema Units: 4
- ITAL 380 Italian Women Writers Units: 4
- ITAL 381 Storytelling in the Italian Tradition Units: 4
- ITAL 382g Dante Units: 4
- ITAL 392 Seminar in Literary and Cultural Studies Units: 4
- ITAL 393 Seminar in Italian Thought Units: 4
- ITAL 402 Studies in Modernity Units: 4
- ITAL 403 Studies in Colonialism and Postcolonialism Units: 4
- ITAL 440 Futurism and Fascism in Italy Units: 4
- ITAL 461 Italian Theatre Units: 4
- ITAL 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ITAL 499 Special Topics Units: 2, 3, 4 , max 8

Freshman Seminars

Grace Ford Salvatori Hall, Suite 320
(213) 740-2961
dornsife.usc.edu/fsem
Director: Richard Fliegel, PhD

Freshman Seminars introduce freshmen to the larger academic world they are now entering. These small group seminars address topics of current interest in contemporary research and scholarship.

Freshmen earn 2 units of baccalaureate credit through participation in these weekly seminars. Active exploration of the life of the mind is emphasized through a variety of classroom activities and assignments.

To encourage the relaxed interchange of information and ideas, most seminars are graded credit/no credit. Each seminar is limited in enrollment to 18 freshmen.

Freshman Seminars encourage the natural development of the mentoring relationship between faculty and students. An early start on building these connections enhances the opportunities for intellectual growth throughout the student's years at USC.

Freshman Seminars are offered for the fall and spring semesters in a variety of subjects. Individual topics are indicated by parenthetical titles in the *Schedule of Classes* (usc.edu/soc) under the FSEM designation or on the department's website (usc.edu/fsem).

For further information, please contact Richard Fliegel, PhD, (213) 740-2961, email: fliegel@usc.edu, or Marsha Chavarria-Winbush, (213) 740-2961, email: chavarri@usc.edu, or Maria Valasquez, (213)-740-2961, email: mvelasqu@usc.edu.

Gender and Sexuality Studies

The Gender and Sexuality Studies major is designed for students drawn to the interdisciplinary study of gender and sexuality. In exploring how gender and sexuality have operated across time and cultures, students will engage with the approaches and methodologies of established disciplines: sociology, literature, history, political theory, religion; as well as interdisciplinary fields like queer studies and ethnic studies. Our curriculum analyzes how gender and sexuality operate in politics, popular culture, the workplace, health, science, sports, intimate life and the very production of knowledge itself. Our classes emphasize that gender and sexuality are not stand-alone categories but rather take shape through their intersection with outer relations of power, including race and ethnicity, religion, class and nationality. Majoring in Gender and Sexuality Studies prepares students for graduate school in the social sciences and the humanities as well as in law, business and education. In addition, the major and each of our several minors prepare students for work in governmental and non-governmental organizations, communications and the media, arts and public service.

Mark Taper Hall of Humanities 422
(213) 740-8286
FAX: (213) 740-6168
Email: gender@dornsife.usc.edu
Chair: Karen Tongson, PhD

Faculty

Dean's Professor of Gender Studies and Professor of Political Science and Gender and Sexuality Studies: Ange-Marie Hancock Alfaro, PhD *(Political Science and International Relations)*
USC Associates Chair in Social Sciences and Professor of Political Science and Gender and Sexuality Studies: Jane Junn, PhD *(Political Science and International Relations)*
Barbra Streisand Professor of Contemporary Gender Studies and Professor of History and Gender and Sexuality Studies: Alice Echols, PhD* *(History)*
Professors: Michael Messner, PhD* *(Sociology)*; Rhacel Salazar Parreñas, PhD *(Sociology)*; Eliz Sanasarian, PhD *(Political Science and International Relations)*; Lisa Schweitzer, PhD *(Public Policy)*; Karen Tongson, PhD; Sherry Marie Velasco, PhD *(Latin American and Iberian Cultures)*
Director, ONE National Gay and Lesbian Library and Archives: Joseph Hawkins, PhD *(USC Libraries)*
Associate Professors: Sheila Briggs, PhD *(Religion)*; Sunyoung Park, PhD *(East Asian Languages and Cultures)*; Francille R. Wilson, PhD *(American Studies and Ethnicity)*
Professor (Teaching): Diana Blaine, PhD
Assistant Professor (Teaching): Atia Sattar *(Writing Program)*
**Recipient of a university-wide or college teaching award.*

Undergraduate Degrees

Internship

A special feature of the undergraduate program is the internship, a required class for majors in which students gain valuable job skills and professional connections. Students have chosen internships related to gender and sexuality at health clinic, Hollywood studios, law offices, and the ONE Archives, the world's largest LGBTQ archive. The major also includes a capstone class, which offers students the opportunity to study intensively with a professor in her or his current area of research. Students should consult with the student services adviser in Gender and Sexuality Studies the semester before taking the internship class for assistance with placement. There is also a minor in gender and sexuality studies.

Minor in Gender and Social Justice

The minor in Gender and Social Justice is tailored for students interested in careers in the area of social policy. The minor is unique in its focus on the ways in which large-scale social and economic processes such as neoliberalism, globalization and economic precarity are connected and gendered. Topics include gender and violence; human trafficking; migration; reproductive rights; global human rights in relation to sexual orientation and gender identity; the prison state; prostitution and sex work. Students will examine the complexities of translating feminist theorizing into social policy.

Minor in LGBTQ Studies

The interdisciplinary minor in LGBTQ Studies establishes sexuality as a critical category of analysis for humanists and social scientists. The minor enables students to explore the shifting social organization and cultural meanings of same-sex sexuality and gender identification.

Graduate Degrees

Gender and Sexuality Studies also offers a graduate certificate, a credential that is increasingly necessary for tenure-track positions in gender and sexuality departments and in disciplines searching in the area of gender and sexuality. We encourage graduate students to participate in conferences and to organize campus lectures.

Bachelor's Degree

Gender and Sexuality Studies (BA)

The Department of Gender and Sexuality Studies offers students the opportunity to examine the forces behind the cultural and historical production of gender, including their relationship to other factors including race, class, ability, nationalism and colonialism. The department aims for its students to develop competencies in critical thinking; research skills; community-engaged creativity and collaboration; feminist knowledge production; intersectionality; queer and transgender theory; justice, equality, and power; transnationalism; and decoloniality. The Gender and Sexuality Studies curriculum analyzes how gender and sexuality operate in politics, popular culture, the professional sphere, intimate life, health, technology, science, sports and the very production of knowledge itself. With this rigorous understanding of the shifting terrain of contemporary power relations, graduates will be able to identify, resist and transform oppressive systems in their personal and professional lives. The interdisciplinary major in Gender and Sexuality Studies will prepare students to enter graduate programs in the humanities and social sciences and in professional schools including law, business, education, and health care. In addition, the curriculum equips students for careers in industry, including the media, arts, communication, governmental and non-governmental organizations and public service.

The major in Gender and Sexuality Studies requires completion of 40 undergraduate units (usually ten 4-unit courses).

Lower Division

For the lower division, two of the following courses may be selected as the requirement:

- SWMS 210gmw Social Analysis of Gender Units: 4
- SWMS 212gp Introduction to Gender and Sexuality: American Perspectives Units: 4
- SWMS 215gw Introduction to Gender and Sexuality: International Perspectives Units: 4
- SWMS 219gp Introduction to Feminist Theory Units: 4 or
- SWMS 221g Introduction to Queer Theory Units: 4

Upper Division

Thirty-two units of upper-division SWMS courses are required. Of these, students are required to complete SWMS 308, SWMS 311, SWMS 392 and SWMS 410.

- SWMS 308 Advanced Gender Theory Units: 4
- SWMS 311 Gender and Sexuality Studies: Internship Units: 2, 4, 8
  (4 units required)
- SWMS 392 Junior Seminar in Gender and Sexuality Studies Units: 4
- SWMS 410 Senior Seminar in Gender and Sexuality Studies Units: 4

Honors Program Requirements

The Department of Gender and Sexuality Studies offers a two-semester honors program, in which qualified students spend their first semester in an honors track in an upper-division seminar, SWMS 410 Senior Seminar in Gender and Sexuality Studies. During the second semester, all honors students are required to take SWMS 492 Gender and Sexuality Studies: Honors Thesis, in which each completes a thesis project on a topic of his or her choosing under faculty direction. Contact the departmental honors director for further information. To graduate with honors, department majors must have a minimum GPA of 3.5 in their major course work.

Minor

Gender and Sexuality Studies Minor

The Department of Gender and Sexuality Studies offers a minor for students specializing in other disciplines who would like a substantive introduction to the way gender shapes individuals and institutions, as well as to the research methods and topics specific to the field. Twenty units of course work are required for completion of the minor in Gender and Sexuality Studies, including one of the following lower-division courses: SWMS 210gmw, SWMS 212gp, SWMS 215gw, SWMS 219gp, or SWMS 221g. Four additional upper-division courses are needed, including the following two required courses: SWMS 392 and SWMS 410. The remaining two upper-division courses may be taken from a list of department-approved SWMS courses, which includes many courses that are cross-listed.

Lower Division (4 units)

- SWMS 210gmw Social Analysis of Gender Units: 4
- SWMS 212gp Introduction to Gender and Sexuality: American Perspectives Units: 4
- SWMS 215gw Introduction to Gender and Sexuality: International Perspectives Units: 4
- SWMS 219gp Introduction to Feminist Theory Units: 4
- SWMS 221g Introduction to Queer Theory Units: 4

Upper Division (16 units)

Four additional upper-division courses are needed, including the following two required courses: SWMS 392 and SWMS 410. The remaining two upper-division courses may be taken from a list of department-approved SWMS courses, which includes many courses that are cross-listed.

- SWMS 392 Junior Seminar in Gender and Sexuality Studies Units: 4
- SWMS 410 Senior Seminar in Gender and Sexuality Studies Units: 4

Gender and Social Justice Minor

The minor in gender and social justice provides students with the intellectual foundation and practical skills necessary to tackle inequality and injustice as they relate to gender and sexuality in today's increasingly global world. This minor prepares students for employment in nonprofit organizations, politics, government agencies, cultural reporting and socially conscious niches within the entertainment industry.

Twenty units of course work are required to complete the minor in gender and social justice:

Required Course - Lower Division (4 Units)

Choose one:

- SWMS 210gmw Social Analysis of Gender Units: 4
- SWMS 212gp Introduction to Gender and Sexuality: American Perspectives Units: 4
- SWMS 215gw Introduction to Gender and Sexuality: International Perspectives Units: 4
- SWMS 219gp Introduction to Feminist Theory Units: 4
- SWMS 221g Introduction to Queer Theory Units: 4

Required Course - Upper Division (4 Units)

- SWMS 310 Gender and Social Justice Units: 4

Electives - Upper Division (12 Units)

Choose three:

- IR 316 Gender and Global Issues Units: 4
- POSC 381 Sex, Power, and Politics Units: 4
- SOCI 402 Human Trafficking Units: 4
- SWMS 308 Advanced Gender Theory Units: 4
- SWMS 311 Gender and Sexuality Studies: Internship Units: 2, 4, 8
- SWMS 336 Health, Gender and Ethnicity Units: 4
- SWMS 349 Women and the Law Units: 4
- SWMS 385m Men and Masculinity Units: 4

LGBTQ Studies Minor

The LGBTQ Studies minor focuses on how sexuality and sexual orientation shape gender identities, roles and status in societies past and present. Twenty units of course work are required for completion of the LGBTQ Studies minor: one course selected from SWMS 210gmw, SWMS 212gp, SWMS 215gw, SWMS 221g; required SWMS 306; and 12 units of upper-division electives.

Required Course – Lower Division (4 Units)

Choose one:

- SWMS 210gmw Social Analysis of Gender Units: 4
- SWMS 212gp Introduction to Gender and Sexuality: American Perspectives Units: 4
- SWMS 215gw Introduction to Gender and Sexuality: International Perspectives Units: 4
- SWMS 221g Introduction to Queer Theory Units: 4

Required Course – Upper Division (4 Units)

- SWMS 306 Contemporary Issues in LGBTQ Studies Units: 4

Upper-Division Electives (12 Units)

Choose three:

- ENGL 344gm Sexual/Textual Diversity Units: 4
- ITAL 350g Gender and Sexuality in Renaissance Italy Units: 4
- SWMS 308 Advanced Gender Theory Units: 4
- SWMS 310 Gender and Social Justice Units: 4
- SWMS 311 Gender and Sexuality Studies: Internship Units: 2, 4, 8
- SWMS 355 Transgender Studies Units: 4
- SWMS 358 U.S. Gay and Lesbian History Units: 4
- SWMS 385m Men and Masculinity Units: 4
- SWMS 425 Queer Los Angeles Units: 4

Graduate Certificate

Gender Studies Graduate Certificate

Graduate students intending to concentrate in gender studies must be admitted to a USC graduate or professional program. While meeting the requirements for a departmental graduate degree, they may earn a certificate of competency in gender studies. To earn a certificate, students must take SWMS 560 and other courses from the SWMS list of graduate level courses, 500 and above, to a total of at least 12 units. No more than four units of directed research may be taken and those units must be taken as SWMS 590. Each academic department will determine the number of units completed which may be applied to the student's graduate degree in that department.

In addition to the completion of course requirements, students must include a focus on gender as part of their major department master's thesis, doctoral dissertation or law review note. Or they may take an oral examination on three research papers they have written within the areas of gender studies and on relevant graduate work pertaining to the field of gender studies. The oral exam will be administered by members of the Gender Studies faculty. A Gender Studies faculty member will be assigned as an adviser for each student. Gender Studies faculty will be responsible for judging the adequacy of the gender studies analysis in the student's thesis, dissertation or oral examination.

German Studies

Taper Hall of Humanities 255
(213) 740-2735
FAX: (213) 740-8560
Email: german@dornsife.usc.edu

Faculty

Associate Professor (Teaching): Britta Bothe, PhD
Assistant Professors (Teaching): John W. Arensmeyer, Jr., PhD; Eve Lee, PhD
Emeritus Professor: Gerhard Clausing, PhD

The USC Dornsife College of Letters, Arts and Sciences offers a variety of courses from basic and advanced language classes to literature classes and general and cultural topics.

Minor

German Studies Minor

Required Courses, Lower-Division

- GERM 101 German I Units: 4
- GERM 102 German II Units: 4
- GERM 201 German III, Conversation and Composition Units: 4
- GERM 221 Conversational German IV Units: 4 , or the equivalent by test

Required Courses, Upper-Division

Four courses — 16 units in the two areas of concentration.

One course from the following:

- GERM 310 Business German I Units: 4 *
- GERM 311 Business German II Units: 4 *
- GERM 470 Advanced Composition and Stylistics Units: 4

Note:

**Prerequisite:* GERM 201 *or the equivalent by test.*

Three elective courses from the following:

(only one course each from HIST and IR may be counted toward the minor):

- GERM 320 Composition and Conversation on Contemporary Affairs Units: 4
- GERM 325 Composition and Conversation in Cultural History Units: 4
- GERM 330 Introduction to Literary Studies Units: 4
- GERM 346 German Folklore and Popular Culture Units: 4
- GERM 352 Colloquium on Poetry Units: 4
- GERM 353 Colloquium on Prose Units: 4
- GERM 360g 20th Century German Prose: Texts and Films Units: 4
- GERM 410 Profile of German Literature I Units: 4
- GERM 420 Profile of German Literature II Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 414 Contemporary Europe Units: 4
- HIST 427 The German Question: Nation and Identity in Modern Central Europe Units: 4
- HIST 428 Life and Death in Nazi Germany Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 468 European Integration Units: 4
- POSC 463 European Politics Units: 4

Health and Humanity

Health and Humanity is for students interested in fields that inform the health professions and in related questions about health and human experience.

Department of Anthropology
Kaprielian Hall 352
(213) 740-2534
Email: anthro@dornsife.usc.edu

Bachelor's Degree

Health and Humanity (BA)

The Bachelor of Arts in Health and Humanity is a liberal arts degree. It is intended for students interested in fields that inform the health professions and in related questions about health and human experience. Courses in this interdisciplinary major meet many of the requirements for admission to the professional programs in medicine, nursing and other fields, but do not meet all of those entrance requirements. Some electives in this major have prerequisites in mathematics and physics that cannot be counted toward the 36-unit requirement in major electives. Students should consult their academic advisers for precise information on prerequisites and admission requirements for specific health fields.

Summary of Requirements

Core: 24 units; experiential learning: 1–4 units; major electives: one thematic module 16–20 units, other electives 16–20 units; total requirements: 61–64 units including at least 36 upper-division units plus prerequisites for certain electives.

Core (16 Lower-Division, 8 Upper-Division)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4
- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4
- HBIO 300 Evolution, Ecology, and Culture Units: 4

Experiential Learning (1–4 Units)

Choose one course. A health-related internship is required:

- AMST 365 Leadership in the Community — Internship Units: 4
- GERO 495 Practicum in Geriatric Care Units: 4
- MDA 250 Internship for Liberal Arts: Work and Career — Theory and Practice Units: 1, 2 , max 4
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8 (4 Units Required)
- SWMS 311 Gender and Sexuality Studies: Internship Units: 2, 4, 8

Major Electives

Choose one complete thematic module from the list below (16–20 units). Then choose additional electives from the list of modules to equal nine courses (36 units) in all. No more than two courses may be lower-division (100- or 200-level). At least two courses must come from Group A and two courses from Group B.

Group A

Bioethics Module (16 units)

- ANTH 305 Childhood, Birth and Reproduction Units: 4 or
- POSC 333 Stigma and Society: Physical Disability in America Units: 4 or
- SOCI 475 Medical Sociology Units: 4 or
- GERO 475 Ethical Issues in Geriatric Health Care Units: 4 or
- OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation Units: 4

- REL 319 Religious and Ethical Issues in Death and Dying Units: 4 or
- REL 341 Technology, Culture, and Ethics Units: 4 or
- REL 360 Ethical Issues in the New Medical Revolution Units: 4
- REL 460 Senior Seminar: Medical Ethics Units: 4

Health, Gender and Ethnicity Module (16 units)

- ANTH 125g Social Issues in Human Sexuality and Reproduction Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4 or
- HBIO 405 Evolutionary Medicine Units: 4
- PSYC 462m Culture and Mental Health Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

Health and Aging Module (16 units)

- GERO 320g Psychology of Adult Development Units: 4 (Recommended preparation: PSYC 100), or
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4 or
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4
- GERO 380m Diversity in Aging Units: 4 or
- GERO 435m Women and Aging: Psychological, Social and Political Implications Units: 4
- GERO 416 Health Issues in Adulthood Units: 4

Health and the Mind Module (20 units)

- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 320 Principles of Psychobiology Units: 4 or
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 336L Developmental Psychology Units: 4
- PSYC 360 Abnormal Psychology Units: 4 or
- PSYC 404L Psychophysiology of Emotion Units: 4
- PSYC 361 Introduction to Clinical Psychology Units: 4 or
- PSYC 462m Culture and Mental Health Units: 4

Global Health Module (20 Units)

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4 or
- ANTH 105g Culture, Medicine and Politics Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4 or
- HBIO 405 Evolutionary Medicine Units: 4
- IR 305w Managing New Global Problems Units: 4 or
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 306 International Organizations Units: 4 or
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- IR 344 The Global South in World Politics Units: 4

Group B

Biological Sciences Module (20 units)

- BISC 290 Introduction to Biological Research Units: 2, 4 (4 Units Required) (lab assignment required) or
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required) (lab assignment required)
- BISC 325 Genetics Units: 4 or
- BISC 330L Biochemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4

Biochemistry Module (20 units)

- BISC 330L Biochemistry Units: 4
- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 432 Physical Chemistry for the Life Sciences Units: 4 or
- BISC 403 Advanced Molecular Biology Units: 4 or
- BISC 435 Advanced Biochemistry Units: 4

Biotechnology Module (20 units)

- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 406L Biotechnology Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

History

The Department of History offers courses in ancient, medieval and modern European history; in both North and Latin American history; in the history of Asia and in world history. Some of the department's courses are chronological, some national or regional and some are thematic, with special strengths in gender, race and ethnicity, popular culture, medicine, and urban history. The faculty is committed to continuous review and revision of the department's curriculum, as student needs and professional emphases shift. Many departmental courses meet general education requirements and various programs for majors and non-majors are available. The department offers an honors program for qualified seniors. Honors programs are individually arranged through consultation with the honors director. Completion of an honors thesis is required. The Department of History offers the BA and PhD in History; the BA in Law, History, and Culture; the BA in History and Social Science Education; the BA in Contemporary Latino and Latin American Studies, the minor in History, the minor in Resistance to Genocide and the minor in the History and Culture of Business.

Social Science Building 153
(213) 740-1657
FAX: (213) 740-6999
Email: history@dornsife.usc.edu
dornsife.usc.edu/hist
Chair: Jay Rubenstein, PhD

Faculty

University Professor and Leo S. Bing Chair in English and American Literature and Professor of English, Art History, and History: Leo Braudy, PhD *(English)*
University Professor and Professor of Philosophy, History and Accounting: Jacob Soll, PhD *(Philosophy)*
Dean's Professor of History, Myron and Marian Casden Directorship of the Casden Institute for the Study of Jewish Role in American Life and Professor of History: Steven Ross, PhD*
Garrett and Anne Van Hunnick Chair in Eureopean History and Professor of History: Anne Goldgar, PhD
Shapell-Guerin Chair in Jewish Studies and Professor of History: Wolf Gruner, PhD
Gordon L. MacDonald Chair in History and Professor of History and East Asian Languages and Cultures: Joan Piggott, PhD
Barbara Streisand Professor of Contemporary Gender Studies and Professor of History, Gender & Sexuality Studies and English: Alice Echols, PhD*
Andrew W. Mellon Professor of the Humanities, Linda and Harlan Martens Director of the Early Modern Studies Institute and Professor of History and Anthropology: Peter C. Mancall, PhD
Ruth Ziegler Early Career Chair in Jewish Studies and Associate Professor of Religion, Law and History: Jessica Marglin, PhD *(Religion)*
Professors: Bettine Birge, PhD *(East Asian Languages and Cultures)*; Lisa Bitel, PhD *(Religion)*; Daniela Bleichmar, PhD *(Art History)*; William Deverell, PhD*; Philip J. Ethington, PhD; Richard

W. Fox, PhD; Ariela Gross, PhD *(Law)*; Sarah Gualtieri, PhD* *(American Studies and Ethnicity);* Karen Halttunen, PhD; Daniel Klerman, PhD *(Law)*; Lon Kurashige, PhD; Paul Lerner, PhD*; Carolyn Malone, PhD *(Art History)*; John Pollini, PhD *(Art History)*; Ramzi Rouighi, PhD *(Middle East Studies)*; Jay Rubenstein, PhD; George J. Sanchez, PhD* *(American Studies and Ethnicity)*; Vanessa Schwartz, PhD *(Art History)*; Nayan Shah, PhD *(American Studies and Ethnicity)*; Brett Sheehan, PhD*; David Sloane, PhD *(Public Policy)*

Associate Professors: Marjorie R. Becker, PhD; Christelle Fischer-Bovet, PhD *(Classics)*; Jason Glenn, PhD; Joshua Goldstein, PhD; Nathan Perl-Rosenthal, PhD; Laura Isabel Serna, PhD; Francille Wilson, PhD *(American Studies and Ethnicity)*

Assistant Professors: Richard Antaramian, PhD; Joan Flores-Villalobas, PhD; Maya Maskarinec, PhD; Celeste Menchaca, PhD; Alaina Morgan, PhD; Ketaki Pant, PhD; Edgardo Perez Morales, PhD; Benjamin Uchiyama, PhD; Aro Velmet, PhD

Professor (Teaching): Deborah E. Harkness, PhD*

Associate Professor (Teaching): Lindsay O'Neill, PhD

Emeritus: Elinor A. Accampo, PhD; Lois W. Banner, PhD*; Judith Bennett, PhD*; Gordon M. Berger, PhD; Roger Dingman, PhD; Charlotte Furth, PhD; Cynthia Herrup, PhD; Paul W. Knoll, PhD; Franklin D. Mitchell, PhD; D. Brendan Nagle, PhD; Azade-Ayse Rorlich, PhD; Carole Shammas, PhD; Terry L. Seip, PhD*

**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advisement

The Department of History has one full-time staff adviser available to provide academic advisement, assist in the navigation of department and university requirements, review progress and future plans. Students interested in a major or minor in the department should contact the adviser to schedule a meeting. Faculty advisers are also available to offer guidance on pursuing the field of history both within and beyond USC.

Honors Program for History (BA)

The department offers a one-semester honors program, in which qualified students are required to take HIST 492 Honors Thesis in which each completes a thesis project on a topic of his or her choosing under faculty direction. Contact the department director of Undergraduate Studies for further information. To graduate with honors, department majors must have a minimum GPA of 3.5 in their major course work and a B+ or higher in HIST 201.

Honors Program for History and Social Science Education (BA)

The department offers a one-semester honors program, in which qualified students are required to take HIST 492 Honors Thesis in which each completes a thesis project on a topic of his or her choosing under faculty direction. Contact the department honors director for further information. To graduate with honors, department majors must have a minimum GPA of 3.5 in their major course work.

Honors Program for Law, History, and Culture (BA)

The department offers a one-semester honors program, in which qualified students are required to take HIST 493 in which each completes a thesis project on a topic of his or her choosing under faculty direction. Contact the director of Undergraduate Studies for further information. To graduate with honors, department majors must have a minimum GPA of 3.5 in their major course work.

Honor Society

The department sponsors its own local chapter of Phi Alpha Theta, the national history honor society. Phi Alpha Theta provides opportunities for students to take their interest in history beyond the classroom and to cultivate their intellectual pursuits in a community setting.

Membership is open to history majors and other interested students with a 3.33 GPA in history courses and a 3.0 overall GPA. For more information contact the honors director.

Teaching Credential Requirements

Credential requirements in California and elsewhere are complex and changeable. Students interested in preparing for public school teaching should contact the Credentials Office, Rossier School of Education, and the undergraduate adviser, Department of History, for up-to-date information.

Interdisciplinary Minor in Early Modern Studies

This minor brings together the resources of the departments of English, History and Art History to study the literatures and cultures of Europe and the Americas from the late medieval period to 1800. For a complete listing of requirements, see Department of English.

Interdisciplinary Middle East Studies Minor

See the Department of Middle East Studies.

Interdisciplinary Race, Ethnicity and Politics Minor

See Department of Political Science.

Interdisciplinary Russian Area Studies Minor

See Department of Slavic Languages and Literatures.

Interdisciplinary Law and Society Minor

See Department of Political Science.

Graduate Degrees

The graduate program in History offers a rigorous course of study that balances depth in particular fields with a broad, transnational and interdisciplinary perspective. We train our students in historical methods, research, critical analysis of written and visual sources, historical writing, and historical pedagogy through intensive reading courses, seminars and tutorials. This training culminates in the PhD dissertation, a significant scholarly and historiographical contribution to the study of a field.

Admission Requirements

Prerequisites

An applicant should have an undergraduate degree or an MA degree in history or a related discipline. Promising students trained in other fields will also be considered.

Criteria

All applicants must take the general test of the Graduate Record Examinations. The subject test in history is not required. In addition, applicants must submit at least three letters of recommendation from college-level instructors and a sample of written work from a college-level history, social science or humanities course. This material should be uploaded through the Graduate Admission application portal.

Procedure

For complete information on the doctoral program, prospective applicants should address inquiries to Graduate Admission, Department of History, SOS 153, University of Southern California, Los Angeles, CA 90089-0034. Information on the programs is also available online at dornsife.usc.edu/hist/doctoral-program/.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Advisement

Students should seek advice on their program of studies from the Director of Graduate Studies, a professor in their major field of study and other members of their qualifying exam committee.

Bachelor's Degree

History (BA)

The Bachelor of Arts in History requires students to take 10 courses (40 units).

Lower-Division Requirements

All majors are required to complete HIST 201, Approaches to History. It is recommended that students complete HIST 201 early in their course of study.

Three additional lower-division geographic survey courses are required and must include at least one 100-level course and one 200-level course. Majors must complete a lower-division course in each of the following geographic distributions: Asia and Eurasia, Europe, and North and Latin America. The Department of History will accept scores of 4 or 5 on either Advanced Placement European History or Advanced Placement American History as a substitute for one geographic survey course requirement at the 100-level.

Upper-Division Requirements

Six upper-division courses are required, of which at least two must be a 400-level seminar. A minimum of three courses, one of which must be a 400-level seminar, must pertain to a thematic, temporal or geographic concentration, which must be approved by a faculty adviser. No more than 4 units of HIST 490 Directed Research may be counted as satisfying the upper-division seminar requirement.

Temporal Breadth Requirements:

For temporal breadth, at least one of the 10 required courses must be taken from approved course work in each of the three following time periods: before 1300, 1300-1800 and 1800-present. Students may refer to the department Website, STARS Report, and/or faculty or staff adviser to assist with determining the courses that meet these requirements.

History and Social Science Education (BA)

This degree is designed for students who are interested in a career in secondary school teaching. The courses chosen reflect the content of subjects taught in high schools and middle schools in California and therefore should be useful for those contemplating the profession of teaching history and social studies. It does not, however, provide a waiver of the CSET examination.

Required Courses

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- HIST 201 Approaches to History Units: 4
- HIST 488 Teaching History in the Secondary Schools Units: 4

Additional Requirements

Surveys of U.S. and World History

Choose three from the following:

- HIST 100gm The American Experience Units: 4
- HIST 240gp The History of California Units: 4
- HIST 349 Colonial North America 1600–1760 Units: 4
- HIST 360 19th Century U.S. History Units: 4
- HIST 361 20th Century U.S. History Units: 4
- HIST 440 Early Modern World History Units: 4
- HIST 441 Modern World History Units: 4

Pre-modern World History

Choose one of the following:

- HIST 101gp State and Society in the Ancient World Units: 4
- HIST 102gm The Worlds of Medieval Europe Units: 4
- HIST 103g The Emergence of Modern Europe Units: 4
- HIST 180gw The Middle East Units: 4
- HIST 275g The Worlds of the Silk Road Units: 4
- HIST 335 History of Japan to 1550 Units: 4
- HIST 338 China to 960 A.D. Units: 4
- HIST 339 China, 960–1800 A.D. Units: 4
- HIST 369 History of the Indigenous Peoples in the Americas Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4

Modern World History

Choose one of the following:

- HIST 104gp Modern Europe Units: 4
- HIST 333 Korea: The Modern Transformation Units: 4
- HIST 336 History of Japan, 1550–1945 Units: 4
- HIST 340 History of China since 1800 Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 383 The Modern Middle East Units: 4

Political Science

Choose one of the following:

- POSC 100g Theory and Practice of American Democracy Units: 4
- POSC 300 Principles, Institutions, and Great Issues of American Democracy Units: 4
- POSC 340 Constitutional Law Units: 4

Required Capstone Seminar

(see under "required courses")

A capstone seminar, HIST 488 Teaching History in the Secondary Schools, will be taught by a member of the history department and will focus on the ways in which historical research is brought into middle and high school curriculum. Seminar participants will examine textbooks and other materials designed for history instruction; engage in independent research; write curriculum and/or classroom units or lesson plans; and visit classrooms to assist with history instruction in the schools.

Honors Thesis

In addition to the 10 courses required for the major, students pursuing departmental honors must complete one additional course, HIST 492 Honors Thesis. This course will be taught by a history department faculty for select students choosing to research and write an honors thesis.

- HIST 492 Honors Thesis Units: 4

Law, History, and Culture (BA)

Law, History and Culture is designed for students drawn to interdisciplinary, humanistic study of law and culture, as well as those who intend to pursue a law degree. It offers students an interdisciplinary education in legal institutions, languages and processes that are central to social, cultural and political developments in the past and present, and play a critical role in shaping our most basic concepts and categories of thought and identity. Students will gain theoretical and analytical perspectives on ethical, political and social issues relevant to law as they explore specific legal issues from a humanistic perspective. Students take courses in four core areas, which represent distinct disciplinary approaches to studying law's position at the nexus of society. The major helps students develop skills for critical reading, writing and analysis that are both crucial to a liberal education and a gateway to further study of law.

Requirements

This major requires a minimum of 36 units (or 40 units with honors). Majors must complete courses from all four areas of core competence. One course from Core Competence 1: Legal Reasoning, three courses from Core Competence 2: Historical Approaches, two courses from Core Competence 3: Texts and Interpretations and three courses from Core Competence 4: Society and Policy.

Core competence 1: Legal reasoning

- LAW 300 Concepts in American Law Units: 4

Core competence 2: Historical approaches

Take three courses from among the following:

- CLAS 305 Roman Law Units: 4
- CLAS 307 Law and Society in Classical Greece Units: 4
- CLAS 333 Cult and City in Ancient Greece Units: 4
- CLAS 340 Ethics and Politics in Ancient Rome Units: 4
- CLAS 348g Athens in the Age of Democracy and Empire Units: 4
- CLAS 370 Leaders and Communities: Classical Models Units: 4
- CLAS 470 Democracies Ancient and Modern Units: 4

- HIST 210gw How to Be An American: Global Histories of U.S. Citizenship Units: 4
- HIST 211gp Race in America Units: 4
- HIST 220gp Murder on Trial in America Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4
- HIST 312 The Age of the French Revolution and Napoleon Units: 4
- HIST 320p Law, Slavery, and Race Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 351 The American Revolution Units: 4
- HIST 355 The African-American Experience Units: 4
- HIST 377 Law and Society in Premodern China and Japan Units: 4
- HIST 385 Anglo-American Law before the 18th Century Units: 4
- HIST 386 American Legal History Units: 4
- HIST 413 The Age of Revolutions Units: 4
- HIST 444 Mass Violence and Comparative Genocide in Modern World History Units: 4
- HIST 453 The Age of Emancipation Units: 4
- HIST 455 Advanced Topics in African-American History Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- HIST 459 Race and the Carceral State Units: 4
- HIST 460 War, Race, and the Constitution Units: 4
- HIST 463 The Constitutional History of the United States Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- REL 361 Law and Religion Units: 4

Core competence 3: Literary, Philosophical and Theoretical Perspectives

Take two courses from among the following:

- COLT 385 Literature and Justice Units: 4
- COLT 472 Los Angeles Crime Fiction Units: 4
- COLT 475 Politics and the Novel Units: 4
- COLT 476 Narrative and the Law Units: 4
- ENGL 355g Anglo-American Law and Literature Units: 4
- ENGL 372 Literature and Related Arts Units: 4
- ENGL 374m Literature, Nationality and Otherness Units: 4
- ENGL 381 Narrative Forms in Literature and Film Units: 4
- JS 342 Reading in Two Directions: Connecting Law and Literature in Jewish Tradition Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- REL 360 Ethical Issues in the New Medical Revolution Units: 4
- REL 414 History of Islamic Law Units: 4
- SWMS 349 Women and the Law Units: 4
- SWMS 355 Transgender Studies Units: 4
- SWMS 358 U.S. Gay and Lesbian History Units: 4

Core competence 4: Social Movements and Social Policy

Take three courses from among the following:

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 342m Law and Identities Units: 4
- AMST 344m Islamic Law and American Society Units: 4
- AMST 345 Law and American Indian Studies Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 357m Latino Social Movements Units: 4
- AMST 389m Carceral Geographies Units: 4
- ANTH 345 Politics, Social Organization, and Law Units: 4
- LAW 310w Global Justice for Mass Atrocities and Genocide Units: 4
- LAW 320p Law, Slavery, and Race Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 340 Constitutional Law Units: 4
- POSC 345 International Law Units: 4
- POSC 370 European Political Thought I Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 374 The American Founders: Visions, Values and Legacy Units: 4
- POSC 375 American Political Thought Units: 4
- POSC 377 Asian Political Thought Units: 4
- POSC 380 Political Theories and Social Reform Units: 2, 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 443 Law in Film Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4

Honors

Students wishing to pursue Departmental Honors must complete one additional course, HIST 493, generally offered in the spring semester. In order to enroll for Honors, students must have taken at least one upper-division course, normally during one of the previous *two* semesters, which included a substantial original research component. The nature of the original research will depend on the field in which the student is working.

- HIST 493 Law, History and Culture Honors Thesis Seminar Units: 4

Additional notes:

No more than two of the nine required courses (8 units) may be taken at the 100 or 200 level, except with special permission of the LHC major adviser. No more than one lower-division (100 or 200 level) course may be taken in each area of core competence.

Students may petition to substitute a course not on the approved list for an approved course. In order to do so, they must complete the Course Waiver procedure. Normally no more than two courses total may be substituted for those on the approved list.

Students requesting LHC credit for courses taken out of residence (transfer, study abroad, summer school, etc.) must complete the Course Waiver procedure. Normally no more than two courses total may be substituted for those on the approved list.

Students may request permission to shift one of the required courses from one area of core competence to another area in order to accommodate their interests. (E.g., take three courses in Area 3 and two in Area 4.) In order to do so, students will have to complete the Area of Competence Substitution procedure. Normally no more than two courses can be shifted from one area to another.

Minor

History and Culture of Business Minor

The minor in the history and culture of business is available to all students in all schools and departments. It is designed to cultivate an understanding of business as it is embedded in changing cultural, social and political environments in the United States and around the globe. Completion of the minor requires twenty units; four units at the lower division and sixteen units at the upper division. At least eight units must be from Department of History course offerings. Interested students should meet with the undergraduate adviser for the Department of History.

Lower-Division Requirements

Choose one course (4 units)*

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- HIST 215g Business and Labor in America Units: 4
- HIST 266gp Business and East Asian Culture, 1800-Present Units: 4

Note:

*ECON 351 *or* ECON 352 *may be substituted for the lower-division requirement.*

Upper-Division Requirements

Choose four courses (16 units), at least one from each of the groups below.

Corporate Culture

- ECON 330 The Political Economy of Institutions Units: 4
- ECON 348g Current Problems of the American Economy Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- FBE 431 Financial Policies and Corporate Governance Units: 4
- HIST 343 Work, Leisure, and Violence in Industrializing America Units: 4
- HIST 348 The Dynamics of American Capitalism Units: 4
- HIST 442 The Ethics of Financial and Political Accountability Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 369 Post-War European Relations Units: 4
- MOR 385gm Business, Government and Society Units: 4
- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4

Consumer Culture

- COMM 363 Media Consumption Units: 4
- COMM 433 Home Entertainment: From Networks to Streaming Units: 4
- HIST 380 American Popular Culture Units: 4
- MKT 450 Consumer Behavior and Marketing Units: 4
- MOR 472 Power, Politics and Influence Units: 4
- PSYC 456 Conservation Psychology Units: 4
- REL-375 Conflict and Change and the Ethics of Business Units: 4

Global and Regional Culture

- BUCO 333mw Communication in the Working World - Managing Diversity Units: 4
- BUCO 460 International Business Communication Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- ECON 343 Economic Development of East Asia Units: 4
- ECON 344 Economic Development of Sub-Saharan Africa Units: 4
- ECON 346 Economics of Transition and Development: China Units: 4
- ECON 350 The World Economy Units: 4
- HIST 424 Family, Work, and Leisure in Russian History Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 331 The Global Economy 2040 Units: 4
- IR 333 China in International Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- MOR 468 Cross-Cultural Negotiations: Communication and Strategy Units: 4

History Minor

The minor in history is available to students in all schools and departments. The study of history deepens our understanding of peoples and societies and expands our knowledge of important issues in the world today. History minors will strengthen their skills in critical thinking, assessing evidence, and formulating clear and persuasive arguments both oral and written. History is essentially a laboratory of human experience, and students from a wide range of disciplines can discover new perspectives on their own intellectual interests through the study of the past.

Requirements: The minor in history requires 20 units, a total of five courses, from Department of History offerings. One course may be at the lower-division level, among which HIST 201 is the preferred course. Four courses must be at the upper-division level and at least one of those must be at the 400-level. All students who wish to embark on the completion of a minor in history must meet with the department undergraduate adviser for approval.

Resistance to Genocide Interdisciplinary Minor

To resist genocide effectively, we need to understand its history — the factors that have brought it about and those that have enabled people to prevent, resist or recuperate from mass violence. This interdisciplinary minor draws upon USC faculty in 11 academic units researching the causes, results and representations of attempted genocide as well as resistance to genocidal mass violence. Courses include attention to different definitions of genocide, its occurrence around the world and its representation in literature and the arts.

Course Requirements

The minor requires five courses (20 units); at least four must be at the upper-division level. As with all minors, students must choose at least four courses (16 units) outside their major department and four courses (16 units) that are not being used to satisfy any other subject requirement.

Lower-Division Requirement

Choose one course (4 units) from the following list:

List A

- JS 211gw The Holocaust Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 260 Global Ethnic Politics Units: 4

Upper-Division Requirements

Choose four courses (16 units) from the lists below, at least one from each list:

List B — Representations of Genocide

- COLT 485 The Shoah (Holocaust) in Literature and the Arts Units: 4
- ENGL 444m Native American Literature Units: 4
- FREN 373g Remembering Loss, Writing Memory Units: 4
- ITAL 352 The Holocaust in Italian Fiction and Film Units: 4
- JS 362 Terror and Resistance in Literature and the Media Units: 4
- MUSC 430m Music and the Holocaust Units: 4

List C — The Reality of Genocide

- ANTH 357g Cultures of Genocide, Cultures of Care Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 428 Life and Death in Nazi Germany Units: 4
- IR 313 Religions and Political Violence Units: 4
- JS 315g Anti-Semitism, Racism and Other Hatreds Units: 4
- MDA 330 The Armenian Heritage: History, Arts, and Culture Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- PSYC 453 Intergroup Relations Units: 4 *

List D — Capstone Courses: Resisting Genocide

- HIST 444 Mass Violence and Comparative Genocide in Modern World History Units: 4
- HIST 446 Resistance to Genocide Units: 4
- IR 437 Comparative Genocide Units: 4

Note:

**Prerequisite:* PSYC 355

Master's Degree

History (MA)

The department does not accept applicants for a Master of Arts degree in history. The MA degree is intended only as a transitional degree in the process of completing requirements for the PhD in history.

Foreign Language/Research Tool Requirement

Students are required to demonstrate competence in one foreign language, with the exception that none is required of majors in United States history.

Course Requirements

All students must enroll in HIST 500 Introduction to Graduate Historical Studies, and it is recommended that it be completed in the first year of residence.

Thesis Plan

Students must take a minimum of six graduate courses, including HIST 500 plus HIST 594a, HIST 594b Master's Thesis. No more than two 400-level courses may count toward this total. A thesis must be written and defended.

Comprehensive Examination Plan

This plan requires the approval of the student's master's committee chair to substitute a comprehensive examination for the thesis. If approved, the student completes eight graduate level courses, including 500, with no more than two 400-level courses counting toward this total, plus written exams in three fields, one of which may be in another department. Examinations are normally offered in October and April. An oral examination may be given at the discretion of the master's committee. Examinations are graded on an honors, pass or fail basis. Any student who receives a grade of fail in two examinations is considered as not having qualified for the degree. A student who receives one fail must retake an examination in that field at the next scheduled examination period. An examination cannot be retaken more than once.

Doctoral Degree

History (PhD)

Application deadline: December 1

The history profession nationwide combines a traditional emphasis on geo-temporal fields (e.g., United States in the 19th century; medieval Europe) with a new emphasis on trans-nationalism, comparative history and interdisciplinary investigation. The USC program is at the forefront of these trends. Following the traditional emphasis, each graduate student must declare a major field in a geo-temporal area at the time of application to the program. Major fields of study include: China, Japan, Korea, Latin America, Middle East, American/United States, medieval Europe, early modern Europe and modern Europe. The purpose of the major field is to prepare students broadly for teaching and research.

By the beginning of the second year in the program, each graduate student must declare a minor field and an area of specialization. The minor field is intended to broaden skills beyond the geo-temporal boundaries of the major field; the area of specialization is intended to deepen the student's scholarly training in the chosen area of the dissertation. The minor field may be chosen from the list of major fields (i.e., a student entering the program with American/United States as a major field might select "modern Europe" as a minor field), or it may be conceived comparatively, thematically or cross-disciplinarily. Possible minor fields include: Latin America; premodern Japan; the colonial Americas; gender and sexuality; visual culture; and anthropology. Possible fields for the area of specialization include: 19th or 20th century U.S. intellectual history; visual culture of the 20th century; modern European cities; and the American West. These lists are not exhaustive and are meant to suggest only possible courses of study.

For the major field, each student must take a minimum of four courses; for the minor field two courses; for the area of specialization three courses. Either the minor field or the area of specialization must be outside the major field of study, transnational or outside the discipline of history. Each student must consult with his or her adviser in putting together these fields of study.

Foreign Language Requirements

Students are expected to satisfy language requirements before the end of their second year in the program, and this requirement must be met before a student is eligible to take the Qualifying Examination. Students may demonstrate competence in two foreign languages or proficiency in one.

- Competence in a language denotes the ability to read and translate passages into English.
- Proficiency in a language denotes advanced reading ability and conversational ability for spoken languages. For non-spoken languages, proficiency denotes advanced reading and translation abilities.

Students must contact the Director of Graduate Studies to set up and schedule their language exams. Competence in languages is assessed in a two-hour translation examination (with dictionary) or by a student passing a reading course in the language offered at USC. A student aiming for proficiency must first take the translation exam, and upon passing, must schedule an oral examination with a faculty member designated by the Director of Graduate Studies in consultation with the adviser.

The choice of languages shall be worked out with the adviser and must be approved by the adviser and the Director of Graduate Studies. An adviser may also require a student to meet more than the department's minimum requirement, e.g., by requiring a second language at the level of proficiency or a third at the level of competence.

Course Requirements

All entering students (including those with MA degrees) are required to take HIST 500 in their first semester of study. All students are required to take two 600-level research seminars in the History Department. At least one of these seminars must be in the major area of study. Students must complete a minimum of 60 units of course work. No more than 8 units of the 60 may be in HIST 794a, HIST 794b, HIST 794c, HIST 794d, HIST 794z (dissertation writing). Students must complete at least 30 units of graduate course work within the History Department.

Screening Procedures

The performance of every doctoral student is formally evaluated by the full faculty of the History Department, normally at the end of the spring semester and before a student has completed 24 units toward the degree. Unsatisfactory progress toward the degree requires either remedy of the deficiencies or termination of the student's graduate program. After successfully passing the screening procedures, each student establishes a qualifying exam committee which then supervises preparation for the qualifying examination.

Qualifying Exam Committee and Qualifying Examinations

Each student must set up a qualifying exam committee by the end of the third semester in residence. It includes at least five members, at least three of them from the History Department, and at least one of them from outside the History Department (this person must be a tenure-track faculty member from a PhD granting program). The qualifying exam committee will oversee the student's written and oral qualifying examination, which should be taken by the end of his or her fifth semester in residence and no later than the end of the sixth semester. The examination covers the major field, minor field and area of specialization. Students prepare for these exams by developing, in collaboration with their qualifying exam committee, reading lists for study in their major field, minor field and area of specialization.

The qualifying examination consists of two parts: (1) Three four-hour written responses, based, respectively, on the major field, the minor field and the area of specialization; (2) a two-hour oral session, which may include some discussion of the written exam. Students with one fail or more than two low-pass grades on the written responses will not be permitted to sit for the oral segment of the examination. The qualifying exam committee determines

whether a student may retake any parts of the examination graded low-pass or fail.

A student must wait at least six, but not more than nine, months to retake any part, or all, of the qualifying examination. No part of the examination can be retaken more than once.

Dissertation

After students have successfully completed their qualifying examinations, they will select a dissertation committee consisting of at least three members, including at least two from the History Department. These individuals will be in charge of guiding the dissertation to completion. Within six months of passing the qualifying examination, students must submit a formal dissertation prospectus to all members of the dissertation committee and pass a one-hour prospectus defense convened by that committee. Some students (e.g., those whose major field is East Asia) can, with the approval of their dissertation committee, petition the Graduate Studies Committee for an extension of this six-month deadline. After passing the dissertation prospectus defense, a student is admitted to candidacy for the PhD degree. The student will thereafter concentrate on the dissertation. After a student becomes a doctoral candidate, he or she must register for HIST 794a, HIST 794b, HIST 794c, HIST 794d, HIST 794z Doctoral Dissertation each semester thereafter until the dissertation is completed.

Interdisciplinary Studies

Grace Ford Salvatori Hall, Suite 320
(213) 740-2961
FAX: (213) 740-4839
Email: fliegel@usc.edu
dornsife.usc.edu/interdisciplinary-studies
Faculty Director: Thomas Gustafson, PhD
Director: Richard Fliegel, PhD

Interdisciplinary Major

The interdisciplinary major allows students to create an individual, original major. It is a flexible option available when a combination of existing majors and academic minors does not adequately fulfill a student's educational goals. With close advisement, students can build their own programs of study.

The interdisciplinary major is an intensive research program for students with a focused interest in a topic that requires study from more than one disciplinary perspective. Interdisciplinary majors are usually self-motivated students with good writing skills and an intellectual passion for a particular area of inquiry. Course work is selected to lead to a thesis project integrating the areas of research comprising the interdisciplinary major.

Admission

Admission to the interdisciplinary major is by application. Applications, which may be obtained from the program office, are considered by a special admissions committee. Interested students must have a GPA of 3.0 (A = 4.0) or above; those with less than a 3.3 are the exception.

Program Requirements

Students in the program must meet all graduation requirements of USC Dornsife College. When admitted, students establish an academic "contract," which outlines each student's course of study through graduation. The contract includes a minimum of nine (4-unit) upper-division courses, distributed in at least two fields. The primary focus of the major should be in the USC Dornsife College of Letters, Arts and Sciences. These areas of concentration must then be combined in a senior thesis, written under the supervision of the student's Guidance Committee.

Restrictions

Course prerequisites cannot be waived; admission to courses restricted to majors is subject to availability and direct negotiations; admission to departments and/or schools that have their own admission requirements must be processed separately.

Bachelor's Degree

Contemporary Latino and Latin American Studies (BA)

The Bachelor of Arts in Contemporary Latino and Latin American Studies (CLLA) is an interdisciplinary major bridging the fields of Latin American Studies (focusing on the history and cultures of Central and South America) and Latino Studies (focusing on the experience of Chicano/a and Latino/a communities in the United States). By combining these two areas of scholarly inquiry in a single undergraduate degree, students acquire interdisciplinary perspectives on the indigenous and transnational histories, cultures, and social issues of the Américas.

The Bachelor of Arts in Contemporary Latino and Latin American Studies provides an opportunity for undergraduates to gain a general understanding of this area of scholarship and research and focus their study to reflect their personal aspirations. The major requires nine courses (36 units), two at the lower-division (100 and 200) level and seven at the upper-division (300 and 400) level. This curriculum prepares students for careers in business, diplomacy, or social change that reflect and respect the cultural diversity of the western hemisphere.

Lower-division Requirements (8 units)

Language Requirement (4 units)

Choose one of the following four courses or earn a sufficient score on the Spanish placement exam:

- SPAN 245 Spanish Through Social Issues in Costa Rica Units: 4
- SPAN 250x Spanish for Business Communication Units: 4
- SPAN 261 Advanced Spanish: Society and the Media Units: 4
- SPAN 270 Spanish for Heritage Speakers Units: 4

  Students who satisfy this requirement by placement exam score should take an additional course from the list below to satisfy the unit requirement.

Introduction to Latin American Culture (4 units)

Choose one course from the following list:

- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128gp Arts of Latin America Units: 4
- AMST 135gmw Peoples and Cultures of the Americas Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- COLT 250g Cultures of Latin America Units: 4
- HIST 273g Colonial Latin America Units: 4
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 218b Afro-Latin Percussion Instruments Units: 2

Upper-division Requirements (28 units)

Contemporary Latin Americans (8 units)

Choose two of the following:

- AMST 340m Latina/o LA Units: 4
- HIST 372 Modern Latin America Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- POSC 428 Latino Politics Units: 4

Major Interest (16 units)

Choose four additional courses not yet taken from one of the three following lists:

The Cultural Heritage of Latin America

- AHIS 319 Mesoamerican Art and Culture Units: 4
- AMST 448m Chicano and Latino Literature Units: 4

- ANTH 425 Peoples and Cultures of Latin America Units: 4
- COLT 375 Latin American Cultural and Literary Theory Units: 4
- HIST 369 History of the Indigenous Peoples in the Americas Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 374 History of Mexico Units: 4
- HIST 451 The Mexican Revolution Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- REL 333 Religion in the Borderlands Units: 4
- REL 334g Religion and Colonial Encounter Units: 4
- SPAN 301 Introduction to Literature and Film Units: 4
- SPAN 304 The Art of Fiction Units: 4
- SPAN 306 Performance from Street to Stage Units: 4
- SPAN 308 The Art of Poetry Units: 4
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4
- SPAN 380g Literature of Mexico Units: 4
- SPAN 385 The Culture of Food in Hispanic Los Angeles Units: 4
- SPAN 462 Literary Cartographies of Latin America and Spain, 1810–1898 Units: 4
- SPAN 481 Literature and Popular Culture Units: 4
- SPAN 482 Literature and the City Units: 4
- SPAN 483 Gender and Sexuality Units: 4
- SPAN 484 Studies in Visual and Material Culture Units: 4

Social Realities in the United States and Latin America

- AMST 340m Latina/o LA Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 357m Latino Social Movements Units: 4
- AMST 373m History of the Mexican American Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- HIST 354 Mexican Migration to the United States Units: 4, 2 years
- HIST 372 Modern Latin America Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 366 Mexico and its Relations with the United States Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 428 Latino Politics Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4
- SPAN 320 Politics, Thought, Society Units: 4

Latino and Latin American Arts and Media

- AHIS 318 Arts of the Ancient Andes Units: 4
- AHIS 328 Colonial Latin American Art Units: 4
- AHIS 428 Studies in Colonial Latin American Art Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- COLT 470 Literature and Media in Latin America Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- JOUR 465m Latino News Media in the United States Units: 4
- SPAN 302 Screen Cultures: From Film to the Internet Units: 4
- SPAN 321 Sounds, Images, Objects Units: 4
- SPAN 466 Argentina, Society and the Arts Units: 4
- THTR 481 From The Border to Broadway Units: 4

Capstone Experience (4 units)

Students engage in travel or original research by choosing one of the following courses, which include Maymester and Problems Without Passport courses, overseas programs, or courses created for this purpose. Choose one of the following:

- ANTH 400 Maya Resilience: Constructing Past and Present Identities Units: 4
- ANTH 450 Field Research in Maya Archaeology Units: 4
- IR 337 The Impact of Remittances on Development in Mexico Units: 4

Minor

Critical Approaches to Leadership Minor

This minor is offered by faculty from several disciplines whose perspectives are brought to bear on issues and questions that should inform the judgements of capable, ethical leaders. Students are introduced to theoretical and historical models of leadership, engage in case studies of modern leaders, select critical electives that explore ethical and social considerations of leadership, examine professional applications of leadership principles, and integrate what they have learned in a capstone course. The emphasis of the minor is on leadership as expertise in community-building and takes advantage of USC's programs in community service, including the Joint Educational Project, the Jesse M. Unruh Institute of Politics and other internships available through the Division of Student Affairs.

Five upper-division courses, totaling 20 units, are required.

Core Courses

Choose two:

- CLAS 370 Leaders and Communities: Classical Models Units: 4
- CLAS 375 Alexander the Great Units: 4
- MDA 325 Case Studies in Modern Leadership Units: 2 or 4

Critical Electives

Group A — choose one

- PHIL 337 Political Philosophy Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PSYC 355 Social Psychology Units: 4
- REL 341 Technology, Culture, and Ethics Units: 4
- REL 360 Ethical Issues in the New Medical Revolution Units: 4
- REL-375 Conflict and Change and the Ethics of Business Units: 4

Group B — choose one

- IR 303 Leadership and Diplomacy Units: 4
- MOR 470 Global Leadership Units: 4
- POSC 365 World Political Leadership Units: 4
- POSC 423 Presidents and the Presidency Units: 4

Capstone Course

- AMST 365 Leadership in the Community — Internship Units: 4 or
- MDA 365 The Art and Adventure of Leadership Units: 4 or
- MDA 475 The Future of California Units: 4

Core Courses

Choose two:

- CLAS 370 Leaders and Communities: Classical Models Units: 4
- CLAS 375 Alexander the Great Units: 4
- MDA 325 Case Studies in Modern Leadership Units: 2 or 4

International Health, Development, and Social Justice Interdisciplinary Minor

This minor is intended for students who wish to understand the challenges associated with health care as an ethical issue in the international context. In doing so, it focuses on the convergence of three large fields of inquiry, raising questions about their intersection. Social justice is concerned with equity, with questions of fairness as they inform (or should inform) access to resources necessary for the survival and well-being of people around the globe.

To provide the necessary content, this minor presents an introduction to political economy, to cross-cultural approaches to health and wellness, and to theories of economic development as they relate to health care.

This minor is intended to prepare students for careers and leadership roles in the arenas of international health, medical ethics, overpopulation, economic development, human welfare and principles of social justice.

As with all minors, students should include four courses outside their major, four courses at the upper-division level, and four courses that are not being used to satisfy any other subject requirement. In addition, to satisfy this minor, students must choose courses from at least two different departments.
REQUIRED COURSE WORK: 24 units

Lower Division Requirement: Choose one Course (4 Units)

Students should have some experience with engaging ethical questions or considering the context in which these issues arise, which can be accomplished by completing one of the following:

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- ANTH 105g Culture, Medicine and Politics Units: 4
- ANTH 125g Social Issues in Human Sexuality and Reproduction Units: 4
- ANTH 205g Introduction to Global Studies and Cross-cultural Research Units: 4
- BISC 102Lgx Humans and Their Environment Units: 4
- BISC 103Lgx General Biology for the Environment and Life Units: 4
- BISC 150Lgx The Nature of Human Health and Disease Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- IR 101gxw International Relations Units: 4
- IR 213 The Global Economy Units: 4 *
- PHIL 166gw Current Moral and Social Issues Units: 4
- PHIL 172gmw Social Ethics for Earthlings and Others Units: 4
- SOCI 225gw Sociology of Health and the Body Units: 4
- SOCI 242g Sociology, Demography and Health Units: 4 **

Note:

**Prerequisite:* IR 210
***Prerequisite*: BISC 120 or BISC 220

Introduction to Political Economy: Choose One Course (4 Units)

The courses in this and the following categories provide an understanding of the forces that shape global development.

- ECON 238xg Political Economy and Social Issues Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4 *
- ECON 350 The World Economy Units: 4 *
- POSC 435 Politics and the Economy Units: 4

Note:

**Prerequisite:* ECON 203 *or* ECON 205

Theories of Development: Choose One Course (4 Units)

- IR 325 North-South Relations in the Global Economy Units: 4
- IR 344 The Global South in World Politics Units: 4
- IR 454 The International Political Economy of Development Units: 4
- POSC 255g Cultures, Civilizations and Ethnicities in World Politics Units: 4
- POSC 450 Political Development Units: 4
- POSC 456 Women in International Development Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SOCI 362 Global and Transnational Sociology Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Cross-Cultural Perspectives on Health and Wellness: Choose One Course (4 Units)

These courses explore cultural attitudes and differences about health and wellness that affect decisions about health care.

- ANTH 301g The Global Performance of Healing Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 405 Evolutionary Medicine Units: 4
- IR 339 Public Health and International Relations Units: 4
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4 *
- PSYC 462m Culture and Mental Health Units: 4 **
- REL 460 Senior Seminar: Medical Ethics Units: 4
- SOCI 475 Medical Sociology Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

Note:

**Prerequisite:* PSYC 100
***Recommended preparation:* PSYC 100

Perspectives on Social Justice: Choose One Course (4 Units)

These courses familiarize students with the application of legal and ethical questions to social phenomena and the allocation of resources.

- ANTH 300 Evolution, Ecology, and Culture Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 401 The United Nations and World Order Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- REL 366 Religion and Social Change Units: 4
- SOCI 360m Social Inequality: Class, Status and Power Units: 4

Capstone Requirement: Choose One Course (4 Units)

These capstone courses examine efforts to introduce issues of social justice to the distribution of health care and other resources essential for human survival and well-being.

- MDA 320 Global Ethics: Poverty, Health and the Human Condition Units: 4
- SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Politics Units: 4
- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4

User Experience Minor

This interdisciplinary minor explores the experience of people interacting with digital sites and other products and environments. It involves training in psychology, sociology, economics, design, marketing and other units offering course work in relevant areas. How do individual factors, culture and economics influence people's decisions? Why do people form the impressions that they do, and how can products and environments be designed to engage them more readily and responsively?

As with all minors, students must choose at least four upper-division 4-unit courses and four courses dedicated exclusively to this minor (which may or may not be the same four courses). Students must also include four courses outside their major. To earn credit for this minor, psychology majors must choose four courses outside of psychology, art and design majors must choose four courses outside of the Roski School, and Business Administration majors must choose four courses outside of the Marshall School. Among the total, students must include courses from at least three departments.

For advisement, contact the Dornsife Advising Office.

Requirements

Please note that prerequisites will *not* be waived for upper-division courses; students should be sure to complete the introductory classes they will need.

Lower Division Courses - Group A

Choose 4 units from the following:

- ACAD 280 Designing Digital Experiences Units: 4
- ART 141xg Creating and Understanding Visuals Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- DES 123xg The Design Challenge: Exploring the Design Process Units: 4
- DES 203 Digital Tools for Design Units: 2 *
  and
- DES 303 Web Design Units: 2 *
- ECON 203g Principles of Microeconomics Units: 4
- LING 275Lg Language and Mind Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 201Lg The Science of Happiness Units: 4

Note:

**Both DES 203 and DES 303 (2 units each) must be completed, if students choose that option. DES 303 requires DES 203 as a prerequisite.*

Upper Division Courses - Group B

Choose one of the following:

- BUAD 307 Marketing Fundamentals Units: 4
- COMM 302 Persuasion Units: 4
- MKT 450 Consumer Behavior and Marketing Units: 4
- PSYC 355 Social Psychology Units: 4 *

Note:

**Requires PSYC 100Lg.*

Upper Division Courses - Group C

Choose one of the following:

- COMM 309 Communication and Technology Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- DES 302 Design III Units: 4 *
- ECON 303 Intermediate Microeconomic Theory Units: 4
- MKT 425 Marketing in a Digital World Units: 4
- MKT 445 New Product Development and Branding Units: 4 **
- PSYC 422 Human Judgment and Decision Making Units: 4 ***

Note:

**Requires DES 202.*
***Requires BUAD 307.*
****Requires PSYC 314L.*

Upper-division Courses - Group D

Choose one of the following:

- BISC 408 Systems Neuroscience: From Synapses to Perception Units: 4 *
- ECON 415 Behavioral Economics Units: 4 **
- PSYC 301L Cognitive Processes Units: 4 ***
- PSYC 304L Sensation and Perception Units: 4 ***
- PSYC 440 Foundations of Cognitive Neuroscience Units: 4 ***
- PSYC 454 Social Cognition Units: 4 ***

Note:

**Requires BISC 421.*
***Requires ECON 303.*
****Requires PSYC 100Lg.*

Capstone Courses - Group E

Choose one of the following:

- ART 361 Post-Internet Art and Aesthetics Units: 4
- COMM 473 Advanced Issues in Communication and Technology Units: 4 *
- CSCI 534 Affective Computing Units: 4
- DES 402 Advanced Design Projects Units: 4 **
- MDA 423 User Experience Units: 4
- PSYC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 units required)

Note:

**Requires COMM 301Lg.*
***Requires DES 302.*

Minimum Units Required: 20

International Relations

The Department of Political Science and International Relations offers: a BA in International Relations; a BA in International Relations (Global Business); a BA in International Relations and the Global Economy; and a BA in Intelligence and Cyber Operations. The department also offers minors in international relations, global communication, and international policy and management.

The international relations major encourages undergraduate double majors, especially with economics, environmental studies, geography, history, journalism, political science and sociology. Programs are flexible, allowing students to gain a broad background in international studies and, at the same time, to specialize in a particular area.

Center for International and Public Affairs, CPA 330
(213) 740-6278; 740-2136
FAX: (213) 821-4424
Email: poir@usc.edu
Chair: Ange-Marie Hancock-Alfaro, PhD
Faculty: see Political Science and International Relations

Advisement

Advisement is required for all majors and minors. Students are encouraged to meet with International Relations advisers at least once a semester to review the direction of their individual programs. Students are also encouraged to seek the advisement of faculty members whose specializations are appropriate to their programs of study.

Academic Specialization

Students majoring in international relations who wish to develop their own specialization or emphasize a particular regional area may establish with a faculty adviser, or with International Relations advisers, an academic program that will accomplish the students' objectives.

International Relations Honors Program

The department offers a two-semester honors program for outstanding undergraduate students in the junior and senior years. The organization of the course during the first semester follows the seminar model, emphasizing independent research, discussion, and oral and written reports. In the second semester, the student is required to write a thesis under the direction of a substantive faculty adviser. Students are admitted to the program after careful screening on the basis of their academic record and an interview with a prospective adviser.

Graduate Degrees

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

All graduate students are required to maintain regular contact with the graduate coordinator to assure compliance with departmental regulations.

Bachelor's Degree

Intelligence and Cyber Operations (BA)

The Bachelor of Arts in Intelligence and Cyber Operations brings scholarship in international relations together with technical expertise in information technology to prepare USC students for a rapidly emerging field of scholarly activity and professional practice. This interdisciplinary major requires 51-54 units in total: 12 at the lower-division level and 39-42 at the upper-division level.

Lower Division Required Courses (12 units)

- IR 210gw International Relations: Introductory Analysis Units: 4
- ITP 125L From Hackers to CEOs: Introduction to Information Security Units: 2
- ITP 115 Programming in Python Units: 2

  or
- ITP 165 Introduction to C++ Programming Units: 2
- IR 213 The Global Economy Units: 4

  or
- ECON 203g Principles of Microeconomics Units: 4

Upper Division Required Courses (14 units)

- IR 304 National Intelligence and the Shaping of Policy Units: 4
- IR 320 Technology and International Relations Units: 4
- ITP 325 Ethical Hacking and Systems Defense Units: 3
- ITP 375 Digital Forensics Units: 3

Security and Violence (4 units)

Choose one:

- IR 313 Religions and Political Violence Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 318 Violent Conflict Units: 4
- IR 319 Human Security and Humanitarian Intervention Units: 4
- IR 342 The Politics and Strategy of Weapons of Mass Destruction Units: 4
- IR 381 Introduction to International Security Units: 4
- IR 386 Terrorism and Counterterrorism Units: 4
- IR 387 Strategic Studies Units: 4

International Finance (4 units)

Choose one:

- ECON 452 International Finance Units: 4 (Prerequisite: ECON 305)
- ECON 457 Financial Markets Units: 4 (Prerequisite: ECON 303)
- IR 328 The Evolving Global Economic Architecture-Capital Mobility Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 431 Commercial and Financial Globalization-Trends, Challenges Units: 4

Cyber Law, Policy and Management (3-4 units)

Choose one:

- DSCI 429 Security and Privacy Units: 4
- ITP 370 Information Security Management Units: 3
- ITP 479 Cyber Law and Privacy Units: 3

Technical Elective (6-8 units)

Choose two:

- ITP 303 Full-Stack Web Development Units: 4
- ITP 357 Enterprise Network Design Units: 3
- ITP 365 Managing Data in C++ Units: 4
- ITP 425 Web Application Security Units: 4
- ITP 446 Cyber Breach Investigations Units: 3
- ITP 457 Network Security Units: 4
- ITP 475 Advanced Digital Forensics Units: 4

Regional Electives (8 units)

Choose two courses, each from a different category:

The Middle East

- HIST 384 Popular Culture in the Middle East Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 463 Islam and Arab Nationalism Units: 4
- MDES 340 The United States and the Middle East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4

Russia, Eastern Europe and Eurasia

- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 438 Nationalism and Ethnic Conflict after Communism Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4

East Asia

- HIST 366 The People's Republic of China Units: 4
- IR 333 China in International Affairs Units: 4
- IR 340 The Political Economy of China Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 384 Asian Security Issues Units: 4

Total Units for Major: 51-54

International Relations (BA)

The International Relations major requires a minimum of 48 units. All majors should complete IR 210gw International Relations: Introductory Analysis, IR 211g International Relations: Approaches to Research, IR 212 Historical Approaches to International Relations and IR 213 The Global Economy in their first 32 total units. The 200-level courses must be completed by the time they have completed 48 total units. The 200-level courses must be completed before attempting 400-level courses.

Four semesters of a single foreign language are required. All majors are encouraged to obtain as much foreign language training as possible either through a major or a minor in a foreign language or through a study program abroad.

Beyond IR 210, IR 211, IR 212 and IR 213, international relations majors are required to take eight additional upper-division courses. Majors must choose one course from each of the four fields: Culture, Gender and a Global Society; Foreign Policy Analysis; International Political Economy; International Politics and Security Studies. In addition, students must complete one course from Regional Studies (Europe; Russia, Eastern Europe and Eurasia; Latin America; the Middle East and Africa; or Pacific Rim). Finally, students must complete one 400-level course of their choice. Students are encouraged to explore different professional career options within international relations by enrolling in IR 391 Directed International Relations Field Study, a 2-unit course that can be repeated for major credit. Students may receive both general education credit and major credit for the same course.

Culture, Gender and Global Society

This field explores identities and interests shaping the politics of intellectual global society.

- IR 303 Leadership and Diplomacy Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 306 International Organizations Units: 4
- IR 309 Global Governance Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 311 Research Design and Methods Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 339 Public Health and International Relations Units: 4
- IR 344 The Global South in World Politics Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 403 Transnational Diplomacy and Global Security Units: 4
- IR 404 International Relations Policy Task Force Units: 4
- IR 406 Ethics and World Politics Units: 4
- IR 422 Ecological Security and Global Politics Units: 4
- IR 424w Citizenship and Migration in International Politics Units: 4

- IR 437 Comparative Genocide Units: 4
- IR 438 Nationalism and Ethnic Conflict after Communism Units: 4
- IR 444w Theories of Global Society Units: 4
- IR 449 International Courts and the Globalization of Law Units: 4
- IR 463 Islam and Arab Nationalism Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- POSC 456 Women in International Development Units: 4
- PPD 382 International Development Units: 4
- SOCI 335 Society and Population Units: 4
- SOCI 435m Women in Society Units: 4
- SOCI 445 Political and Social Theory Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Foreign Policy Analysis

This area examines the external relations of states, particularly the domestic and international factors that influence the formulation and implementation of national foreign policies. Factors within states (leadership, small group dynamics and domestic lobbying groups) and factors between states are stressed.

- IR 303 Leadership and Diplomacy Units: 4
- IR 311 Research Design and Methods Units: 4
- IR 341 Foreign Policy Analysis Units: 4
- IR 342 The Politics and Strategy of Weapons of Mass Destruction Units: 4
- IR 343 U.S. Foreign Policy since World War II Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 368 French Foreign Policy: 1945 to the Present Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 403 Transnational Diplomacy and Global Security Units: 4
- IR 410 The History of Modern International Relations Units: 4
- IR 440 America's Pacific Century: Dialogues between the U.S. and Asia Units: 4
- IR 441 Comparative Analysis of Foreign Policy Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- IR 443 Formulation of U.S. Foreign Policy Units: 4
- IR 445 U.S. Defense and Foreign Policy: Nonproliferation and Weapons of Mass Destruction Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 484 American Religion, Foreign Policy and the News Media Units: 4

International Political Economy

These courses focus on what used to be considered "low" politics, but which have become key issues. Money, trade, investment, development, the environment, law and foreign economic policy are examined.

- IR 308w Economic Globalization Units: 4
- IR 309 Global Governance Units: 4
- IR 311 Research Design and Methods Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 328 The Evolving Global Economic Architecture-Capital Mobility Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 331 The Global Economy 2040 Units: 4
- IR 349 International Law and Politics Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 428 China's Political Economy Units: 4
- IR 430 The Politics of International Trade Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 449 International Courts and the Globalization of Law Units: 4
- IR 454 The International Political Economy of Development Units: 4
- ECON 450 International Trade Units: 4
- ECON 452 International Finance Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4

International Politics and Security Studies

War and peace are at the heart of relations among nations. These courses investigate defense analysis, arms control, peace-building and strategic studies. The domestic, technological and international factors influencing defense and arms control policies and negotiations are considered. The World Wars, Korea, Vietnam and the numerous crises of the Cold War are the backdrop in these courses.

- IR 302 International Relations of the Great Powers in the Late 19th and 20th Centuries Units: 4
- IR 303 Leadership and Diplomacy Units: 4
- IR 304 National Intelligence and the Shaping of Policy Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 311 Research Design and Methods Units: 4
- IR 313 Religions and Political Violence Units: 4
- IR 318 Violent Conflict Units: 4
- IR 342 The Politics and Strategy of Weapons of Mass Destruction Units: 4
- IR 381 Introduction to International Security Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 383 Conflict Mediation & Negotiation Units: 4
- IR 384 Asian Security Issues Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 386 Terrorism and Counterterrorism Units: 4
- IR 387 Strategic Studies Units: 4
- IR 402 Theories of War Units: 4
- IR 403 Transnational Diplomacy and Global Security Units: 4
- IR 404 International Relations Policy Task Force Units: 4
- IR 410 The History of Modern International Relations Units: 4
- IR 422 Ecological Security and Global Politics Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 437 Comparative Genocide Units: 4
- IR 445 U.S. Defense and Foreign Policy: Nonproliferation and Weapons of Mass Destruction Units: 4
- IR 483 War and Diplomacy: The U.S. in World Affairs Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- POSC 448a The Politics of Peace Units: 4
- POSC 448b The Politics of Peace Units: 4

Regional Studies

The regional studies field focuses on geographic regions, such as the Pacific Rim, Latin America, Europe, the Middle East and Africa. These courses test general theories of international relations within the framework of a specific region. The economic, political, ethnic and social history of a region are examined to help explain current developments and interstate and domestic policies and issues within a region.

Europe:

- IR 368 French Foreign Policy: 1945 to the Present Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 389 Islam in France Units: 4

- IR 468 European Integration Units: 4
- FREN 410 Actualités Françaises Units: 4
- GERM 465 Germany East and West Units: 4
- HIST 312 The Age of the French Revolution and Napoleon Units: 4
- HIST 313 France and the French from Napoleon to Mitterand Units: 4
- HIST 332 British Empire from the Mid-19th Century Units: 4
- HIST 414 Contemporary Europe Units: 4
- HIST 422 European Intellectual and Cultural History: The 20th Century, 1920 to the Present Units: 4
- HIST 425 The Era of the First World War Units: 4
- HIST 427 The German Question: Nation and Identity in Modern Central Europe Units: 4
- POSC 370 European Political Thought I Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 463 European Politics Units: 4
- SPAN 320 Politics, Thought, Society Units: 4
- SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages Units: 4

Russia, Eastern Europe and Eurasia:

- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 438 Nationalism and Ethnic Conflict after Communism Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- HIST 416 History of Imperial Russia: 1689–1917 Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4

Latin America:

- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 366 Mexico and its Relations with the United States Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 374 History of Mexico Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- SPAN 320 Politics, Thought, Society Units: 4

The Middle East and Africa:

- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 463 Islam and Arab Nationalism Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 480 Seminar in Middle East History Units: 4
- POSC 351 Middle East Politics Units: 4
- POSC 358 Politics of Sub-Sahara Africa Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4

Pacific Rim:

- IR 333 China in International Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 376 U.S.-Japan Encounters: War, Trade, and Culture Units: 4
- IR 384 Asian Security Issues Units: 4
- IR 440 America's Pacific Century: Dialogues between the U.S. and Asia Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- ANTH 323 Southeast Asian Cultures Today: Globalization and Multiple Modernities Units: 4
- ANTH 324gw Contemporary China: Cultural Politics and Social Realities Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 345 Korean Civilization Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- EASC 360 Global East Asia Units: 4
- ECON 343 Economic Development of East Asia Units: 4
- HIST 333 Korea: The Modern Transformation Units: 4
- HIST 337 Japan since 1945 Units: 4
- HIST 340 History of China since 1800 Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 355 Politics of East Asia Units: 4
- POSC 356 Politics in the People's Republic of China Units: 4
- POSC 377 Asian Political Thought Units: 4
- POSC 453 Political Change in Asia Units: 4

International Relations (Global Business) (BA)

The BA in International Relations with an emphasis in Global Business will give students the opportunity to pursue a degree in international relations and acquire specific skills in one of three concentrations in international business: international finance, global marketing or global management. Students who have earned a GPA of 3.0 or above and a "B" average in IR 210 International Relations: Introductory Analysis and a second 300-level or above IR course are eligible to apply during their sophomore year.

The degree cannot also be combined as an additional major in any business administration degree. The degree is administered by the School of International Relations.

In addition to the IR requirements, students need to complete the following prerequisite courses:

before they can begin this program.

- ECON 203g Principles of Microeconomics Units: 4 or
- ECON 351x Microeconomics for Business Units: 4

- ECON 205g Principles of Macroeconomics Units: 4 or
- ECON 352x Macroeconomics for Business Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

The international relations course work consists of 28 units:

- IR 210gw International Relations: Introductory Analysis Units: 4
- a regional course
- a 400-level course
- an international political economy course
- and three upper-division electives

International Political Economy Course

- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 328 The Evolving Global Economic Architecture-Capital Mobility Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 331 The Global Economy 2040 Units: 4

Course work at the USC Marshall School of Business consists of

- ACCT 410x Foundations of Accounting Units: 4
- BUAD 310g Applied Business Statistics Units: 4

or

- ECON 317 Introduction to Statistics for Economists Units: 4

and

16 units in the respective areas of concentration

International Finance:

- BUAD 215x Foundations of Business Finance Units: 4

and 3 of the following options:

- FBE 402 Government and Business Units: 4
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- FBE 421 Financial Analysis and Valuation Units: 4
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4
- FBE 429 International Business Law Units: 4
- FBE 431 Financial Policies and Corporate Governance Units: 4
- FBE 432 Corporate Financial Strategy Units: 4
- FBE 436 Financial Management of Multinational Corporations Units: 4
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4
- FBE 440 Trading and Exchanges Units: 4
- FBE 441 Investments Units: 4
- FBE 443 Introduction to Forecasting and Risk Analysis Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4
- FBE 459 Financial Derivatives Units: 4
- FBE 460 Mergers, Acquisitions and Restructuring Units: 4
- FBE 462 International Trade, Finance and Commercial Policy Units: 4

Global Marketing:

- BUAD 307 Marketing Fundamentals Units: 4

and 3 of the following options

- MKT 402 Introduction to Marketing Analytics Units: 4
- MKT 405 Advertising and Promotion Management Units: 4
- MKT 410 Professional Selling Units: 4
- MKT 425 Marketing in a Digital World Units: 4
- MKT 440 Marketing Analysis and Strategy Units: 4
- MKT 445 New Product Development and Branding Units: 4
- MKT 450 Consumer Behavior and Marketing Units: 4
- MKT 465 Global Marketing Management Units: 4

Global Management:

- BUAD 304 Organizational Behavior and Leadership Units: 4

and 3 of the following options

- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 451 Mastering Decision Making Units: 4
- MOR 461 Design of Effective Organizations Units: 4
- MOR 462 Management Consulting Units: 4
- MOR 463 Organization Change and Development Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4
- MOR 467 Strategic Management of Innovation Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 470 Global Leadership Units: 4
- MOR 471 Managing and Developing People Units: 4
- MOR 472 Power, Politics and Influence Units: 4
- MOR 473 Designing and Leading Teams Units: 4
- MOR 492 Global Strategy Units: 4

International Relations and the Global Economy (BA)

The BA in International Relations and the Global Economy (IRGE) offers students rigorous interdisciplinary training at the intersection of international relations and economics. The major prepares students for careers ranging from foreign policy and international development to international finance and political risk analysis. It is also ideally suited for students who plan to seek advanced degrees in the social sciences.

The degree cannot also be combined as an additional major with any economics degree. The degree is administered by the School of International Relations.

Lower-Division Courses

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 * or
- MATH 125g Calculus I Units: 4 *

Core Skills and Issues

- ECON 303 Intermediate Microeconomic Theory Units: 4
- ECON 305 Intermediate Macroeconomic Theory Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4
- IR 330 Politics of the World Economy Units: 4

Choose two courses (8 units):

- ECON 318 Introduction to Econometrics Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 327 International Negotiation Units: 4
- IR 328 The Evolving Global Economic Architecture-Capital Mobility Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 331 The Global Economy 2040 Units: 4

Regional Study

Choose one course (4 units):

- ECON 340 Economics of Less Developed Countries Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- ECON 343 Economic Development of East Asia Units: 4
- ECON 344 Economic Development of Sub-Saharan Africa Units: 4
- ECON 346 Economics of Transition and Development: China Units: 4
- IR 317 The Political Economy of Africa Units: 4
- IR 340 The Political Economy of China Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 428 China's Political Economy Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- POSC 435 Politics and the Economy Units: 4
- POSC 451 Politics of Resources and Development Units: 4

Senior Emphasis

Choose one course (4 units):

- ECON 404 Games and Economics Units: 4
- ECON 415 Behavioral Economics Units: 4
- ECON 450 International Trade Units: 4 (prerequisite: ECON 303)
- ECON 452 International Finance Units: 4
- ECON 457 Financial Markets Units: 4
- ECON 474 Economic Consulting and Applied Managerial Economics Units: 4
- ECON 487 Resource and Environmental Economics Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 427 Seminar on Economics and Security Units: 4

- IR 430 The Politics of International Trade Units: 4
- IR 454 The International Political Economy of Development Units: 4
- IR 455 The Political Economy of Autocracy Units: 4

Total: 12 courses, 48 units

**Prerequisite required*

Minor

Global Communication Minor

The rise of global firms and international changes that followed the end of the cold war raise new opportunities and challenges. This minor provides students from fields such as business, journalism, engineering and political science an understanding of the dynamic nature of global relations, communications and technology. The global communication minor consists of six 4-unit courses, three from International Relations and three from Communication.

Required International Relations Course

- IR 305w Managing New Global Problems Units: 4

International Relations Regional Courses (Select One)

- IR 303 Leadership and Diplomacy Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4 (departmental approval)
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 327 International Negotiation Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 333 China in International Affairs Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 368 French Foreign Policy: 1945 to the Present Units: 4 (offered in Paris only)
- IR 369 Post-War European Relations Units: 4
- IR 383 Conflict Mediation & Negotiation Units: 4
- IR 384 Asian Security Issues Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 403 Transnational Diplomacy and Global Security Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- IR 468 European Integration Units: 4

IR Elective

Select one 300- or 400-level IR course

Required Communication Course

- COMM 487 Communication and Global Organizations Units: 4

Communication Electives (Select Two)

- COMM 324mw Intercultural Communication Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 371 Media Censorship and the Law Units: 4
- COMM 385 Organizational Communication Units: 4
- COMM 414 Communication and Social Change in China Units: 4
- COMM 430 Global Entertainment Units: 4 (Prerequisite: COMM 300)
- COMM 431 Global Strategy for the Communications Industry Units: 4

Total units: 24

International Policy and Management Minor

The minor in international policy and management brings together courses from the School of International Relations, dealing with the new global challenges, specific regions of the world and international organizations and policies, and the USC Price School of Public Policy dealing with core management skills and public policy processes. Students will gain an understanding of the changes and challenges transforming the world and a taste of the policy and management skills to deal with them. To increase their understanding of the context and application of these concepts, students must complete a semester-long internship either in Washington, D.C. or Los Angeles with an organization that has an international focus.

Students take three courses in international relations, including the gateway course, IR 305w Managing New Global Problems, three courses in public policy and management, and an approved internship through the School of International Relations (IR 491x).

Required Courses from International Relations:

- IR 305w Managing New Global Problems Units: 4

One regional course selected from:

- IR 333 China in International Affairs Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 358 The Asia Pacific in World Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 383 Conflict Mediation & Negotiation Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- IR 468 European Integration Units: 4

One course from either the regional course list or the following:

- IR 306 International Organizations Units: 4
- IR 307 Contemporary International Politics Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 318 Violent Conflict Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 327 International Negotiation Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 341 Foreign Policy Analysis Units: 4
- IR 343 U.S. Foreign Policy since World War II Units: 4
- IR 344 The Global South in World Politics Units: 4
- IR 381 Introduction to International Security Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 441 Comparative Analysis of Foreign Policy Units: 4
- IR 444w Theories of Global Society Units: 4

From Public Policy:

The public policy component requires the completion of the following three options:

- PPD 225 Public Policy and Management Units: 4

Two additional courses from the following:

- PPD 357 Government and Business Units: 4
- PPD 371 The Nonprofit Sector and the Public Interest Units: 4
- PPD 373 Public Policy and Planning Analysis Units: 4

- PPD 476 Politics and Administration Units: 4
- PPD 482 Comparative Public Administration Units: 4

Or from Public Management:

- PPD 402 Management of Public and Nonprofit Organizations Units: 4

Two additional courses from the following:

- PPD 313 Finance of the Public Sector Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 411a Sacramento Semester Units: 4
- PPD 476 Politics and Administration Units: 4

Additional Requirements

Internship

Each student is required to complete an approved internship with an international focus. Students take a 2-unit internship through the School of International Relations (IR 491).

International Relations Minor

The minor in international relations allows students to develop a specialty in the field without a full major. Requirements are: IR 210gw International Relations: Introductory Analysis and four upper-division courses including at least one regional course and one 400-level course. Students planning to minor in international relations should see the School of International Relations advisers in Von KleinSmid Center 301.

Master's Degree

International Relations (MA)

Requirements

Students who have the degree objective of joint MA programs (Master of Arts, International Relations/Juris Doctor; Master of Arts, International Relations/Master of Planning; and Master of Arts, International Relations/Master of Public Administration) must apply for an MA in International Relations. Students pursuing these joint programs must refer to the specific course requirements outlined for each program.

Advisement

Students should consult with the school's faculty adviser each semester before registering for courses for the next semester. Students also are encouraged to seek advice from other faculty who work in areas related to their interests. Students may, if they wish and if a faculty member agrees, select a different faculty adviser from among the school's faculty. Consult with and inform the Office of Student Affairs regarding changes in faculty advisers.

Joint Educational Project

JEP House
801 W. 34th St.
(213) 740-1837
FAX: (213) 740-1825
Email: jephouse@usc.edu
dornsife.usc.edu/jep
Executive Director: Susan Harris

The Joint Educational Project (JEP) is one of the oldest and largest service-learning programs in the United States. Established in 1972, JEP places university students in supervised community service assignments as a part of their academic course work. JEP partners with more than 50 local organizations — including neighborhood schools, non-profit organizations, hospitals and health clinics and government agencies — to design service-learning projects that complement students' course work and address a community-identified need. Students serve in many capacities through JEP, including as a tutor, mentor, teaching assistant, translator, research assistant or guide. JEP also houses volunteer programs for pre-law and pre-med students — the Pre-Law Project and Trojan Health Volunteers — that give USC students practical experience in a legal or medical context. All JEP students learn how to develop and apply knowledge, work in diverse social settings, become engaged in civic affairs, explore possible career paths and make professional contacts. "JEP" following a section number indicates that the professor will offer JEP as a course option; a complete list of courses is available on JEP's website.

JEP also houses the USC Readers^{PLUS} work-study program. "Readers" assist K-5 children in USC's "Family of Schools" in the areas of math and reading, allowing the USC students the opportunity to serve in the community while gaining work experience in an urban school environment. JEP also hosts several Science, Technology, Engineering and Math (STEM) programs for elementary school children. These include the Young Scientists Program, the Medical STEM program and WonderKids—all of which employ USC students to provide STEM educational outreach for children attending partner schools.

Jewish Studies

Jewish Studies is offered by the Louchheim School for Judaic Studies, administrated by Hebrew Union College-Jewish Institute of Religion in coordination with USC Dornsife's School of Religion. Students registering for classes in the program do so through the regular USC registration process and receive USC course credit and degrees. Hebrew courses may be used to fulfill graduation requirements in a foreign language. Courses that meet humanities general education requirements may be used as electives or may be used for major or minor credit with the approval of an adviser.

Louchheim School for Judaic Studies
HUC-JIR
3077 University Ave.
Los Angeles, CA 90007
(213) 765-2113
FAX: (213) 747-6128
Email: louchheim@huc.edu, hochman@usc.edu
dornsife.usc.edu/jewishstudies
Chair: Leah Hochman, PhD

Faculty
Professors: Sarah Benor, PhD; Reuven Firestone, PhD; Joshua Garroway, PhD; Bruce Phillips, PhD; Dvora Weisberg, PhD
Associate Professors: Leah Hochman, PhD; Joshua Holo, PhD
Visiting Assistant Professors: Kristine Garroway, PhD; Candice Levy, PhD
Adjunct Associate Professor: Yaffa Weisman, PhD
Hebrew Language Coordinator: Hagit Arieli-Chai, MAEd

Bachelor of Arts in Jewish Studies

Program requirements are listed in this catalogue under Religion.

Bachelor of Arts in Middle East Studies

See the Department of Middle East Studies for a complete listing of requirements.

Minor in Middle East Studies

See the Department of Middle East Studies.

Jewish Studies Minor

See Religion for a listing of requirements.

Jewish Studies Graduate Certificate

See Religion for program requirements.

Minor

Jewish American Studies Minor (Jewish Studies)

The minor in Jewish American Studies offers the opportunity to study the experiences and cultures of the American Jewish community in relation to those of other American peoples. For the minor, 20 units of American Studies and Judaic Studies are required.

Core Requirements

- AMST 202m Interethnic Diversity in the West Units: 4
- JS 300 American Jewish History Units: 4

Three courses from the following:

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era Units: 4
- JS 381 The Jew in American Society Units: 4
- JS 382 Judaism as an American Religion Units: 4
- JS 383 Jews in American Popular Culture Units: 4
- JS 415 The American Jewish Experience in Film Units: 4

Judaic Studies Minor

The minor in Judaic Studies provides the opportunity for in-depth study of Jewish history, literature, politics, culture, religion, sociology and gender studies using approaches developed through multidisciplinary approaches. Courses offered cover a broad time span — the ancient Near East to contemporary America — and they challenge and stimulate students to examine and learn about Jewish culture as a topic of scientific interest.

For the minor, 20 units in Judaic Studies and Religion are required. The following courses are required: REL 301 and JS 180. Three additional courses may be chosen from among JS 321, JS 340, JS 361, JS 375, JS 382, JS 383, JS 415 and REL 312. Successful completion of five 4-unit courses or the equivalent in Jewish American Studies is required to qualify for the minor.

Latin American and Iberian Cultures

The Department of Latin American and Iberian Cultures offers two majors (Spanish; and Latin American and Iberian Cultures, Media and Politics) and three minors (Spanish, Luso-Brazilian Studies and Latin American Studies). Our programs emphasize the languages and cultures of Latin America and the Iberian Peninsula.

With an intellectual and pedagogical commitment to cultural differences and interdisciplinarity, the undergraduate program actively explores various social, theoretical, political or historical aspects of Latin American and Iberian cultures, including literature, folklore, cinema, art, music, food and architecture. Students are critically challenged and encouraged to consider and reconsider a number of important issues including: the growing importance of popular culture in the Iberian Peninsula and Latin America; the role of race, ethnicity, class, gender, and sexuality within Iberian and Latin American societies.

The department encourages students with a wide range of interests to combine a Spanish major with a double major or minor in another discipline either within the USC Dornsife College of Letters, Arts and Sciences or other schools at USC. Students will work closely with a group of engaged scholars who are committed to bringing their cutting-edge research to the classroom and to preparing students as global citizens. Faculty undergraduate advisers are available to help provide information and assistance to students wishing to explore these various options.

The department also offers basic language instruction in both Spanish and Portuguese through which students can satisfy their foreign language requirement.

Taper Hall of Humanities 156
(213) 740-1258
FAX: (213) 740-9463
Email: spanish@dornsife.usc.edu
dornsife.usc.edu/spanish
Chair: Samuel Steinberg, PhD
Faculty
Professors: Erin Graff Zivin, PhD*; Julian Daniel Gutierrez-Albilla, PhD; Sherry Marie Velasco, PhD*
Associate Professors: Roberto Ignacio Díaz, PhD*; Laura Serna, PhD *(Cinematic Arts)*; Samuel Steinberg, PhD
Assistant Professors: Natalie Belisle, PhD; Ronald Mendoza-de Jesús, PhD; Natalia Peréz, PhD
Associate Professors (Teaching): Marianna Chodorowska, PhD; Maura Crowley, PhD; Gayle Fiedler Vierma, PhD; Ivette M. Gómez, PhD; Anahit Hakoupian, PhD; Ellen Oliveira, PhD; Andrea Parra, PhD; Sarah Portnoy, PhD; Goretti Prietto Botana, PhD; Consuelo Siguenza-Ortiz, PhD; Liana Stepanyan, PhD; David Zarazúa, PhD
Assistant Professors (Teaching): Carolina Castillo Larrea, PhD; Jaclyn Cohen-Steinberg, PhD; Marie Enright, PhD; Jamie Fudacz, PhD; Leah Kemp, PhD; Lori Mesrobian, PhD; Martin Ocon-Gamarra, PhD; Karen Peréz, PhD
Master Lecturers: Lorena Gallego, MA; Vianey Cabrera, MA
Senior Lecturer: Maria Fages Agudo
Emeritus: Ana Teresa Martinez-Sequeira, PhD; Carmen Silva-Corvalán, PhD*
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

General Information

Spanish Language Proficiency Examination

Students with previous exposure to Spanish are required to take a placement test, administered by the Dornsife Language Center. Students with no record of previous exposure to Spanish are not required to take the placement examination and should contact the department for assistance.

Courses in Spanish

All courses at the 200, 300 and 400 levels are conducted in Spanish unless otherwise noted in the course descriptions that follow. Courses are kept small to allow for maximum interaction between students and professors.

Advisement

A college undergraduate adviser is assigned to provide academic advisement prior to registration and throughout the academic year.

Honors Program

The BA in Spanish with Honors is available to students who have a GPA of at least 3.5 in courses counted for major credit and an overall GPA of 3.0 (by the time of graduation). Desire to complete the major with honors typically should be approved by a department faculty member no later than the second semester of the junior year. To complete the honors program the student must write an honors thesis in Spanish in conjunction with a 400-level course. The thesis, in the range of 25–30 pages (6,250–7,500 words), must be endorsed by a departmental honors committee by April 1 of the senior year.

Spanish Undergraduate Students Association (SUSA)

Students majoring or minoring in Spanish are eligible to join SUSA, the Spanish Undergraduate Students Association. Each year SUSA sponsors a variety of activities which enrich the cultural, intellectual and academic experience of the undergraduate student.

Graduate Degrees

The MA and PhD, Comparative Studies in Literature and Culture (Spanish and Latin American Studies) are offered through the Comparative Studies in Literature and Culture program.

Certificate in Foreign Language Teaching

The Certificate in Foreign Language Teaching provides certification in the theory and practice of second or foreign language teaching for student language teachers concurrently enrolled in graduate degree programs in foreign languages or related graduate programs at USC; for graduates of such programs who are teaching languages; for external candidates concurrently enrolled in similar programs in accredited colleges or universities; or for graduates of such programs who are teaching languages. The certificate is meant to supplement graduate study in the literature or linguistics of foreign languages. It is also meant to supplement classroom teaching. Therefore all candidates for this certificate are required to have taught a second or foreign language for at least one academic year at USC or elsewhere. At USC, this requirement and the course work requirements can be fulfilled concurrently, but external candidates are required to show proof of such teaching experience as a condition of admission.

In addition to teaching, certificate candidates must complete a minimum of four courses (minimum of 12 units) in four areas of study — linguistics, language acquisition, language teaching methodology, and the teaching of literacy or the literature or culture of a second or foreign language.

Requirements for Completion

The program consists of a practicum and a minimum of four courses: one each in linguistics, language acquisition, language teaching methods, and the teaching of literacy, literature or culture.

Linguistics: (minimum of 3 units) LING 411x Linguistics and Education or, with permission of instructor, an appropriate course in the linguistics of a particular language

Language Acquisition: (minimum of 3 units) LING 527 Second Language Acquisition or an appropriate alternative course

Language Teaching Methods: (minimum of 3 units) MDA 593 Practicum in Teaching the Liberal Arts or EALC 562 Teaching of the East Asian Languages or SPAN 511 Techniques and Procedures of Teaching Spanish as a Second Language or an appropriate alternative course

Literacy/Literature/Culture: (minimum of 3 units) An appropriate course in teaching of the literature or culture of a particular language

Bachelor's Degree

Latin American and Iberian Cultures, Media and Politics

The major in Latin American and Iberian Cultures, Media and Politics underscores the global reach and import of the nations in the Americas, Europe and Africa in which Spanish and Portuguese are spoken. By focusing on the study of language, literature and cinema as well other disciplines in the humanities and social sciences, students learn to think critically about the cultural, political, and historical questions involved in the study of Latin American and Iberian societies.

Lower Division Courses

Majors and minors may request a waiver of SPAN 260 if they meet one of the following prerequisites: a) a score of 5 on the Spanish language or literature advanced placement (AP) exam; b) a score of 6 or 7 on the Spanish International Baccalaureate Higher-Level exam (IBHL); c) a score of 800 in the Spanish SAT subject exam; or d) they can demonstrate advanced proficiency in spoken and written Spanish. Departmental approval is required in every case. Majors and minors to whom a waiver of SPAN 260 has been granted take five upper division courses (see below).

- SPAN 260 Advanced Spanish: Arts and Sciences Units: 4
- SPAN 290gp Introduction to Latin American and Iberian Studies Units: 4

Upper Division Spanish and Portuguese Courses

Choose four of the following courses, including at least one 400-level course. Majors and minors to whom a waiver of SPAN 260 has been granted (see above) must take five upper division courses.

- PORT 300 Introduction to Social and Literary Studies Units: 4
- PORT 302 Introduction to Brazilian Literature Units: 4
- PORT 342 Brazilian Cinema Units: 4
- PORT 390 Special Problems Units: 1, 2, 3, 4 *
- SPAN 301 Introduction to Literature and Film Units: 4
- SPAN 302 Screen Cultures: From Film to the Internet Units: 4
- SPAN 304 The Art of Fiction Units: 4
- SPAN 306 Performance from Street to Stage Units: 4
- SPAN 308 The Art of Poetry Units: 4
- SPAN 311 Advanced Spanish Through Contemporary Issues: Oral Emphasis Units: 4
- SPAN 320 Politics, Thought, Society Units: 4
- SPAN 321 Sounds, Images, Objects Units: 4
- SPAN 341 Advanced Conversation and Culture Units: 4
- SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages Units: 4
- SPAN 352 The Transatlantic Golden Age: New Worlds Real and Imagined Units: 4
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4
- SPAN 373 Modern and Postmodern Spanish Fiction Units: 4
- SPAN 375 Latin American Cultural and Literary Theory Units: 4
- SPAN 380g Literature of Mexico Units: 4
- SPAN 381 Narco-World Units: 4
- SPAN 382 The Aesthetics of Violence in Latin America Units: 4
- SPAN 385 The Culture of Food in Hispanic Los Angeles Units: 4
- SPAN 390 Special Problems Units: 1, 2, 3, 4 *
- SPAN 391 Introduction to Contemporary Spanish Literature (USC Madrid Center) Units: 4
- SPAN 405 History of the Spanish and Portuguese Languages Units: 4
- SPAN 413m Social and Geographic Varieties of Spanish Units: 4
- SPAN 455 Picaresque Itineraries: Empire and Its Discontents Units: 4
- SPAN 460 Don Quijote: Text and Film Units: 4
- SPAN 462 Literary Cartographies of Latin America and Spain, 1810–1898 Units: 4
- SPAN 464 Introduction to Contemporary Spanish Theatre Units: 4
- SPAN 465 Cultural Perspectives of the Iberian Peninsula Units: 4
- SPAN 466 Argentina, Society and the Arts Units: 4
- SPAN 469 Immigration in Spain Units: 4
- SPAN 470 Literature and Media in Latin America Units: 4
- SPAN 471 Postdictatorship Spanish and Latin American Cinema Units: 4
- SPAN 472 The Sixties in Latin America Units: 4
- SPAN 481 Literature and Popular Culture Units: 4
- SPAN 482 Literature and the City Units: 4
- SPAN 483 Gender and Sexuality Units: 4
- SPAN 484 Studies in Visual and Material Culture Units: 4
- SPAN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 *

- SPAN 495 Seminar for Majors and Minors Units: 4
- SPAN 499 Special Topics Units: 2, 3, 4 *

Note:

*Four units required.

Elective Courses

Choose three of the following courses, including at least two 300- or 400-level courses. Other courses, including courses in other departments, may be chosen in consultation with faculty adviser.

- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128gp Arts of Latin America Units: 4
- AHIS 318 Arts of the Ancient Andes Units: 4
- AHIS 319 Mesoamerican Art and Culture Units: 4
- AHIS 328 Colonial Latin American Art Units: 4
- AHIS 428 Studies in Colonial Latin American Art Units: 4
- AHIS 496 Paintings in the Prado Museum Units: 4
- AMST 135gmw Peoples and Cultures of the Americas Units: 4
- AMST 305 Art and Performance in the Americas Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- ANTH 310 Archaeology of the Americas Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 400 Maya Resilience: Constructing Past and Present Identities Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- ANTH 450 Field Research in Maya Archaeology Units: 4
- COLT 250g Cultures of Latin America Units: 4
- HIST 273g Colonial Latin America Units: 4
- HIST 353m Race and Racism in the Americas Units: 4
- HIST 369 History of the Indigenous Peoples in the Americas Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 371 Culture in Diaspora: The Jews of Spain Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 374 History of Mexico Units: 4
- HIST 451 The Mexican Revolution Units: 4
- HIST 473 Colonial Latin America Seminar Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 366 Mexico and its Relations with the United States Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4
- PORT 250g Visions of Brazil Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- REL 334g Religion and Colonial Encounter Units: 4

Spanish (BA)

Required Course - Lower Division (4 Units)*

- SPAN 260 Advanced Spanish: Arts and Sciences Units: 4

Required Courses - Upper Division

Four of the following courses (16 Units):

- SPAN 301 Introduction to Literature and Film Units: 4
- SPAN 310 Structure of Spanish Units: 4
- One other SPAN literature, culture, film course Units: 4
- One 400-level SPAN course Units: 4

Electives (16 units):

Four other upper-division SPAN courses.

Note:

** Majors and minors may request a waiver of SPAN 260 if they meet one or more of the following prerequisites: a) a score of 5 on the Spanish language or literature advanced placement (AP) exam; b) a score of 6 or 7 on the Spanish International Baccalaureate Higher-Level exam (IBHL); c) a score of 800 in the Spanish SAT subject exam; or d) demonstrate advanced proficiency in spoken and written Spanish. Departmental approval is required in every case.*

Minor

Latin American Studies Minor

The Latin American Studies minor recognizes the lasting importance of U.S.-Latin American relations. The overriding goal is to encourage students to learn more about Latin America by combining conceptual, area and language studies during their time at USC. The purpose of this 20-unit minor is to deepen students' knowledge of Latin America by offering courses from multiple disciplines within a context of close faculty guidance. The gateway requirement of one 4-unit course provides the student with options in both humanities and the social sciences, and the designated electives are similarly meant to allow students to blend these specialties.

For fulfillment of the requirements for the minor a student must choose four classes outside of his or her major department dedicated exclusively to the minor (which may be the same four classes). After the gateway course, these elective courses must be spread across at least two disciplines and/or departments.

Required Courses

One of the following 4-unit gateway introductory courses:

- COLT 250g Cultures of Latin America Units: 4
- HIST 273g Colonial Latin America Units: 4
- HIST 372 Modern Latin America Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- POSC 350 Politics of Latin America Units: 4

Note:

If the student has chosen a lower-division (100- or 200-level) course among the introductory choices, all area electives must be at the upper-division (300- or 400-) level.

Elective Requirements

Four courses (16 units) from the following list:

- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128gp Arts of Latin America Units: 4
- AHIS 318 Arts of the Ancient Andes Units: 4
- AHIS 319 Mesoamerican Art and Culture Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- COLT 250g Cultures of Latin America Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 371 Culture in Diaspora: The Jews of Spain Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 374 History of Mexico Units: 4
- HIST 451 The Mexican Revolution Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- HIST 473 Colonial Latin America Seminar Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 408 Global Democratization Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 454 The International Political Economy of Development Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4

- PORT 250g Visions of Brazil Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- SPAN 320 Politics, Thought, Society Units: 4
- SPAN 321 Sounds, Images, Objects Units: 4
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4
- SPAN 462 Literary Cartographies of Latin America and Spain, 1810–1898 Units: 4
- SPAN 495 Seminar for Majors and Minors Units: 4

Luso-Brazilian Studies Minor

The Luso-Brazilian Studies minor offers students the opportunity to further the study of the Portuguese language and take significant steps toward its mastery both as a richly layered expressive tool in the contexts of literary and cultural analysis and in the interpretation and articulation of critical thinking, as well as a highly effective instrument tailored to the practical needs of business interactions in a world that is increasingly more diverse and globalized.

Building on a solid basis of four semesters of Portuguese language (or equivalent), which serves as a prerequisite for the Luso-Brazilian Studies minor, students will have the opportunity to choose from a rich selection of core courses spanning cultural, literary and social aspects of the Portuguese-speaking world, as well as Portuguese applied to the context of professions. In addition to the core offerings, students will be able to choose from a wide array of electives in order to fulfill the required number of units for the Luso-Brazilian Studies minor, as well as have the opportunity to fulfill some of the requirements in one of the exciting Study Abroad options in Brazil.

The Luso-Brazilian Studies minor will require 20 units beyond the basic language requirements.

Required Courses (8-units): select two of the following three courses

- PORT 300 Introduction to Social and Literary Studies Units: 4
- PORT 302 Introduction to Brazilian Literature Units: 4
- PORT 316 Portuguese for Business and the Professions Units: 4

Elective Courses (12-units): select three from the following list

A total of 12-units of courses should be selected with the guidance of the director of the Luso-Brazilian Studies program. The following courses are among the elective options:

- PORT 342 Brazilian Cinema Units: 4
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4
- SPAN 405 History of the Spanish and Portuguese Languages Units: 4
- SPAN 482 Literature and the City Units: 4

Note:

Study Abroad courses and courses offered by other departments at USC may also count as elective options, as long as a Portuguese-speaking country and/or the Lusophone world is among the objects of study. (The following list of courses is subject to change, according to course availability.)

- AMST 353m Race and Racism in the Americas Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4
- POSC 350 Politics of Latin America Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Spanish Minor

Required Courses

Lower-Division (4 Units)

- SPAN 260 Advanced Spanish: Arts and Sciences Units: 4

Upper-Division (20 Units)

- Any five courses at the 300 or 400 level.
- Only one section of SPAN 316x may be taken for minor credit.

Note:

Minors may request a waiver of SPAN 260 if they meet one or more of the following prerequisites: a) a score of 5 on the Spanish language or literature advanced placement (AP) exam, b) a score of 6 or 7 on the Spanish International Baccalaureate Higher-Level exam (IBHL), c) a score of 800 in the Spanish SAT subject exam or d) demonstration of advanced proficiency in spoken and written Spanish. Departmental approval is required in every case.

Learner Centered Curricula

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Collaborative Learning Projects (CLP) and Individual Programs of Study (IPOS)

A research university provides many opportunities for undergraduates to learn in settings that suit a wide variety of learning styles, talents and professional aspirations. Beyond the classroom lie opportunities for individual and collaborative research projects, creative literary work, the plastic and performing arts, service learning and internships, distance and distributive learning, overseas study and a range of other activities. To track an idea from its genesis in research to its application as the solution of a contemporary problem, students must be able to take advantage of all these learning modalities.

For that reason, the USC Dornsife College of Letters, Arts and Sciences offers two curricular structures that enable non-traditional learning experiences to be credited across institutions. In both of these options, students work with a faculty committee to create individual learning opportunities suited to their personal academic interests and professional aspirations. The first allows self-motivated, independent learners to combine resources in a particularly rich learning experience, while the second promotes collaborative learning across several aligned modalities.

Collaborative Learning Projects

The USC Dornsife College of Letters, Arts and Sciences offers a curricular construct (MDA 460) designed to promote collaborative learning. Two or more students may propose a research project or other collaborative program, with specified learning objectives; a faculty committee will review each proposal to decide if it comprises a well-conceived educational experience and determine the unit values to be awarded, either collectively or to each student who participates. Collaborative Learning Projects award only credit or no credit grades.

Individual Programs of Study

Individual Programs of Study (IPOS) allow individual students who have exhausted their options for departmental Directed

Research to design a "curriculum" of 2 to 18 units, including directed research, service learning and internships, creative artistic production and any other educational experiences that might be relevant to the proposed academic program.

An Individual Program of Study (MDA 450) might be created for an entire semester's work, including directed research, an internship and a distance learning course. Or, a more modest proposal might include 4 units of original artwork plus service learning.

Individual Programs of Study encourage students to design educational experiences that inspire them, prompting a profound engagement with a learning environment ideally suited to their individual talents. Individual Programs of Study may include a wider array of educational contexts, experiences and opportunities for nontraditional learning than are generally available for credit at most institutions of higher education. Individual Programs of Study are letter graded.

Review Process

Students who are interested in proposing either an Individual Program of Study or a Collaborative Learning Project must complete an application that includes:

1. A full description of the project, including information about all courses, internships and other academic activities that will be involved;
2. A statement explaining why these activities could not be accomplished within the context of existing course work and directed research;
3. A proposal for assessing the work that is to be completed for the project beyond that associated with graded courses;
4. The endorsement of a faculty member who will serve as sponsor for the project. This faculty member will typically lead directed research associated with the project and award the final grade for the entire project;
5. A sign-off from the student's major department is also required; and
6. The student's STARS report and transfer credit statement, if transfer courses are relevant.

These materials will be reviewed by three faculty members comprising an Independent Study Committee, which will consider the student's academic record and decide whether to allow the project, how many units to award and other relevant conditions.

Members of the Independent Study Committee are appointed for an academic year by the College Dean of Undergraduate Education in the USC Dornsife College of Letters, Arts and Sciences. This committee consults with the Registrar's Office on articulating credits. If a member of the committee wishes to serve as the sponsor for a project, the dean will appoint an alternate to serve on the committee and consider that student's proposal.

Credits count as elective units, unless individual departments choose to apply some or all of the units toward major or minor requirements. A student may count no more than 18 units toward the degree through a combination of Individual Programs of Study and Collaborative Learning Projects. Upon completion of the project, the student's transcript reads "Individual Program of Study" or "Collaborative Learning Project," with the units awarded and the titles of any courses included in the program. See Multidisciplinary Activities and MDA 450 and MDA 460 course descriptions.

Linguistics

The Linguistics Department emphasizes the study of language both as an abstract system and in its psychological and social contexts. In addition to introductory linguistics and courses in linguistic analysis, students take courses in psycholinguistics (language acquisition, processing and language disorders) and/or sociolinguistics (language and society). The undergraduate major in linguistics focuses on how the human mind structures, processes and acquires language as well as how similar communication goals are met by diverse means in the languages of the world. The major in Computational Linguistics introduces students to the emerging interdisciplinary field of Computational Linguistics, which provides the theoretical basis of many new technologies, such as speech recognition and dialog systems. Students are encouraged to pursue combined majors in Linguistics and Philosophy, Linguistics and Cognitive Science, Linguistics and East Asian Languages and Cultures, and Computational Linguistics. A linguistics minor is also available and can be combined with other majors. Please contact the department adviser for more information. The Linguistics Department also offers graduate PhD programs. A wide range of courses allows students to study syntax, morphology, phonology, semantics, phonetics, psycholinguistics, sociolinguistics, speech therapy and computational linguistics.

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Chair: Andrew Simpson, PhD*

Faculty

Niki and C.L. Max Nikias Chair in Engineering and Professor of Electrical and Computer Engineering, Computer Science, Linguistics, Psychology, Neuroscience, Pediatrics, Otolaryngology-Head and Neck Surgery: Shrikanth (Shri) S. Narayanan, PhD *(Electrical and Computer Engineering)*

Professors: Dani Byrd, PhD; Louis Goldstein, PhD; Audrey Li, PhD; Roumyana Pancheva, PhD; Barry Schein, PhD; Andrew Simpson, PhD*; Rachel Walker, PhD; Bruce Zuckerman, PhD *(Religion)*

Associate Professors: Hajime Hoji, PhD; Khalil Iskarous, PhD; Elsi Kaiser, PhD; Toben Mintz, PhD *(Psychology)*; Jason Zevin, PhD *(Psychology)*

Assistant Professors: Deniz Rudin, PhD; Stephanie Shih, PhD

Associate Professor (Teaching): Sandra Disner, PhD

Assistant Professor (Teaching): Mary Byram Washburn, PhD

Emeritus: Edward Finegan, PhD*; Stephen Krashen *(Education)*; Maria Luisa Zubizarreta, PhD

**Recipient of university-wide or college teaching award.*

Graduate Degrees

The graduate program in linguistics trains individuals to engage in the scientific study of human language. Course work emphasizes the structural aspects of language. Students work closely with faculty members on problems in linguistic theory, the description of particular languages, and variation across different users and contexts, focusing on their implications for understanding cognitive structures relating to language.

Admission Requirements

Applicants for admission to the graduate program are expected to have a bachelor's degree in linguistics or other appropriate field. Other requirements for admission include: a detailed statement of purpose with specific information about interests and goals, and at least three letters of recommendation from academic sources.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Computational Linguistics (BS)

Major Requirements for the Bachelor of Science in Computational Linguistics

The degree requires six to seven lower-division courses (22-26 units) and six upper-division courses (24 units): a total of 46-50 units.

Lower-Division Courses (22-26 units)

Two in Linguistics (8 units)

- LING 210g Introduction to Linguistics Units: 4
- LING 285Lg Human Language and Technology Units: 4

Four to five courses in Computer Science (14-18 units)

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4

Upper-Division Courses (24 units)

Five courses in Linguistics (20 units)

- LING 385Lg Human Language as Computation Units: 4 *

Choose one among the following (4 units)

Phonetics and Phonology

- LING 301 Introduction to Phonetics and Phonology Units: 4
- LING 415 Phonetics Units: 4
- LING 450 New Horizons in Forensic Speaker Identification Units: 4

Choose one among the following (4 units)

Psycholinguistics

- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4

Choose one among the following (4 units)

Syntax and Semantics

- LING 302 Introduction to Syntax Units: 4
- LING 303 Introduction to Semantics and Pragmatics Units: 4 *

Choose one among the following (4 units)

Advanced Computational Linguistics

- LING 486 Natural Language Processing Units: 4
- LING 487 Speech Synthesis and Recognition Units: 4

One course in Computer Science (4 units)

Choose one among the following (4 units)

Computer Science

- CSCI 310 Software Engineering Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4

Linguistics (BA)

Required Courses, Lower Division

- LING 210g Introduction to Linguistics Units: 4

Required Courses, Upper Division

Select two courses (8 units).

- LING 301 Introduction to Phonetics and Phonology Units: 4
- LING 302 Introduction to Syntax Units: 4
- LING 303 Introduction to Semantics and Pragmatics Units: 4

Elective Courses, Upper Division

- Four upper-division LING courses. At least two courses (8 units) must be at the 400 level Units: 16
- One additional upper-division course in linguistics or a related field Units: 4

Capstone Experience

The major requires a capstone experience, which can be fulfilled in one of the following ways:

(A) A research paper completed as Honors Thesis LING 497, or as Directed Research LING 490 or as a Linguistic 400-level course research paper.

(B) A poster presented at the USC UG symposium or at a conference.

(C) A summer internship related to the degree.

Linguistics Major with Honors

The linguistics major with honors requires the student to complete the requirements for the major with a GPA of 3.5 or above and to complete in addition LING 497 Honors Thesis with a grade of B or better. Intent to complete the linguistics major with honors should be registered with the undergraduate adviser no later than the second semester of the junior year.

Linguistics and Cognitive Science (BA)

Combined major program between the Department of Linguistics and the Department of Cognitive Science.

Lower-Division Courses (12 units)

- LING 210g Introduction to Linguistics Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4

Upper-Division Courses (32 units)

Two among the following (8 units)

- LING 301 Introduction to Phonetics and Phonology Units: 4
- LING 302 Introduction to Syntax Units: 4
- LING 303 Introduction to Semantics and Pragmatics Units: 4

One among the following (4 units)

- PSYC 301L Cognitive Processes Units: 4

Three among the following (12 units)

- LING 401 Advanced Phonology Units: 4
  or
- LING 402 Advanced Syntax Units: 4
  or
- LING 403 Advanced Semantics Units: 4
- LING 322g Language Contact and Language Acquisition Units: 4
- LING 325g Language and Number Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4

One among the following (4 units)

- PSYC 336L Developmental Psychology Units: 4
- PSYC 433 Children's Learning and Cognitive Development Units: 4

Additional Requirement

An additional upper division course from the above list or from a related field (4 units)

Combined Major

Linguistics and East Asian Languages and Cultures (BA)

For the lower division

- LING 210g Introduction to Linguistics Units: 4 is required

For the upper division, the following courses are required:

- LING 301 Introduction to Phonetics and Phonology Units: 4
  and
- LING 302 Introduction to Syntax Units: 4

- EALC 470 Introduction to East Asian Linguistics Units: 4

Two courses from

- LING 380 Languages of the World Units: 4
- LING 401 Advanced Phonology Units: 4
- LING 402 Advanced Syntax Units: 4
- LING 403 Advanced Semantics Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- LING 410 Second Language Acquisition Units: 4
- LING 415 Phonetics Units: 4
- LING 466 Word and Phrase Origins Units: 4 and
- LING 485 Field Methodology Units: 4

Two courses selected from

- EALC 304 Advanced Modern Chinese I Units: 4
- EALC 306 Advanced Modern Chinese II Units: 4
- EALC 315 Advanced Korean I Units: 4
- EALC 317 Advanced Korean II Units: 4
- EALC 320 Advanced Japanese I Units: 4
- EALC 322 Advanced Japanese II Units: 4
- EALC 400 Classical Chinese I Units: 4
- EALC 402 Classical Chinese II Units: 4
- EALC 406 Advanced Modern Chinese IV Units: 4
- EALC 407 News and Web Chinese Units: 4
- EALC 412a Business Chinese Units: 4
- EALC 412b Business Chinese Units: 4
- EALC 413 Business Japanese Units: 4
- EALC 415 Advanced Korean III Units: 4
- EALC 417 Advanced Korean IV Units: 4
- EALC 422 Advanced Japanese III Units: 4
- EALC 424 Advanced Japanese IV Units: 4 and
- EALC 426 Classical Japanese Units: 4

One EALC literature, civilization or thought course from

- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 335m Korean American Literature Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 345 Korean Civilization Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 352g Chinese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- EALC 355 Studies in Chinese Thought Units: 4
- EALC 365 Studies in Japanese Thought Units: 4
- EALC 380 Cultural Topics in East Asian Literature Units: 4
- EALC 386 Readings in Modern Korean Literature Units: 4
- EALC 452 Chinese Fiction Units: 4
- EALC 455 Japanese Fiction Units: 4 and
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4

Two additional EALC courses

Two additional EALC courses from category IV or V. (After consultation with a department adviser, students may petition to use EALC courses not listed toward this requirement.)

Linguistics and Philosophy (BA)

For the lower division,

- LING 210g Introduction to Linguistics Units: 4 is required

For the upper division the following courses are required:

- LING 301 Introduction to Phonetics and Phonology Units: 4 and
- LING 302 Introduction to Syntax Units: 4

- PHIL 350 Symbolic Logic Units: 4 and
- PHIL 465 Philosophy of Language Units: 4

Two courses selected from

- LING 380 Languages of the World Units: 4
- LING 401 Advanced Phonology Units: 4
- LING 402 Advanced Syntax Units: 4
- LING 403 Advanced Semantics Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- LING 410 Second Language Acquisition Units: 4
- LING 415 Phonetics Units: 4
- LING 466 Word and Phrase Origins Units: 4 and
- LING 485 Field Methodology Units: 4

And three courses selected from

- PHIL 450 The Limits of Logic Units: 4
- PHIL 460 Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4 and
- PHIL 470 Theory of Knowledge Units: 4

Combined Major in Linguistics and Philosophy with Honors

The combined major in linguistics and philosophy with honors requires the student to complete the requirements for the major with a GPA of 3.5 or above and to complete in addition LING 497 Honors Thesis or PHIL 494 Senior Thesis with a grade of B or better. Intent to complete the major with honors should be registered with the undergraduate adviser no later than the second semester of the junior year.

Minor

Linguistics Minor

Lower division:

(4 units)

- LING 210g Introduction to Linguistics Units: 4

Upper division:

(16 units)

- LING 301 Introduction to Phonetics and Phonology Units: 4
- LING 302 Introduction to Syntax Units: 4

One course from the following:

Sociolinguistics

- LING 375 Sociolinguistics Units: 4

Psycholinguistics

- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 410 Second Language Acquisition Units: 4

One additional upper-division linguistics course

Units: 20

Master's Degree

Linguistics (MA)

The Linguistics department does not accept applicants for a Master of Arts degree. Students who complete the necessary coursework and write and successfully defend a screening research paper will automatically be awarded an MA in Linguistics as part of the PhD program.

Students pursuing the PhD program in linguistics are required to complete 32 units of course work toward the MA degree. The choice of courses is subject to approval by the Graduate Studies Committee. In addition, students must satisfy one foreign language or research tool requirement. (See Foreign Language/Research Tool Requirement.)

MA Research Paper

In addition to course work, students are also required to write one research paper. The completed paper must be submitted to the Graduate Studies Committee no later than the student's fourth semester of graduate study by the deadline established for that academic year. Following submission of the research paper, each student will conduct an oral defense of his or her work.

Required Courses for MA in Linguistics

Of the 32 units, students are required to take the following courses:

- LING 505a Seminar in Linguistics Units: 1
- LING 530 Generative Syntax Units: 3
- LING 531a Phonology Units: 3
- LING 610 Seminar in Linguistic Theory Units: 3

In addition to the above courses, students must take courses related to their screening, and pass their first screening in order to receive the MA.

Doctoral Degree

Linguistics (PhD)

Students pursuing the PhD in Linguistics are required to complete a minimum of 60 units of course work beyond the baccalaureate. In addition to the 32 units completed toward the MA, students are required to take three 600-level seminars in linguistics and a minimum of 4 units of 794ab Doctoral Dissertation. No more than 8 units of 794 may be applied toward the PhD degree. A maximum of 30 transfer units, approved by the university and the department may be applied to the PhD degree.

Graduate Record Examinations (GRE) scores are not required for applications for admission to the graduate program in linguistics.

After successfully completing the screening procedure, students will establish a qualifying exam committee to determine a PhD course program in preparation for the dissertation. This course program must be approved by the Graduate Studies Committee.

Advisement

The student in his or her first semester will have the option of either selecting a faculty adviser or postponing such a selection until, but no later than, the last day of classes of the first year in the program. The Graduate Studies Committee (GSC) will serve as a provisional adviser until the student makes a selection.

The student has the option of changing advisers at any time without the need to seek the original adviser's approval. The student should inform the GSC and the previous adviser of the change.

At the beginning of the second year of graduate study, the faculty adviser will assist the student in planning a program of study appropriate to the student's interests leading to the screening procedure.

Required Core Courses in Linguistics

Students pursuing the PhD program in linguistics are required to complete 32 units of course work toward the MA degree. See Waiver and Substitution of Course Requirements for possible exceptions.

Required Courses

- LING 530 Generative Syntax Units: 3
- LING 531a Phonology Units: 3
- LING 534 Semantics Units: 3
- LING 576 Psycholinguistics Units: 3
- LING 580 General Phonetics Units: 3

Additional Requirements

Screening Procedure

Before a doctoral qualifying exam committee can be established for applicants to the PhD program, a student must pass a screening procedure. This procedure consists of a review of the student's graduate work at USC by Linguistics Department faculty. The review will be based on the following criteria: course work completed, including grades and papers; faculty recommendations; and evaluation of both the student's MA research paper and a PhD screening paper. The MA research and PhD screening papers must be in two different sub areas of linguistics, for example: syntax and psycholinguistics, or phonology and semantics, or sociolinguistics and typology.

The MA research paper must be completed and defended prior to the end of the fourth semester of graduate study, and the PhD screening paper must be completed and defended prior to the end of the sixth semester. The set of courses leading to the MA research paper and the PhD screening paper are determined through recommendation of the screening committee and approval of the Graduate Studies Committee.

Qualifying Exam Committee

Following the successful completion of the screening procedure, the student will establish a five-member qualifying exam committee. The qualifying exam committee is composed of at least five members; a minimum of three, including at least one tenured member, must be from the Linguistics Department and one must be a faculty member from outside the Linguistics Department. The Associate Vice Provost for Graduate Programs is ex officio a member of all qualifying exam committees. (Refer to the Graduate School Policies and Requirements for instructions on forming a qualifying exam committee.)

The Request to Take the Qualifying Examination Form is the means by which the qualifying exam committee is formally established. This form should be filed with the qualifying exam committee and the Graduate School the semester prior to taking the qualifying examination but no later than 30 days before the date of the student's written examination. In order to take the written examination, the student must submit a dissertation prospectus to each member of the qualifying exam committee.

Qualifying Examination

The examination qualifying a student for candidacy for the PhD degree is comprehensive in nature, partly written and partly oral. Prior to taking the qualifying examination, the student must have met all of the departmental requirements for doing so and have the recommendation of the qualifying exam committee. The committee will determine and administer the written examination.

The written examination consists of a limited number of questions in the fields related to the student's research. Students will receive the written examination two weeks after submitting the qualifying prospectus and will have 30 days to complete the questions. An oral examination will be scheduled by the qualifying exam committee two weeks after the written examination has been submitted.

The successful completion of the qualifying procedure is represented by the approval by the qualifying exam committee of (1) the prospectus, (2) the written examination, and (3) oral defense.

Dissertation

The final stage of the program is the submission and defense of a dissertation that makes an original and substantial contribution to its field of study. Refer to the Graduate School section of the catalogue for the policies and procedures governing the submission of a dissertation.

Linguistics (Specialization in East Asian Linguistics) (PhD)

Students interested in East Asian linguistics take the Doctor of Philosophy in Linguistics with a specialization in East Asian linguistics. In addition to all requirements for the PhD in linguistics, students are required to write research papers on topics relating to East Asian languages for four courses or 15 units during their PhD studies. One of the two screening papers, the prospectus associated with the qualifying examination and the doctoral dissertation must also deal with at least one East Asian language. Students must additionally take LING 794a Doctoral Dissertation, LING 794b Doctoral Dissertation.

Students pursuing the PhD in Linguistics are required to complete a minimum of 60 units of course work beyond the baccalaureate. In addition to the 32 units completed toward the MA, students are required to take three 600-level seminars in linguistics and a minimum of 4 units of 794ab Doctoral Dissertation. No more than 8 units of 794 may be applied toward the PhD degree. A maximum of 30 transfer units, approved by the university and the department may be applied to the PhD degree.

Graduate Record Examinations (GRE) scores are not required for applications for admission to the graduate program in linguistics.

After successfully completing the screening procedure, students will establish a qualifying exam committee to determine a PhD course program in preparation for the dissertation. This course program must be approved by the Graduate Studies Committee.

Advisement

The student in his or her first semester will have the option of either selecting a faculty adviser or postponing such a selection until, but no later than, the last day of classes of the first year in the program. The Graduate Studies Committee (GSC) will serve as a provisional adviser until the student makes a selection.

The student has the option of changing advisers at any time without the need to seek the original adviser's approval. The student should inform the GSC and the previous adviser of the change.

At the beginning of the second year of graduate study, the faculty adviser will assist the student in planning a program of study appropriate to the student's interests leading to the screening procedure.

Required Core Courses in Linguistics

Students pursuing the PhD program in linguistics are required to complete 32 units of course work toward the MA degree. See Substitution of Course Requirements under Requirements for Graduation for possible exceptions.

- LING 530 Generative Syntax Units: 3
- LING 531a Phonology Units: 3
- LING 534 Semantics Units: 3
- LING 576 Psycholinguistics Units: 3
- LING 580 General Phonetics Units: 3

Additional Requirements

Screening Procedure

Before a doctoral qualifying exam committee can be established for applicants to the PhD program, a student must pass a screening procedure. This procedure consists of a review of the student's graduate work at USC by Linguistics Department faculty. The review will be based on the following criteria: course work completed, including grades and papers; faculty recommendations; and evaluation of both the student's MA research paper and a PhD screening paper. The MA research and PhD screening papers must be in two different sub areas of linguistics, for example: syntax and psycholinguistics, or phonology and semantics, or sociolinguistics and typology.

The MA research paper must be completed and defended prior to the end of the fourth semester of graduate study, and the PhD screening paper must be completed and defended prior to the end of the sixth semester. The set of courses leading to the MA research paper and the PhD screening paper are determined through recommendation of the screening committee and approval of the Graduate Studies Committee.

Qualifying Exam Committee

Following the successful completion of the screening procedure, the student will establish a five-member qualifying exam committee. The qualifying exam committee is composed of at least five members; a minimum of three, including at least one tenured member, must be from the Linguistics Department and one must be a faculty member from outside the Linguistics Department. The Associate Vice Provost for Graduate Programs is ex officio a member of all qualifying exam committees. (Refer to the Graduate School Policies and Requirements for instructions on forming a qualifying exam committee.)

The Request to Take the Qualifying Examination Form is the means by which the qualifying exam committee is formally established. This form should be filed with the qualifying exam committee and the Graduate School the semester prior to taking the qualifying examination but no later than 30 days before the date of the student's written examination. In order to take the written examination, the student must submit a dissertation prospectus to each member of the qualifying exam committee.

Qualifying Examination

The examination qualifying a student for candidacy for the PhD degree is comprehensive in nature, partly written and partly oral. Prior to taking the qualifying examination, the student must have met all of the departmental requirements for doing so and have the recommendation of the qualifying exam committee. The committee will determine and administer the written examination.

The written examination consists of a limited number of questions in the fields related to the student's research. Students will receive the written examination two weeks after submitting the qualifying prospectus and will have 30 days to complete the questions. An oral examination will be scheduled by the qualifying exam committee two weeks after the written examination has been submitted.

The successful completion of the qualifying procedure is represented by the approval by the qualifying exam committee of (1) the prospectus, (2) the written examination, and (3) oral defense.

Dissertation

The final stage of the program is the submission and defense of a dissertation that makes an original and substantial contribution to its field of study. Refer to The Graduate School section of the catalogue for the policies and procedures governing the submission of a dissertation.

Mathematical Finance

Kaprielian Hall 104
(213) 740-2400
FAX: (213) 740-2424
Email: uscmsmf@usc.edu (Graduate)
Director: Jin Ma, PhD *(Mathematics)*
Co-director: Michael Magill, PhD *(Economics)*

Progressive Degree Programs in Mathematics

See Mathematics for progressive degree requirements.

Minor

Mathematical Finance Minor

Kaprielian Hall 104
(213) 740-2400

This interdisciplinary minor was created for students in business, economics and mathematics, whose majors already require some of the introductory course work. Students in other programs are welcome but should expect the minor to require more units than it dos for students in those programs.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (which may be the same four courses). Finally, students must select four courses outside their major department. Economics majors must choose four courses outside of economics; math majors must choose four courses outside of math; business majors must choose four courses outside of the Marshall School of Business. These may be the same courses used to meet the first two conditions.

Requirements

- BUAD 351 Economic Analysis for Business Decisions Units: 4 *
- BUAD 352 Macroeconomic Analysis for Business Decisions Units: 4 *
  or
- ECON 203g Principles of Microeconomics Units: 4

- ECON 205g Principles of Macroeconomics Units: 4
  or
- ECON 351x Microeconomics for Business Units: 4 *
- ECON 352x Macroeconomics for Business Units: 4 *

Complete the following courses (8 units):

- ECON 303 Intermediate Microeconomic Theory Units: 4 *
- ECON 305 Intermediate Macroeconomic Theory Units: 4 *

Choose two courses, one from each of the following groups (8 units):

- MATH 118gx Fundamental Principles of Calculus Units: 4 * or
- MATH 125g Calculus I Units: 4 *
- MATH 308 Statistical Inference and Data Analysis II Units: 4 *
  or
- MATH 407 Probability Theory Units: 4 * or
- ECON 317 Introduction to Statistics for Economists Units: 4 *
  or
- BUAD 310g Applied Business Statistics Units: 4

Choose two courses from the following list (8 units):

- MATH 126g Calculus II Units: 4 * or
- MATH 127 Enhanced Calculus II Units: 4 * or
- MATH 129 Calculus II for Engineers and Scientists Units: 4 *
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 * or
- MATH 245 Mathematics of Physics and Engineering I Units: 4 *
- MATH 226g Calculus III Units: 4 * or
- MATH 227 Enhanced Calculus III Units: 4 * or
- MATH 229 Calculus III for Engineers and Scientists Units: 4 *
- MATH 408 Mathematical Statistics Units: 4 * or
- MATH 467 Theory and Computational Methods for Optimization Units: 4 *

Choose one course from the following list (4 units):

- BUAD 306 Business Finance Units: 4 *
- BUAD 310g Applied Business Statistics Units: 4
- ECON 350 The World Economy Units: 4 *
- ECON 357 Money, Credit, and Banking Units: 4 *
- FBE 441 Investments Units: 4 *

Choose one course from the following list (4 units):

- ECON 452 International Finance Units: 4 *
- ECON 457 Financial Markets Units: 4 *
- FBE 421 Financial Analysis and Valuation Units: 4 *
- FBE 443 Introduction to Forecasting and Risk Analysis Units: 4 *
- FBE 459 Financial Derivatives Units: 4 *
- FBE 462 International Trade, Finance and Commercial Policy Units: 4 *

Choose one course from the following:

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4
- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2
- ITP 168 Introduction to MATLAB Units: 2

Note:

**Prerequisite required*

Total requirements, for students with no prior course work: 42–44 units

Students majoring in business administration, economics or mathematics can meet many of these requirements with course work that also satisfies their majors. In addition to those classes, students in those majors must complete the following requirements:

- Business majors satisfy 24 units with course work that is also required for the major and need to complete only 18 units in MATH, ECON and ITP or CSCI
- Economics majors satisfy 20–24 units with course work required for the major (including one major elective), needing only 18–22 units in BUAD, FBE, ITP or CSCI and MATH
- Mathematics majors satisfy 16 units with course work required for the major, needing only 26 units in BUAD, ECON, FBE and ITP or CSCI

Master's Degree

Mathematical Finance (MS)

The objective of this master of science program is to produce graduates with a rigorous foundation in the economic theory and mathematical modeling of financial markets. The program creates an integrated curriculum spanning four disciplines: economics, mathematics, econometrics/statistics and computational/numerical analysis. The program is designed for recent graduates in the fields of applied mathematics, physics and engineering — or for graduates in economics, business and finance with strong mathematical backgrounds — who wish to pursue high-tech finance careers in financial institutions, industry or government.

Admission Requirements

Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All applicants must take the GRE General Test. Complete transcripts of undergraduate and any graduate level courses are required, as well as a statement of purpose and three recommendation letters. A substantial undergraduate background in mathematics is required, which should include one semester of real analysis or advanced calculus, one semester of linear algebra and one semester of advanced probability/statistics. Candidates with weaker backgrounds may be required to take mathematics classes prior to admission to the program. An undergraduate knowledge of microeconomics and of macroeconomics, and partial differential equations is helpful, although it is not required for admission. Some experience in Matlab and C/C++ programming is also useful.

Foreign Language Requirement

There is no foreign language requirement.

Course Requirements

Thirty units of course work are required, six core courses and four to five elective courses. Students are required to satisfy a summative experience for degree completion. This will be in the form of registration in 1 unit of MATH 590 Directed Research with a summative report at the end of the term. Topics of research will be determined by the program director. The program consists of:

Required Core Courses (6 Courses, 18 Units)

Mathematics and Mathematical Finance:

- MATH 530a Stochastic Calculus and Mathematical Finance Units: 3
- MATH 530b Stochastic Calculus and Mathematical Finance Units: 3
- MATH 512 Financial Informatics and Simulation (Computer Labs and Practitioner Seminar) Units: 3
- MATH 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (1 Units Required)

Financial Economics and Econometrics:

- ECON 613 Economic and Financial Time Series I Units: 4
- ECON 659 Economics of Financial Markets I Units: 4

Elective Courses (4 Courses, 12 Units)

Computational and Empirical Finance (must take at least 2 courses)*:

- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
- FBE 554 Trading and Exchanges Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3
- FBE 559 Management of Financial Risk Units: 3
- FBE 589 Mortgages and Mortgage-Backed Securities and Markets Units: 3

Note:

(FBE 555 highly recommended)

Statistics*:

- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 543 Nonparametric Statistics Units: 3
- MATH 547 Mathematical Foundations of Statistical Learning Theory Units: 3

Numerical/Optimization/Other Methods*:

- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3
- MATH 504a Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 504b Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 505a Applied Probability Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 508 Filtering Theory Units: 3
- MATH 509 Stochastic Differential Equations Units: 3
- MATH 585 Mathematical Theory of Optimal Control Units: 3

Computational and Financial Economics:

- ECON 614 Economic and Financial Time Series II Units: 4
- ECON 652 Economics of Financial Markets II Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4

Note:

Prerequisites for any of the above courses can be waived based on students' knowledge of the subject area. Approval from the program director is required.

**The elective courses in statistics/numerical/optimization/other methods and computational and empirical finance have to be approved for each student by the program directors. Other electives, not on this list, may sometimes be approved after consultation with program directors.*

Mathematics

The USC Department of Mathematics welcomes students interested in the mathematical sciences. Our undergraduate degree programs are constructed to provide basic knowledge of modern mathematical techniques most relevant to each specific degree together with sufficient flexibility to enable each student to study additional topics of particular interest. We seek to provide our students with an appreciation of the structure and beauty of the mathematics they learn as well as the power of its applications.

Students completing the undergraduate programs in Mathematics should be well prepared for many careers in industry and education, as well as for graduate study in mathematics. The Applied and Computational programs focus on the areas most useful in the application of mathematics to real-world problems. All programs offered, and the applied degrees in particular, train graduates for technologically oriented careers.

The primary aspects of USC's graduate programs in Mathematics are high-level courses, independent study and thesis preparation by PhD students. Our programs also mentor students in their presentation skills and post-degree careers. Students choose either the Mathematics or the Applied Mathematics program, which share the requirement of a written thesis containing original research for a PhD, and have course and examination requirements tailored to the program chosen.

Each incoming PhD student is assigned a temporary adviser. At some point in their studies, PhD students choose their own thesis adviser whose research interests align with those of the student. There is considerable contact with faculty in graduate classes, reading courses, research efforts and at lively afternoon teas. The department has a strong tradition of senior PhD students aiding and advising students early in their graduate career.

In addition to its PhD programs, the Mathematics Department offers Master's degrees in Applied Mathematics, Mathematics, Mathematical Finance and Statistics.

Kaprielian Hall 104
(213) 740-2400
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Email: mathinfo@dornsife.usc.edu
Chair: Eric M. Friedlander, PhD

Faculty

University Professor and Seeley G. Mudd Professor of Computer Science and Mathematics: Shanghua Teng, PhD *(Computer Science)*
Dean's Professor of Mathematics: Eric M. Friedlander, PhD
Gabilan Distinguished Professorship in Science and Engineering and Professor of Mathematics:
Professors: Kenneth Alexander, PhD; Richard Arratia, PhD; Aravind Asok, PhD; Jay Bartroff, PhD; Francis Bonahon, PhD*; Susan Friedlander, PhD; Jason Fulman, PhD; Larry Goldstein, PhD; Robert Guralnick, PhD*; Nicolai T.A. Haidn, PhD; Juhi Jang, PhD; Edmond A. Jonckheere, PhD *(Electrical and Computer Engineering)*; Sheldon Kamienny, PhD; Igor Kukavica, PhD; Aaron Lauda, PhD; Sergey Lototsky, PhD; Jinchi Lv, PhD *(Data Sciences and Operations)*; Jin Ma, PhD; Fedor Malikov, PhD; Remigijus Mikulevicius, PhD; Susan M. Montgomery, PhD*; Paul K. Newton, PhD *(Aerospace and Mechanical Engineering)*; Gary Rosen, PhD; Robert J. Sacker, PhD; Fengzhu Sun, PhD *(Biological Sciences)*; Chunming Wang, PhD; Jianfeng Zhang, PhD; Mohammed Ziane, PhD
Associate Professors: Sami Assaf, PhD; Greta Panova, PhD
Assistant Professors: Yu Deng, PhD; Sheel Ganatra, PhD; Stanislav Minsker, PhD; Cris Negron, PhD; Kyler Siegel, PhD; Harold Williams, PhD
Professor (Teaching): Cymra Haskell, PhD
Associate Professors (Teaching): David Crombecque, PhD; Neelesh Tiruvilumala, PhD
Assistant Professors (Teaching): Nathaniel Emerson, PhD; Guillermo Reyes Souto, PhD; Paul Tokorcheck, PhD; Jared Warner, PhD
Assistant Professors (RTPC): Nivedita Bhaskhar, PhD; Tommaso Cremaschi, PhD; Anne Dranowski, PhD; Steven Heilman, PhD; Joseph Helfer, PhD; Trevor Leslie, PhD; Mohamed Ndaoud, Phd; Trinh Nguyen, PhD; Wojciech Ozanski, PhD; Mark Rychnovsky, PhD; Qingtang Su, PhD; Masoud Zargar, PhD; Zhaoyu Zhang, PhD
Lecturers: Guillaume Dreyer, PhD; Michael Hall, PhD; Ricardo Mancera, PhD; Felicia Tabing, PhD
Emeritus: Peter Baxendale, PhD; Charles Lanski, PhD; Wlodek Proskurowski, PhD; Alan Schumitzky, PhD; Michael S. Waterman, PhD *(Biological Scienes)*
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advanced Placement Examinations in Mathematics

The university grants 4 units of credit in mathematics for scores of 4 or 5.

Grade Point Average Requirements

For each undergraduate degree an overall GPA of 2.0 in all upper-division courses taken for the degree is required. In addition, any upper-division course specifically listed as required must be passed with a grade of C (2.0) or better (e.g., MATH 410, MATH 425a, MATH 425b and MATH 471 for the BS degree).

Minor in Mathematical Finance

This interdisciplinary minor was created for students in business, economics and mathematics, whose majors already require some of the introductory course work. Students in other programs are welcome but should expect the minor to require

more units than it does for students in these programs. For more information, see Mathematical Finance.

Honors Program in Mathematics

Admission to the Program

The honors program is available for mathematics majors. A student must apply to the department for admission. A minimum grade point average of 3.5 is required in the first two years of university work as well as in the lower-division mathematics courses MATH 125, MATH 126 or MATH 127, MATH 225 and MATH 226 or MATH 227.

Requirements

The students must complete all requirements for the degree program in which they are enrolled. MATH 410, MATH 425a, MATH 425b and MATH 471 are required. The remaining courses at the 400 level or higher must be acceptable for the BS degree.

In addition, students in the honors program must register for at least 4 units of MATH 490x Directed Research. The student must have an overall GPA of at least 3.5 in all courses at the 400 level or higher.

Language

Those students intending to go on to graduate school should satisfy the language requirement in French, German or Russian.

Progressive Degree Programs in Mathematics

Outstanding undergraduate students may apply for a master's degree in any area for which their major is relevant. If accepted into the master's degree program, the student may work simultaneously toward their bachelor's degree and the master's degree. To apply for a master's degree, a student must have completed at least 64 units, but fewer than 96 units, toward their major. The application requires two letters of recommendation from USC faculty, at least one of whom must be in the department of the student's major. For more information on progressive degree programs, see the Progressive Degree section in Undergraduate Degree Programs .

Graduate Degrees

Admission Requirements

All applicants must take the Graduate Record Examinations General Test.

Master of Arts and Doctor of Philosophy in Mathematics and in Applied Mathematics

A substantial undergraduate background in mathematics which includes one year of real analysis (MATH 425a/MATH 425b), one semester of abstract algebra (MATH 410) and one semester of upper-division linear algebra (MATH 471) is required.

Master of Science in Applied Mathematics, in Statistics and in Computational Molecular Biology

A substantial undergraduate background in mathematics that includes one semester of real analysis or advanced calculus and one semester of linear algebra is required.

Regular admission pending completion during the first year of graduate studies of prerequisite undergraduate mathematics may be considered for applicants who otherwise qualify for the program.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Master of Science in Mathematical Finance

See Mathematical Finance.

Bachelor's Degree

Applied and Computational Mathematics (BA)

Pre-major Requirements:

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

In Mathematics:

- MATH 407 Probability Theory Units: 4
- MATH 458 Numerical Methods Units: 4

At Least Four More Courses From the Following:

- MATH 370 Applied Algebra Units: 4
- MATH 408 Mathematical Statistics Units: 4
- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 430 Theory of Numbers Units: 4
- MATH 432 Applied Combinatorics Units: 4
- MATH 435 Vector Analysis and Introduction to Differential Geometry Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- MATH 447 Mathematics of Machine Learning Units: 4
- MATH 466 Dynamic Modeling Units: 4
- MATH 467 Theory and Computational Methods for Optimization Units: 4
- MATH 471 Topics in Linear Algebra Units: 4
- MATH 475 Introduction to Theory of Complex Variables Units: 4

In Computing:

At least one programming course such as:

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4
- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2
- ITP 168 Introduction to MATLAB Units: 2

  or other programming course approved by the program advisers.

Three Electives with Significant Quantitative Content:

At least three additional courses with significant quantitative content, in mathematics, natural sciences, computer science, engineering, economics or other fields approved by the department. At least two of these must be outside the mathematics department; one of which must be an upper-division course. Courses to be chosen from following lists:

List A - upper division

- AME 301 Dynamics Units: 3
- AME 404 Computational Solutions to Engineering Problems Units: 3
- ASTE 331a Spacecraft Systems Engineering Units: 3
- ASTE 331b Spacecraft Systems Engineering Units: 3
- ASTR 400 The Solar System Units: 4, 2 years
- ASTR 422 Galaxies and Large-Scale Structures in the Universe Units: 4, 2 years
- ASTR 424 Cosmology Units: 4
- BISC 305g Statistics for Biological Sciences Units: 4
- BISC 478 Computational Genome Analysis Units: 4
- BUAD 310g Applied Business Statistics Units: 4

- BUAD 312g Statistics and Data Science for Business Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 432 Physical Chemistry for the Life Sciences Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 467 Introduction to Machine Learning Units: 4
- DSO 424 Business Forecasting Units: 4
- DSO 428 Essentials and Digital Frontiers of Big Data Units: 4
- ECON 303 Intermediate Microeconomic Theory Units: 4
- ECON 305 Intermediate Macroeconomic Theory Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4
- ECON 318 Introduction to Econometrics Units: 4
- ECON 401 Mathematical Methods in Economics Units: 4
- ECON 419 Advanced Econometrics Units: 4
- ECON 457 Financial Markets Units: 4
- EE 330 Electromagnetics I Units: 3
- FBE 441 Investments Units: 4 *
- FBE 459 Financial Derivatives Units: 4 *
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 440L Geophysics and Geoengineering Units: 4
- GEOL 450L Geosystems Units: 4
- ISE 330 Introduction to Operations Research: Deterministic Models Units: 3
- ISE 331 Introduction to Operations Research: Stochastic Models Units: 3
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PSYC 421L Data Analysis for Psychological Research Units: 4
- QBIO 401 Introduction to Computational Analysis of Biological Data Units: 4

Note:

*FBE 441 and FBE 459 have prerequisites that must be satisfied in order to enroll, or a waiver must be granted by the FBE departmental administration.

List B - lower division

- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- ASTE 101L Introduction to Astronautics Units: 4
- ASTE 280 Foundations of Astronautical Engineering Units: 3
- BME 210 Biomedical Computer Simulation Methods Units: 4
- CE 215 Statics and Dynamics Units: 4
- CE 225 Mechanics of Deformable Bodies Units: 4
- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- EE 202L Linear Circuits Units: 4
- ISE 220 Probability Concepts in Engineering Units: 3
- ISE 225 Engineering Statistics I Units: 3
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Applied and Computational Mathematics (BS)

Pre-major Requirements:

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

In Mathematics:

- MATH 407 Probability Theory Units: 4
- MATH 408 Mathematical Statistics Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 458 Numerical Methods Units: 4

At least three courses from

- MATH 370 Applied Algebra Units: 4
- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425b Fundamental Concepts of Analysis Units: 4
- MATH 430 Theory of Numbers Units: 4
- MATH 432 Applied Combinatorics Units: 4
- MATH 435 Vector Analysis and Introduction to Differential Geometry Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- MATH 447 Mathematics of Machine Learning Units: 4
- MATH 465 Nonlinear Dynamics in Science and Engineering Units: 4
- MATH 466 Dynamic Modeling Units: 4
- MATH 467 Theory and Computational Methods for Optimization Units: 4
- MATH 471 Topics in Linear Algebra Units: 4
- MATH 475 Introduction to Theory of Complex Variables Units: 4

Students contemplating a graduate degree in mathematics are advised to take

- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425b Fundamental Concepts of Analysis Units: 4
- MATH 471 Topics in Linear Algebra Units: 4

In Computing:

At least one programming course such as

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4
- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2
- ITP 168 Introduction to MATLAB Units: 2

  or other programming course approved by the program advisers.

Four electives with significant quantitative content:

At least four additional courses with significant quantitative content in mathematics, natural sciences, computer science, engineering, economics or other fields approved by the department. At least three of the four must be outside the mathematics department; and at least one must be upper-division. Courses to be chosen from the following lists:

List A - upper division

- AME 404 Computational Solutions to Engineering Problems Units: 3
- ASTE 331a Spacecraft Systems Engineering Units: 3
- ASTE 331b Spacecraft Systems Engineering Units: 3
- ASTR 400 The Solar System Units: 4, 2 years
- ASTR 422 Galaxies and Large-Scale Structures in the Universe Units: 4, 2 years
- ASTR 424 Cosmology Units: 4
- BISC 305g Statistics for Biological Sciences Units: 4
- BISC 478 Computational Genome Analysis Units: 4
- BUAD 310g Applied Business Statistics Units: 4

- BUAD 312g Statistics and Data Science for Business Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 432 Physical Chemistry for the Life Sciences Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 467 Introduction to Machine Learning Units: 4
- DSO 424 Business Forecasting Units: 4
- DSO 428 Essentials and Digital Frontiers of Big Data Units: 4
- ECON 303 Intermediate Microeconomic Theory Units: 4
- ECON 305 Intermediate Macroeconomic Theory Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4
- ECON 318 Introduction to Econometrics Units: 4
- ECON 419 Advanced Econometrics Units: 4
- ECON 457 Financial Markets Units: 4
- EE 330 Electromagnetics I Units: 3
- FBE 441 Investments Units: 4 *
- FBE 459 Financial Derivatives Units: 4 *
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 440L Geophysics and Geoengineering Units: 4
- GEOL 450L Geosystems Units: 4
- ISE 330 Introduction to Operations Research: Deterministic Models Units: 3
- ISE 331 Introduction to Operations Research: Stochastic Models Units: 3
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PSYC 421L Data Analysis for Psychological Research Units: 4
- QBIO 401 Introduction to Computational Analysis of Biological Data Units: 4

Note:

*FBE 441 and FBE 459 have prerequisites that must be satisfied in order to enroll, or a waiver must be granted by the FBE departmental administration.

List B - lower division

- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- ASTE 101L Introduction to Astronautics Units: 4
- ASTE 280 Foundations of Astronautical Engineering Units: 3
- BME 210 Biomedical Computer Simulation Methods Units: 4
- CE 215 Statics and Dynamics Units: 4
- CE 225 Mechanics of Deformable Bodies Units: 4
- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- EE 202L Linear Circuits Units: 4
- ISE 220 Probability Concepts in Engineering Units: 3
- ISE 225 Engineering Statistics I Units: 3
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Mathematics (BA)

Six math courses at the 400 level or above including:

- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 434 Geometry and Transformations Units: 4 or
- MATH 435 Vector Analysis and Introduction to Differential Geometry Units: 4

Note:

Directed Research may be used to count as a 400-level or above course (must take 4 units to count as one course)

- MATH 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Mathematics (BS)

Pre-major Requirements:

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4 are required

Eight math courses at the 400 level or above

Note: Course must be taken for 4-units. MATH 450 may not be counted toward this requirement.

Required Courses

- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 425b Fundamental Concepts of Analysis Units: 4
- MATH 471 Topics in Linear Algebra Units: 4

Required Physics Course

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Additional required courses

Four additional 4-unit courses in natural sciences, human biology or computer science, but excluding courses in mathematics, are required. At least one of these must be an upper-division course, and each of the four courses must be acceptable for the Bachelor of Science degree in the department in which it is offered.

Combined Major

Mathematics/Economics (BS)

Students are required to take seven courses in economics, seven courses in mathematics and two courses in information technology.

Pre-major Requirement:

- MATH 125g Calculus I Units: 4

In Economics:

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- ECON 303 Intermediate Microeconomic Theory Units: 4
- ECON 305 Intermediate Macroeconomic Theory Units: 4
- ECON 318 Introduction to Econometrics Units: 4
- and at least two other ECON courses at the 400-level or above

In Mathematics:

- MATH 126g Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4

and either sequence one:

- MATH 407 Probability Theory Units: 4
- MATH 408 Mathematical Statistics Units: 4

or sequence two:

- MATH 307 Statistical Inference and Data Analysis I Units: 4
- MATH 308 Statistical Inference and Data Analysis II Units: 4

- at least two other MATH courses at the 400-level or above (for both sequences)

In Information Technology:

Two courses required.

At least one course chosen from

- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2

And

- ITP 249 Introduction to Data Analytics Units: 4

Note:

Electives must be approved by the program advisers.

Minor

Mathematical Data Analytics Minor

The "big data deluge" continues to change the fabric of research and discovery in both science and industry. The minor in Mathematical Data Analytics offered by the department of Mathematics trains students on the foundational underpinnings of this area, including practical implementation for handling of real data. Students completing this minor will absorb a true understanding of the conditions under which the current methods that are applied to data give valid results, and so will be able to more easily adapt their analyses to the proper methods, and avoid common errors being currently made in the area by which investigators falsely conclude the significance of their findings. This minor is complementary to the department's Statistics Minor, but requires more mathematical background in order to reach a greater depth.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (which may be the same four courses). Students who complete courses required for this minor for the satisfaction of degree requirements in their major program, such as students in MATH, may satisfy the minor requirement of four classes outside their major department by choosing courses from a list of electives maintained by MATH.

Requirements (24-25 units)

- ITP 115 Programming in Python Units: 2
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 407 Probability Theory Units: 4
- MATH 408 Mathematical Statistics Units: 4
- MATH 447 Mathematics of Machine Learning Units: 4 or
- MATH 547 Mathematical Foundations of Statistical Learning Theory Units: 3
- MATH 650 Seminar in Statistical Consulting Units: 3

Mathematics Minor

Requirements

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4

- and four math courses at the 400 level or above

One of which must be from

- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 435 Vector Analysis and Introduction to Differential Geometry Units: 4

- MATH 440 Topology Units: 4 or
- MATH 471 Topics in Linear Algebra Units: 4

Note:

These four courses at the 400 level or above must total at least 16 units.

Statistics Minor

Kaprielian Hall 104
(213) 740-2400

This interdisciplinary minor should appeal to students from any discipline who are interested in acquiring a basic understanding of the mathematics underlying modern statistical analysis and inference techniques, in learning how to handle and analyze large data sets, and in gaining insight into the applications of modern statistics. Students who complete this minor should be able to critically interpret statistically based conclusions, should be viable candidates for entry level positions requiring some knowledge of modern statistics and data analysis, and should be prepared to enter a graduate-level program in applied statistics. The only prerequisite for this minor is one semester of elementary calculus.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (which may be the same four courses). Finally, students must select four courses outside their major department. These may be the same four courses used to meet the first two conditions. Note that Math BA and BS economics/mathematics students may complete this minor by taking MATH 407 and MATH 408 and at least 16 additional upper-division units approved by the Department of Mathematics, which are not in their major department and not being used to satisfy a requirement for their major. Note also that if calculus must be taken to satisfy the prerequisite for MATH 307, 20 units would be required to complete the minor.

Required Courses

- MATH 307 Statistical Inference and Data Analysis I Units: 4 (prerequisite: MATH 118 or MATH 125) and
- MATH 308 Statistical Inference and Data Analysis II Units: 4 or
- MATH 407 Probability Theory Units: 4 and
- MATH 408 Mathematical Statistics Units: 4

Electives

Select 8 units from the following:

- BISC 478 Computational Genome Analysis Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- BUAD 311 Operations Management Units: 4 *
- DSO 424 Business Forecasting Units: 4 *
- DSO 427 Designing Spreadsheet-Based Business Models Units: 4
- ECON 318 Introduction to Econometrics Units: 4

- ECON 419 Advanced Econometrics Units: 4
- HP 350L Health Behavior Research Methods Units: 4
- ISE 426 Statistical Quality Control Units: 3
- MATH 447 Mathematics of Machine Learning Units: 4
- MATH 650 Seminar in Statistical Consulting Units: 3
- PM 522a Introduction to the Theory of Statistics Units: 3
- PM 522b Introduction to the Theory of Statistics Units: 3
- PPD 504 Essential Statistics for Public Management Units: 2
- PSYC 421L Data Analysis for Psychological Research Units: 4

Note:

***Prerequisite required.**

Any upper-division or graduate level class not appearing in the above list that involves the theory or application of statistics may be approved by the Department of Mathematics as an elective.

Total Units: 16

Master's Degree

Applied Mathematics (MA)

Master of Arts in Mathematics and Master of Arts in Applied Mathematics

The objective of the Master of Arts program is to prepare students for research, teaching and other professional careers in mathematics and applied mathematics, respectively. In addition to the algebra requirement and differential geometry/topology option for the Master of Arts in Mathematics, the two programs differ in emphasis: the Master of Arts in Mathematics emphasizes the core courses in pure mathematics, and the Master of Arts in Applied Mathematics emphasizes courses in mathematics and affiliated fields that are fundamental in applied mathematics.

Relationship to PhD Programs in Mathematics and in Applied Mathematics

The two year MA program is an expansion of the first year of graduate studies in the PhD program in mathematics (respectively, the PhD program in applied mathematics). The program provides a rigorous foundation in mathematics (applied mathematics) while affording students additional time for preparatory training. The comprehensive examinations for the MA program can serve as the preliminary qualifying examination for either PhD program, and the written PhD qualifying examinations serve as comprehensive examinations for the corresponding Master of Arts degree.

Requirements for the Master of Arts in Mathematics

At least 24 units are required, including:

Required Courses

- MATH 510a Algebra Units: 3
- MATH 510b Algebra Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525a Real Analysis Units: 3

And one option from A, B, C or D:

(A)

- MATH 535a Differential Geometry Units: 3
- MATH 540 Topology Units: 3

(B)

- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

(C)

- MATH 507a Theory of Probability Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3

(D)

- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3

Additional Requirements

The degree is completed with either departmental examinations (two written examinations selected from the two required components and the optional component) or a thesis demonstrating research ability in pure mathematics (the thesis option requires four additional thesis units selected from MATH 594a, MATH 594b, MATH 594z).

Requirements for the Master of Arts in Applied Mathematics

At least 24 units are required, including

- MATH 525a Real Analysis Units: 3

And at least three from these courses:

- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3

- MATH 505a Applied Probability Units: 3 or
- MATH 507a Theory of Probability Units: 3

- MATH 505b Applied Probability Units: 3 or
- MATH 506 Stochastic Processes, or
- MATH 507b Theory of Probability Units: 3

- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

Additional Requirements

Other elective courses, including those from other departments, have to be approved by the program adviser.

The degree is completed with either departmental comprehensive examinations (two examinations, one covering the required component MATH 525a, and the second covering one of the elective MATH courses) or a thesis demonstrating research ability in applied mathematics (the thesis option requires four additional thesis units selected from MATH 594a, MATH 594b, MATH 594z).

Applied Mathematics (MS)

This program is intended for individuals who are seeking or currently hold positions which involve mathematical applications, or for mid-career people wishing to improve their skills in applied areas. Specific options in the program include: biomedicine, discrete mathematics, economics, finance and business economics, fluid dynamics, numerical analysis and computation, and systems and control. In addition, students may design their own option to suit specific needs.

On admission to the program, each student is assigned an option adviser. The adviser serves on the student's master's committee and assists the student in determining the courses of study in the selected option. Courses of instruction are drawn from the Department of Mathematics and other participating departments which include: aerospace engineering, biomedical engineering, civil engineering, computer science, economics, electrical engineering, business administration, mechanical engineering, physiology and biophysics, and preventive medicine.

Required Courses

- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 505a Applied Probability Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 570a Methods of Applied Mathematics Units: 3
- MATH 601 Optimization Theory and Techniques Units: 3
- plus at least 15 units of elected option courses

Additional Requirements

In addition, registration in MATH 594a, MATH 594b and a master's thesis is required for all students. This thesis is the end product of a practicum in the selected option. The practicum is supervised by the student's master's committee.

For this program students are not required to take the screening examination or to satisfy a foreign language requirement.

Mathematics (MA)

Master of Arts in Mathematics and Master of Arts in Applied Mathematics

The objective of the Master of Arts program is to prepare students for research, teaching and other professional careers in mathematics and applied mathematics, respectively. In addition to the algebra requirement and differential geometry/topology option for the Master of Arts in Mathematics, the two programs differ in emphasis: the Master of Arts in Mathematics emphasizes the core courses in pure mathematics, and the Master of Arts in Applied Mathematics emphasizes courses in mathematics and affiliated fields that are fundamental in applied mathematics.

Relationship to PhD Programs in Mathematics and in Applied Mathematics

The two year MA program is an expansion of the first year of graduate studies in the PhD program in mathematics (respectively, the PhD program in applied mathematics). The program provides a rigorous foundation in mathematics (applied mathematics) while affording students additional time for preparatory training. The comprehensive examinations for the MA program can serve as the preliminary qualifying examination for either PhD program, and the written PhD qualifying examinations serve as comprehensive examinations for the corresponding Master of Arts degree.

Requirements for the Master of Arts in Mathematics

At least 24 units are required, including:

Required Courses

- MATH 510a Algebra Units: 3
- MATH 510b Algebra Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525a Real Analysis Units: 3

And one option from A, B, C or D:

(A)

- MATH 535a Differential Geometry Units: 3
- MATH 540 Topology Units: 3

(B)

- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

(C)

- MATH 507a Theory of Probability Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3

(D)

- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3

Additional Requirements

The degree is completed with either departmental examinations (two written examinations selected from the two required components and the optional component) or a thesis demonstrating research ability in pure mathematics (the thesis option requires four additional thesis units selected from MATH 594a, MATH 594b, MATH 594z).

Requirements for the Master of Arts in Applied Mathematics

At least 24 units are required, including

- MATH 525a Real Analysis Units: 3

And at least three from these courses:

- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3

- MATH 505a Applied Probability Units: 3 or
- MATH 507a Theory of Probability Units: 3

- MATH 505b Applied Probability Units: 3 or
- MATH 506 Stochastic Processes, or
- MATH 507b Theory of Probability Units: 3
- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

Additional Requirements

Other elective courses, including those from other departments, have to be approved by the program adviser.

The degree is completed with either departmental comprehensive examinations (two examinations, one covering the required component MATH 525a, and the second covering one of the elective MATH courses) or a thesis demonstrating research ability in applied mathematics (the thesis option requires four additional thesis units selected from MATH 594a, MATH 594b, MATH 594z).

Statistics (MS)

The object of this program is to provide academic instruction in statistical theory with a solid mathematical foundation while emphasizing applications to real world problems. Some probability theory is included to provide a rigorous foundation. The program is intended for individuals who are seeking or currently hold positions that involve statistical methodology and practice. A student may orient his or her course of study toward a particular field of application through appropriate selections from the program listings plus elective courses from other disciplines.

Course Requirements

Thirty units of course work are required, including:

Required Courses

- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 550 Statistical Consulting and Data Analysis Units: 3

And one from each of options A, B, C:

(A)

- MATH 505a Applied Probability Units: 3
- MATH 507a Theory of Probability Units: 3

(B)

- MATH 542 Analysis of Variance and Design Units: 3
- MATH 545 Introduction to Time Series Units: 3

(C)

- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 502a Numerical Analysis Units: 3
- PM 511aL Data Analysis Units: 4

Plus at least 12 units of courses from the following categories, or additional courses approved by the adviser:

Biological Science

- Course selected in consultation with an adviser Units: 4

Computer Science

- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 585 Database Systems Units: 4
- CSCI 670x Advanced Analysis of Algorithms Units: 4
- CSCI 677 Advanced Computer Vision Units: 4
- CSCI 686 Advanced Big Data Analytics Units: 4

Data Sciences and Operations

- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 536 Monte Carlo Simulation and Decision Models Units: 1.5
- DSO 545 Statistical Computing and Data Visualization Units: 1.5, 3

Economics

- ECON 513 Practice of Econometrics Units: 4
- ECON 610 Quantitative Analysis in Macroeconomics Units: 4
- ECON 612 Econometric Theory Units: 4
- ECON 613 Economic and Financial Time Series I Units: 4
- ECON 614 Economic and Financial Time Series II Units: 4
- ECON 615 Applied Econometrics Units: 4

Electrical and Computer Engineering

- EE 510 Linear Algebra for Engineering Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 550 Data Networks: Design and Analysis Units: 4
- EE 553 Computational Solution of Optimization Problems Units: 3
- EE 559 Machine Learning I: Supervised Methods Units: 4
- EE 562 Random Processes in Engineering Units: 4
- EE 563 Estimation Theory Units: 3
- EE 588 Optimization for the Information and Data Sciences Units: 4
- EE 592 Computational Methods for Inverse Problems Units: 4
- EE 649 Stochastic Network Optimization Units: 3
- EE 660 Machine Learning II: Mathematical Foundations and Methods Units: 4

Finance and Business Economics

- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3 *
- FBE 555 Investment Analysis and Portfolio Management Units: 3 *
- FBE 559 Management of Financial Risk Units: 3 *

Prerequisite Note:

*GSBA 548 is a prerequisite that may not be waived.

Industrial and Systems Engineering

- ISE 520 Optimization Theory and Algorithms: Numerical Optimization Units: 3
- ISE 525 Design of Experiments Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 538 Performance Analysis Using Markov Models Units: 3
- ISE 539 Stochastic Elements of Simulation Units: 3
- ISE 626 Advanced Topics in Applied Stochastic Models

Data Science Program

- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 560 Data Science Professional Practicum Units: 4

Mathematics

- MATH 502b Numerical Analysis Units: 3
- MATH 508 Filtering Theory Units: 3
- MATH 509 Stochastic Differential Equations Units: 3
- MATH 512 Financial Informatics and Simulation (Computer Labs and Practitioner Seminar) Units: 3
- MATH 530a Stochastic Calculus and Mathematical Finance Units: 3
- MATH 530b Stochastic Calculus and Mathematical Finance Units: 3
- MATH 545 Introduction to Time Series Units: 3
- MATH 547 Mathematical Foundations of Statistical Learning Theory Units: 3
- MATH 578a Computational Molecular Biology Units: 3
- MATH 578b Computational Molecular Biology Units: 3
- MATH 605 Topics in Probability Units: 3
- MATH 606 Topics in Stochastic Processes Units: 3

Preventive Medicine

- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 511cL Data Analysis Units: 4
- PM 513 Experimental Designs Units: 3
- PM 522a Introduction to the Theory of Statistics Units: 3
- PM 522b Introduction to the Theory of Statistics Units: 3
- PM 534 Statistical Genetics Units: 3
- PM 544L Multivariate Analysis Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 571 Applied Logistic Regression Units: 3
- PM 603 Structural Equation Modeling Units: 4, 2 years

Psychology

- PSYC 501L Classic and Modern Statistical Methods I Units: 4
- PSYC 502 Classic and Modern Statistical Methods II Units: 4
- PSYC 503L Regression and the General Linear Model Units: 4
- PSYC 520 Fundamentals of Psychological Measurement Units: 4
- PSYC 575L Multilevel Modeling Units: 4
- PSYC 577 Analysis of Covariance Structures Units: 4
- PSYC 578 Workshop in Quantitative Methods Units: 4

Public Planning and Development

- PPD 557 Modeling and Operations Research Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4

Social Work

- SOWK 761L Multiple Regression for Social Work Research Units: 3

Sociology

- SOCI 521 Quantitative Methods and Statistics Units: 4

Note:

The following courses may not be used as electives for the degree: DSO 401, DSO 402, DSO 510, EE 503, FBE 529, FBE 540, FBE 543, MATH 505a and MATH 505b or MATH 507a and MATH 507b (other than the course used to satisfy Requirement A), MATH 525a and MATH 525b, MATH 532, MATH 574, PPD 502x, PPD 525 and PPD 570

Additional Requirements

Students may opt for a master's thesis (and registration in MATH 594a, MATH 594b) or a written examination covering material from MATH 505a or MATH 507a, and MATH 541a, MATH 541b. The examination will normally be given at the beginning of the fall and spring semester. Students must pass MATH 505a or MATH 507a, and MATH 541a, MATH 541b with a grade of B or higher. If a student receives a grade of B- or lower in any of these courses, the requirement can be waived upon passing the screening exam for the course at the master's level or higher.

Doctoral Degree

Applied Mathematics (PhD)

Application deadline: December 1

The program requires a maximum effort by the student for a minimum of four years of full-time work.

Screening Procedure

The screening examination consists of four examinations covering the subject content of: MATH 502a Numerical Analysis or MATH 555a Partial Differential Equations; MATH 505a Applied Probability (or, at the student's discretion, MATH 507a Theory of Probability); MATH 525a Real Analysis; and MATH 541a Introduction to Mathematical Statistics.

The department offers the examinations twice a year, at the end of summer and at the beginning of the spring semester. All four parts of the screening examination must be attempted by the end of the third semester (not counting summer sessions) in the program. The students may take each of the exams as many times as they wish, but three of the exams must be successfully completed by the end of the fourth semester (not counting summer sessions) and all four must be successfully completed by the end of the sixth semester in the program. The qualifying examination should follow two or three semesters after the successful completion of the screening procedure.

Qualifying Exam Committee

No later than at the end of the first semester after passing the screening procedure the student must form a qualifying

exam committee consisting of an adviser and four other faculty members, including at least one from another department.

Qualifying Examination

The written portion of the qualifying examination consists of a PhD dissertation proposal. This document (10 pages minimum) should include: introduction, statement of the problem, literature survey, methodology, summary of preliminary results, proposed research, references, appendix (including one or two fundamental references). This should be submitted to the department at least 1 week before the qualifying examination.

The oral portion of the qualifying examination consists of a presentation of the PhD dissertation proposal. The student must demonstrate research potential.

Course Requirements

The student must complete, with no grade lower than B, a minimum of 60 units of courses carrying graduate credit and approved by the qualifying exam committee.

These must include

- MATH 794a Doctoral Dissertation Units: 2
- MATH 794b Doctoral Dissertation Units: 2

And six courses from the following:

- MATH 502b Numerical Analysis Units: 3
- MATH 504a Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 504b Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 507b Theory of Probability Units: 3
- MATH 509 Stochastic Differential Equations Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525b Real Analysis Units: 3
- MATH 530b Stochastic Calculus and Mathematical Finance Units: 3
- MATH 532 Combinatorial Analysis Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 542 Analysis of Variance and Design Units: 3
- MATH 545 Introduction to Time Series Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3
- MATH 574 Applied Matrix Analysis Units: 3
- MATH 576 Applied Complex Analysis and Integral Transforms Units: 3
- MATH 580 Introduction to Functional Analysis Units: 3
- MATH 585 Mathematical Theory of Optimal Control Units: 3

Additional Requirements

Transfer of Credit

No transfer of credit will be considered until the screening examination is passed. A maximum of 30 units of graduate work at another institution may be applied toward the course requirements for the PhD. A grade of B (A = 4.0) or lower will not be accepted and, at most, two grades of B will be accepted. A PhD candidate may petition the department for transfer of additional credit, after he or she passes the qualifying examination.

Foreign Language Requirement

The student must demonstrate a reading comprehension of mathematics in one language (other than English) in which there is a significant body of research mathematics (such as Chinese, French, German, Japanese and Russian) by passing a written examination, administered by the Mathematics Department, in translation of mathematical content.

Dissertation

Following passage of the screening examination and approval of a dissertation topic by the qualifying exam committee, the student begins research toward the dissertation under the supervision of the dissertation committee. The primary requirement of the PhD is an acceptable dissertation based on a substantial amount of original research conducted by the student.

Research Areas

Opportunities for research are available from the faculty in several areas of applied mathematics with an emphasis on: computational biology, control theory, financial mathematics, mathematical neurosciences, numerical analysis, optimization, scientific computing, statistical genetics, statistics and stochastic differential equations.

Mathematics (PhD)

Application deadline: December 1

The program requires the maximum endeavor by the student for normally a minimum of four years of full-time work.

The student must choose between two concentrations: Pure Mathematics or Pure and Applied Mathematics.

Screening Procedure

Appointment of a qualifying exam committee and retention in the doctoral program are contingent on passing the preliminary qualifying examination by the end of the second semester. If a student fails the examination, the department, at its discretion, may permit the student to take it again during the third semester of graduate studies.

The preliminary qualifying exam is a written examination administered by the department. The student must choose between two options: analysis or algebra. Each option approximately covers the content of two one-semester graduate courses, with the precise list of possible topics made available to the student by the department.

Course Requirements

The student must complete with no grade lower than B a minimum of 60 units of courses carrying graduate credit and approved by the qualifying exam committee.

Pure Mathematics Concentration

Required Courses

- MATH 510a Algebra Units: 3
- MATH 525a Real Analysis Units: 3
- MATH 535a Differential Geometry Units: 3
- MATH 794a Doctoral Dissertation Units: 2
- MATH 794b Doctoral Dissertation Units: 2

Five courses selected from the following:

- MATH 507a Theory of Probability Units: 3
- MATH 510b Algebra Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525b Real Analysis Units: 3
- MATH 532 Combinatorial Analysis Units: 3
- MATH 540 Topology Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

Pure and Applied Mathematics Concentration

Required Courses

- MATH 502a Numerical Analysis Units: 3
- MATH 510a Algebra Units: 3
- MATH 525a Real Analysis Units: 3
- MATH 794a Doctoral Dissertation Units: 2
- MATH 794b Doctoral Dissertation Units: 2

Five courses selected from the following:

- MATH 502b Numerical Analysis Units: 3
- MATH 507a Theory of Probability Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525b Real Analysis Units: 3
- MATH 532 Combinatorial Analysis Units: 3
- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

Additional Requirements

Transfer of Credit

No transfer of credit will be considered until the screening examination is passed. Normally a maximum of 30 units of graduate work at another institution may be applied toward the course requirements for the PhD A grade of B- or lower will not be accepted, and, at most, two grades of B will be accepted. A PhD candidate may petition the department for transfer of additional credit after passing the qualifying examination.

Foreign Language Requirement

The student must demonstrate a reading comprehension of mathematics in one language (other than English) in which there is a significant body of research mathematics (such as Chinese, French, German, Japanese and Russian) by passing a written examination, administered by the department, in translation of mathematical content.

Qualifying Examination

The written portion of the qualifying examination is comprehensive, consisting of two, two-hour examinations administered by the department. These examinations cover two out of the following five options, excluding the option already selected for the preliminary examination: algebra, analysis, geometry/topology, probability/statistics, differential equations. Each option approximately covers the content of two, one-semester graduate courses, with the precise list of possible topics made available to the students by the department. The selection of options must be approved by the qualifying exam committee.

The oral portion of the qualifying examination covers one topic selected from department research areas in mathematics and approved by the qualifying exam committee. The student must demonstrate research potential in this field. A dissertation proposal (10 pages minimum) must be submitted to the department at least 1 week before the oral qualifying examination.

Dissertation

Following passage of the qualifying examination and approval of a dissertation topic by the qualifying exam committee, the student begins research toward the dissertation under the supervision of the dissertation committee. The primary requirement for the PhD is an acceptable dissertation which is based on a substantial amount of original research conducted by the student.

Research Areas

Opportunities for research are offered in the areas of algebraic geometry, arithmetic geometry, combinatorics, complex geometry, control theory, differential equations, differential geometry, dynamical systems, functional analysis, geometric analysis, group theory, K-theory, nonlinear analysis, number theory, numerical analysis, optimization, probability, representation theory, ring theory and topology.

Middle East Studies

The Department of Middle East Studies (MDES) is committed to the teaching and study of the languages, cultures, peoples and societies throughout the Middle East with an emphasis on the impact of the pressing problems of globalization and the environment. MDES is home to an interdisciplinary major and minor in Middle East Studies, an Iranian Studies Minor, and an Arabic Minor.

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Professors: Sarah Gualtieri, PhD* (*American Studies and Ethnicity*); Ramzi Rouighi, PhD
Associate Professor: Olivia C. Harrison, PhD (*French and Italian*)
Associate Professor (Teaching): Peyman Nojoumian, PhD
Assistant Professor (Teaching): Hani Khafipour, PhD
Senior Lecturer: Sozan Wali, EdD
Lecturer: Muhammad AlKhudair, MA
**Recipient of university-wide or college teaching award.*

Bachelor's Degree

Middle East Studies (BA)

This major is an interdisciplinary degree with an emphasis on the pressing problems of globalization and the environment of the peoples, cultures, and societies of the Middle East. Its courses offer students interested in exploring the richness and complexity of the Middle East, broadly defined as extending from Morocco through Iran, a framework for developing both expertise and wide-ranging critical perspectives on the region's past, present and future. The variety of courses allows students to build on their firm grounding in at least one of the region's languages and pursue their research interests in their capstone projects.

Learning Objectives for the Middle East Studies Major:

1. Offer foundational knowledge of the geography, cultures and history of the Middle East and North Africa.
2. Offer rigorous training in a range of social science and humanities approaches from history, economics, political science, geography, and international relations to literary and cultural criticism.
3. Develop critical thinking skills that enable the student to place recent and current regional events in context.
4. Enhance students' ability to question non-scholarly accounts of the region's past and present.
5. Deliver firm grounding in at least one of the region's languages: fourth semester proficiency in Arabic, Hebrew or Persian.
6. Train students to conduct informed research on the Middle East.

Nine total courses are required for the major. No more than two courses may be counted toward this major and another major. Students participating in USC Overseas Studies programs should contact the department to discuss course selection for the major. Students must meet with a faculty mentor from the department upon declaring a major in Middle East Studies.

I. Language

All MDES majors must demonstrate fourth semester competency in a Middle Eastern language. This can be achieved through placement, transfer credits from other institutions (subject to approval by the MDES Curriculum Committee), from study abroad, or through successfully completing the level IV Arabic (ARAB 252), Hebrew (HEBR 315) or Persian (IRAN 250) courses at USC. Students who place out of the requirement to take ARAB 252, HEBR 315, or IRAN 250 must take an additional elective course.

- ARAB 252 Arabic IV Units: 4
- HEBR 315 Modern Hebrew Language (Hebrew IV) Units: 4
- IRAN 250 Persian IV Units: 4

II. Required Course - Lower Division

All students must take one of the following two courses.

- HIST 180gw The Middle East Units: 4
- MDES 201w The Middle East: Global and Environmental Perspectives Units: 4

III. Required Courses - Upper Division

All students must take the following two courses.

- MDES 301g The Global Middle East Units: 4
- MDES 475 Seminar in Middle East Studies Units: 4

IV. Concentration I

Students must take at least two courses from this list, one of which must be an MDES course.

- ARAB 300 Introduction to Translation Units: 4
- ARAB 322 Advanced Arabic I Units: 4
- ARAB 333 Colloquial Arabic: Regional Dialects Units: 4
- ARAB 334 Media Arabic Units: 4
- ARAB 352 Advanced Arabic II Units: 4
- CLAS 349gp Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- CLAS 378 Ptolemaic Egypt Units: 4
- COLT 437 Arabic Autobiography: Writing and Interpreting the Self Units: 4
- COLT 447 Traveling Genres: Politics/Poetics of Modern Arabic Prose Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- HIST 480 Seminar in Middle East History Units: 4
- IRAN 320 Advanced Persian I Units: 4
- IRAN 325 Business Persian Units: 4
- IRAN 350 Advanced Persian II Units: 4
- JS 389 Culture and Society in Israel: Inventing the Dream Units: 4
- MDES 312 Medieval Iran: Society and Culture Units: 4
- MDES 313 Modern Iran Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 324 Classical Persian Literature in Translation Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 335 Nation and State in Modern Turkey Units: 4
- MDES 343g Modern Arab Culture and Literature Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4

V. Concentration II

Students must take at least two courses from this list, one of which must be an MDES course.

- ECON 342 Economic Development of the Middle East Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 464 US-Middle East Foreign Policy Issues Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 340 The United States and the Middle East Units: 4
- MDES 342g Arab Intellectuals in Question Units: 4
- MDES 345p Power and Authority in the Middle East Units: 4
- MDES 375 Politics and Society in the Contemporary Middle East Units: 4
- MDES 401 Environment and Politics in the Middle East Units: 4
- MDES 403 Technology, Development and Power in the Middle East Units: 4
- MDES 441w Cities of the Middle East Units: 4
- POSC 351 Middle East Politics Units: 4

VI. Elective Courses

Students must also take one upper-division course, chosen from the list below. Students who place out of the requirement to take ARAB 252, HEBR 315 or IRAN 250 must take two elective courses.

- ARAB 300 Introduction to Translation Units: 4
- ARAB 322 Advanced Arabic I Units: 4
- ARAB 333 Colloquial Arabic: Regional Dialects Units: 4
- ARAB 334 Media Arabic Units: 4
- ARAB 352 Advanced Arabic II Units: 4
- CLAS 349gp Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- CLAS 378 Ptolemaic Egypt Units: 4
- COLT 437 Arabic Autobiography: Writing and Interpreting the Self Units: 4
- COLT 447 Traveling Genres: Politics/Poetics of Modern Arabic Prose Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- FREN 448m France and Islam Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- HIST 480 Seminar in Middle East History Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 464 US-Middle East Foreign Policy Issues Units: 4
- IRAN 320 Advanced Persian I Units: 4
- IRAN 325 Business Persian Units: 4
- IRAN 350 Advanced Persian II Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 389 Culture and Society in Israel: Inventing the Dream Units: 4
- MDES 312 Medieval Iran: Society and Culture Units: 4
- MDES 313 Modern Iran Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 324 Classical Persian Literature in Translation Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 335 Nation and State in Modern Turkey Units: 4
- MDES 340 The United States and the Middle East Units: 4
- MDES 342g Arab Intellectuals in Question Units: 4
- MDES 343g Modern Arab Culture and Literature Units: 4
- MDES 345p Power and Authority in the Middle East Units: 4
- MDES 375 Politics and Society in the Contemporary Middle East Units: 4
- MDES 401 Environment and Politics in the Middle East Units: 4
- MDES 403 Technology, Development and Power in the Middle East Units: 4
- MDES 441w Cities of the Middle East Units: 4
- MDES 475 Seminar in Middle East Studies Units: 4
- POSC 351 Middle East Politics Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- REL 414 History of Islamic Law Units: 4

Note:

Concentration I and II courses may not be double counted as elective courses. MDES 490x and MDES 492 may only be taken by departmental approval.

Honors Program

Candidates for the BA in Middle East Studies may receive a designation on their transcripts of departmental honors. Admission to the honors program is required.

Prerequisites: 3.33 overall GPA; 3.5 GPA or better in courses in the major; a minimum grade of B+ in HIST 180 or MDES 201; completion of at least one upper-level MDES course (400 level) requiring a seminar paper, at the time of admission; and submission of an application form to the MDES undergraduate

faculty adviser. Prior approval of the thesis adviser and/or department chair is required for any modification of these requirements.

Required for departmental honors: The student must maintain the GPA requirements stated above and successfully complete MDES 475 or the MDES 492 Honors Thesis. In semesters when MDES 475 and MDES 492 are not offered, students may, with department approval, substitute MDES 490 (independent study) as constituting an honors seminar equivalent.

Minor

Arabic Minor

The Arabic minor provides students with advanced competency in speaking, reading, writing and understanding the Arabic language. Advanced ability in Arabic can open many doors. Course work for this minor prepares students for various careers and graduate-level study.

Five courses (20 units) are required for the minor. All students must take ARAB 252, ARAB 322 and ARAB 352. For those students who do not already have ARAB 252 equivalent proficiency, ARAB 122, ARAB 152 and ARAB 222 or their equivalent (which do not count toward the minor) must be completed before enrolling in ARAB 252. For those with prior study of Arabic, a placement exam is offered by the USC Language Center to determine language level. If student proficiency surpasses the third-semester college level, the USC Language Center should be consulted about a higher-level proficiency exam. The remaining two courses (8 units) must be selected from the list of elective courses below.

Students are encouraged to study abroad. Prior approval by the department is required of all courses that are to be counted toward the minor. Equivalent courses from other universities will be assessed by the MDES Curriculum Committee.

Required Courses

- ARAB 252 Arabic IV Units: 4
- ARAB 322 Advanced Arabic I Units: 4
- ARAB 352 Advanced Arabic II Units: 4

Upper-Division Arabic Elective Courses

Two courses (8 units) from the following list must also be selected (or substitutes that are pre-approved by the MDES Curriculum Committee). The prerequisite for ARAB 300 is either ARAB 252 or ARAB 334.

- ARAB 300 Introduction to Translation Units: 4
- ARAB 333 Colloquial Arabic: Regional Dialects Units: 4
- ARAB 334 Media Arabic Units: 4

Iranian Studies Minor

The Iranian Studies minor provides students with the foundation for an advanced understanding of Iran, its history, peoples and cultures, from antiquity to the present. Neighboring countries that participated in Persian culture are included, as well as non-Persian Iranian peoples. Students finishing this minor will also have at least an intermediate ability in Persian, the official language of Iran, widely used in neighboring countries as well.

Five courses (20 units) are required for the minor. All students must take HIST 180gw or MDES 201w and IRAN 250. For those students who do not already have IRAN 250-equivalent proficiency, IRAN 120, IRAN 150 and IRAN 220 or their equivalent (which do not count toward the minor) must be completed before enrolling in IRAN 250. For those with prior study of Persian, a placement exam is offered by the USC Language Center to determine language level. If student proficiency surpasses the third-semester college level, the USC Language Center should be consulted about a higher level proficiency exam.

At least one course (4 units) of the three additional courses (12 units) must be selected from the upper-division Iranian Studies Initiative courses. The other two (8 units) may be chosen from the upper-division Iranian Studies Initiative courses or the upper-division Middle East Studies courses listed below.

A special accommodation is in place for majors in the School of International Relations who minor in Iranian Studies. Courses that are cross-listed between MDES and IR can satisfy the four unique courses (at least 16 units) that must be completed outside of their major department for this interdisciplinary minor. Students will still be required, however, to complete at least four courses (16 units) that are unique to the minor (not required to meet major course requirements).

Required Lower-Division Course

Select one course:

- HIST 180gw The Middle East Units: 4
  or
- MDES 201w The Middle East: Global and Environmental Perspectives Units: 4

Required Language Course

- IRAN 250 Persian IV Units: 4

Upper-Division Iranian Studies Initiative Courses

- IRAN 320 Advanced Persian I Units: 4
- IRAN 325 Business Persian Units: 4
- IRAN 350 Advanced Persian II Units: 4
- MDES 312 Medieval Iran: Society and Culture Units: 4
- MDES 313 Modern Iran Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 324 Classical Persian Literature in Translation Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4

Upper-Division Middle East Studies Courses

- CLAS 349gp Ancient Empires Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- MDES 301g The Global Middle East Units: 4
- MDES 340 The United States and the Middle East Units: 4
- MDES 345p Power and Authority in the Middle East Units: 4
- MDES 401 Environment and Politics in the Middle East Units: 4
- MDES 403 Technology, Development and Power in the Middle East Units: 4
- MDES 441w Cities of the Middle East Units: 4
- POSC 351 Middle East Politics Units: 4

Middle East Studies Minor

This interdisciplinary minor offers students interested in exploring the richness and complexity of the Middle East, broadly defined as extending from Morocco through Iran, a framework for developing a basic but solid understanding of the region. Students may select courses that provide a broad introduction across disciplines, or they may choose courses that address a particular historical period or theme.

Twenty units (five courses) are required. All students must take MDES 201w or HIST 180 and MDES 301g. To complete the minor a student must also take three upper-division courses from the list below. Students who are also studying a language may substitute ARAB 252, HEBR 315 or IRAN 250 for one of the three upper-division courses. However there is no language requirement for the minor.

A special accommodation is in place for majors in the School of International Relations who minor in Middle East Studies. Courses that are cross-listed between MDES and IR can satisfy the four unique courses (at least 16 units) that must be completed outside of their major department for this interdisciplinary minor. Students will still be required, however, to complete at least four courses

(16 units) that are unique to the minor (not required to meet major course requirements).

Required Course - Lower Division

All students must take one of the following two courses.

- HIST 180gw The Middle East Units: 4
- MDES 201w The Middle East: Global and Environmental Perspectives Units: 4

Required Course - Upper Division

- MDES 301g The Global Middle East Units: 4

Elective Courses

Three courses from the list below, only two of which may be language courses.

- ARAB 252 Arabic IV Units: 4
- ARAB 300 Introduction to Translation Units: 4
- ARAB 322 Advanced Arabic I Units: 4
- ARAB 333 Colloquial Arabic: Regional Dialects Units: 4
- ARAB 334 Media Arabic Units: 4
- ARAB 352 Advanced Arabic II Units: 4
- CLAS 349gp Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- CLAS 378 Ptolemaic Egypt Units: 4
- COLT 437 Arabic Autobiography: Writing and Interpreting the Self Units: 4
- COLT 447 Traveling Genres: Politics/Poetics of Modern Arabic Prose Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- HEBR 315 Modern Hebrew Language (Hebrew IV) Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- HIST 480 Seminar in Middle East History Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 464 US-Middle East Foreign Policy Issues Units: 4
- IRAN 250 Persian IV Units: 4
- IRAN 320 Advanced Persian I Units: 4
- IRAN 325 Business Persian Units: 4
- IRAN 350 Advanced Persian II Units: 4
- JS 389 Culture and Society in Israel: Inventing the Dream Units: 4
- MDES 312 Medieval Iran: Society and Culture Units: 4
- MDES 313 Modern Iran Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 324 Classical Persian Literature in Translation Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 335 Nation and State in Modern Turkey Units: 4
- MDES 340 The United States and the Middle East Units: 4
- MDES 342g Arab Intellectuals in Question Units: 4
- MDES 343g Modern Arab Culture and Literature Units: 4
- MDES 345p Power and Authority in the Middle East Units: 4
- MDES 375 Politics and Society in the Contemporary Middle East Units: 4
- MDES 401 Environment and Politics in the Middle East Units: 4
- MDES 403 Technology, Development and Power in the Middle East Units: 4
- MDES 441w Cities of the Middle East Units: 4
- MDES 475 Seminar in Middle East Studies Units: 4
- POSC 351 Middle East Politics Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4

Multidisciplinary Activities

Undergraduate Programs, USC Dornsife College
(213) 740-2961
Email: fliegel@usc.edu
Contact: Richard Fliegel, PhD

Multidisciplinary Activities (MDA) courses are developed and taught by faculty from more than one program, department and/or school. These courses exist because of the college's interest in supporting interdisciplinary teaching and research. A student's transcript indicates enrollment in a multidisciplinary activities course.

Students who enroll in MDA courses share a common interest in the subject matter, but are not necessarily majors in those disciplines. These courses can be used as electives for certain degree requirements and, when indicated by the "g" suffix, for general education credit. They include:

The Dornsife Toolkit (MDA 300)

These two-unit classes focus on intellectual skills that help prepare students for success on the job market, in graduate and professional schools. They include classes on activism and advocacy, grant-writing, start-ups, pitching projects, visualizing data, everyday eloquence, personal economics and managing the work/life balance. Scheduled once a week on a CREDIT/NO CREDIT basis, Dornsife Toolkit classes are usually limited to 25 students each.

Internship for the Liberal Arts (MDA 250)

This class in service learning enables students to earn college credit while participating in an eligible internship experience. Course work is required, as well as a concurrent internship that meets the guidelines for the program. Students can earn up to 4 units in 1- or 2-unit sections.

Case Studies in Modern Leadership (MDA 325)

This class, part of the interdisciplinary minor in Critical Approaches to Leadership, has recently been co-taught by former Prime Minister of the United Kingdom, the Right Honorable Gordon Brown.

Collaborative Learning Projects (CLP) and Individual Programs of Study (IPOS)

See Learner Centered Curricula.

Neuroscience (Undergraduate)

Hedco Neurosciences Building 120
(213) 740-6091
FAX: (213) 740-2534
Email: msalido@usc.edu
Program Director: David McKemy, PhD
Participating Faculty: *See Biological Sciences, Computer Science, Biomedical Engineering, Philosophy, Psychology, Engineering, Gerontology, Medicine and Pharmacy in this catalogue.*

Undergraduate Program

Students in the neuroscience majors are trained to develop an appreciation for the breadth of knowledge that spans the array of neuroscience disciplines, including molecular, cellular, systems, behavioral, cognitive and computational neuroscience. Students will also acquire knowledge in the humanities, social sciences, mathematics, and physical sciences, and learn to appreciate the relevance of these disciplines to the life sciences.

The curriculum is structured to develop the ability to communicate scientific ideas, orally and in writing, as well as scientific and experimental skills. These skills include the application of scientific methods, including forming hypotheses, designing experiments to test hypotheses, and collecting, analyzing, interpreting and reporting data.

At the completion of their studies, students are prepared with a sufficient depth of knowledge and abilities to prepare them for entry-level employment in a wide variety of fields, or for graduate study in neuroscience or health-related professions.

Honors Program in Neuroscience

An honors program is available to outstanding students who are pursuing a BA or BS degree in Neuroscience. This program offers students exceptional opportunities to participate in undergraduate research, culminating in the experience of writing an honors thesis summarizing their completed research. Honors students must register for 4 units of Directed Research (NEUR 490x). Honors students are also required to take two semesters of the Honors Seminar (BISC 493x as one of their upper-division electives, 1 unit/semester), in which small groups of students discuss recent findings in neuroscience literature and their own research. After completing the honors seminar, honors students also take one semester of Honors Thesis (BISC 494x, 2 units), in which students write their senior thesis. Students earning honors in neuroscience must have a minimum overall GPA of 3.5 at graduation. This program leads to the designation on the transcript of Bachelor of Arts/Science in Neuroscience with Honors.

Minor in Neuroscience

The neuroscience minor is designed to acquaint students with a broad range of the problems and opportunities available in the study of the brain and the mind. The core courses will provide knowledge of the biological aspects of brain function, including perception, cognition and statistics. Research in appropriate laboratories is encouraged and include, but are not limited to, Biological Sciences, Psychology and Gerontology. Directed research may be used to satisfy the upper-division elective course requirement.

Bachelor's Degree

Computational Neuroscience (BS)

Coordinator: Jason Zevin, PhD
Undergraduate Adviser: Lucy A. Rinard, lucyleon@usc.edu
The computational neuroscience major is designed for those students with an interest in applying mathematical and computational methodologies toward understanding the structure and functioning of the nervous system. The major will provide progressive training in interdisciplinary and inter-faculty aspects of neuroscience, and serve as a foundation for students interested in pursuing post-graduate education in graduate or professional schools or career opportunities in technically advanced occupations. Research is integral to this major and students are encouraged to engage in research with neuroscience faculty as early as possible in their undergraduate years.

Grade Requirements:

A grade of C- or higher is required to count toward major requirements.

Program Requirements:

The major requires twelve core courses (45 units) and six or seven electives (minimum 22 units) for a minimum total of 67 units.

The degree requires a minimum of 128 units.

Core Requirements

General Science Requirements:
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4 or
- CHEM 105aLg General Chemistry Units: 4
- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Statistics Requirement, Choose One:
- BISC 305g Statistics for Biological Sciences Units: 4
- PSYC 274Lg Statistics Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- MATH 307 Statistical Inference and Data Analysis I Units: 4

Neuroscience Requirements:
- BISC 421 Neurobiology Units: 4
- NEUR 199 Neuroscience Colloquium Units: 1
- PSYC 100Lg Introduction to Psychology Units: 4

Choose Two:
- BISC 407 Cellular and Molecular Neuroscience Units: 4
- NEUR 408 Systems Neuroscience: From Synapses to Perception Units: 4
- PSYC 440 Foundations of Cognitive Neuroscience Units: 4

Computational Area

Students are to take a total of three courses. The courses are listed in the table according to the programming language of the courses. It is not obligatory that all courses be from the same programming language, but the student should be aware that knowledge of a different language will likely be assumed in the advanced courses. Only one introductory programming course will be counted toward the major.

Basic Computational Skills

Choose one course (2-4 units).
- BISC 444 Practical Analysis of Biological Data in R Units: 2
- CSCI 103L Introduction to Programming Units: 4
- CSCI 455x Introduction to Programming Systems Design Units: 4
- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 168 Introduction to MATLAB Units: 2
- ITP 249 Introduction to Data Analytics Units: 4

Computational Courses

Choose two courses (8 units).
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4

- BME 425 Basics of Biomedical Imaging Units: 3
- BISC 461 Seminar in Molecular and Computational Biology Units: 2
  *BISC 461 must be taken with BISC 444
- BISC 478 Computational Genome Analysis Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- CSCI 467 Introduction to Machine Learning Units: 4
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4
- MATH 308 Statistical Inference and Data Analysis II Units: 4

Biological Area

Choose 1-2 courses (4 units).

- BISC 424 Brain Architecture Units: 4
- BISC 461 Seminar in Molecular and Computational Biology Units: 2
- BISC 462 Seminar in Neurobiology Units: 2
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- HBIO 435 Neurobiology of Feeding Behavior and Obesity Units: 4
- HP 409 Environmental Impacts on the Brain Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4

Behavioral Area

Choose one (4 units).

- PSYC 301L Cognitive Processes Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 425 Functional Imaging of the Human Brain Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 438 Behavioral Genetics Units: 4
- ECON 405 Neuroeconomics Units: 4
- LING 385Lg Human Language as Computation Units: 4

Other Electives

Take one additional course from the Computational, Biological, or Behavioral area, or complete four units of Neuroscience research (NEUR 490).

- NEUR 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Graduate Courses

A graduate class from the following list may be substituted for an undergraduate computational course with the permission of the co-directors and instructor and with a minimum GPA of 3.3.

- BME 502 Advanced Studies of the Nervous System Units: 4
- BME 575L Computational Neuroengineering Units: 3
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 564 Brain Theory and Artificial Intelligence Units: 3
- CSCI 574 Computer Vision Units: 3
- CSCI 662 Advanced Natural Language Processing Units: 4
- EE 559 Machine Learning I: Supervised Methods Units: 4
- NSCI 524 Advanced Overview of Neurosciences Units: 4
- NSCI 531 Molecular and Cellular Neurobiology Units: 4
- NSCI 532 Systems and Behavioral Neurobiology Units: 3
- PSYC 506 Learning and Cognition Units: 4
- PSYC 540 Cognitive Neuroscience Units: 4
- PSYC 544 Psychophysiology Units: 4
- PSYC 545 Neuropsychology Units: 4
- PSYC 547 Functional Neuroanatomy Units: 4
- PSYC 551 Decision Neuroscience Units: 4
- PSYC 555 Introduction to Functional Magnetic Resonance Imaging Units: 4

Neuroscience (BA)

Coordinator: Jason Zevin, PhD
Undergraduate Advisers: Pablo Lopez, pablol@usc.edu; Toni Richardson, tonirich@usc.edu.

Grade Requirements:

A grade of C- or higher is required to count toward major requirements.

Program Requirements:

The major requires eight core courses and a colloquium (33 units) and four or five elective courses (minimum 16 units) for a minimum total of 49 units.

The degree requires a minimum of 128 units.

Core Requirements

Introductory Requirements:

- MATH 125g Calculus I Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4

General Biology Requirement, Choose One:

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

General Chemistry Requirement, Choose One:

- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- CHEM 105aLg General Chemistry Units: 4

Statistics Requirement, Choose One:

- BISC 305g Statistics for Biological Sciences Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- MATH 307 Statistical Inference and Data Analysis I Units: 4
- PSYC 274Lg Statistics Units: 4

Neuroscience Requirements:

- BISC 421 Neurobiology Units: 4
- NEUR 199 Neuroscience Colloquium Units: 1

Choose Two:

- BISC 407 Cellular and Molecular Neuroscience Units: 4
- BISC 408 Systems Neuroscience: From Synapses to Perception Units: 4
- PSYC 440 Foundations of Cognitive Neuroscience Units: 4

Electives

Four or five upper-division elective courses (minimum 16 units) from the list below are required. At least one course in the upper-division electives must carry a lab ("L") designation or be NEUR 490x. No more than 4 units of NEUR 490x may be used to fulfill the upper-division elective requirement.

Elective Courses

- BISC 307L General Physiology Units: 4
- BISC 312x Molecular Biochemistry Units: 4
- BISC 313L Evolution and Population Genetics Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 411 Advanced Cell Biology Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 410 Applications of Molecular Biology to Medicine Units: 4
- BISC 422L Neurobiology Laboratory Units: 2
- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4
- BISC 424 Brain Architecture Units: 4
- BISC 426 Principles of Neural Development Units: 4
- BISC 461 Seminar in Molecular and Computational Biology Units: 2
- BISC 462 Seminar in Neurobiology Units: 2
- BISC 480L Developmental Biology Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4

- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- CHEM 350g Molecular Principles of Biochemistry Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- ECON 405 Neuroeconomics Units: 4
- GERO 414 Neurobiology of Aging Units: 4
- GERO 415 Neuroaffective Disorders of Aging Units: 4
- HBIO 306 Biology of the Non-Human Primates Units: 4
- HBIO 435 Neurobiology of Feeding Behavior and Obesity Units: 4
- HP 409 Environmental Impacts on the Brain Units: 4
- MATH 265 Mathematical and Computational Methods for Neuroscience Units: 4
- NEUR 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- PSYC 301L Cognitive Processes Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 305 Learning and Memory Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 339Lg Origins of the Mind Units: 4
- PSYC 404L Psychophysiology of Emotion Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 425 Functional Imaging of the Human Brain Units: 4
- PSYC 426 Motivated Behaviors and Addiction Units: 4
- PSYC 438 Behavioral Genetics Units: 4
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4

Graduate Courses

A graduate class from the following list may be substituted for an upper-division elective with the permission of the co-directors and instructor and with a minimum GPA of 3.3.

- BME 575L Computational Neuroengineering Units: 3
- CSCI 564 Brain Theory and Artificial Intelligence Units: 3
- NSCI 524 Advanced Overview of Neurosciences Units: 4
- NSCI 531 Molecular and Cellular Neurobiology Units: 4
- NSCI 532 Systems and Behavioral Neurobiology Units: 3
- PSYC 506 Learning and Cognition Units: 4
- PSYC 540 Cognitive Neuroscience Units: 4
- PSYC 544 Psychophysiology Units: 4
- PSYC 545 Neuropsychology Units: 4
- PSYC 547 Functional Neuroanatomy Units: 4
- PSYC 551 Decision Neuroscience Units: 4
- PSYC 555 Introduction to Functional Magnetic Resonance Imaging Units: 4

Neuroscience (BS)

Coordinator: Jason Zevin, PhD
Undergraduate Advisers: Pablo Lopez, pablol@usc.edu; Toni Richardson, tonirich@usc.edu.

Grade Requirements:

A grade of C- or higher is required to count toward major requirements.

Program Requirements:

The major requires 15 core courses (minimum 55 units) and five or six elective courses (minimum 20 units) for a minimum total of 75 units.

The degree requires a minimum of 128 units.

Core Requirements

General Science Requirements:

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- MATH 125g Calculus I Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4

Programming Requirement, Choose One:

- CSCI 103L Introduction to Programming Units: 4
- CSCI 455x Introduction to Programming Systems Design Units: 4
- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2
- ITP 168 Introduction to MATLAB Units: 2

Statistics Requirement, Choose One:

- BISC 305g Statistics for Biological Sciences Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- MATH 307 Statistical Inference and Data Analysis I Units: 4
- PSYC 274Lg Statistics Units: 4

Neuroscience Requirements:

- BISC 421 Neurobiology Units: 4
- NEUR 199 Neuroscience Colloquium Units: 1

Choose Two:*

- BISC 407 Cellular and Molecular Neuroscience Units: 4
- BISC 408 Systems Neuroscience: From Synapses to Perception Units: 4
- PSYC 440 Foundations of Cognitive Neuroscience Units: 4

Electives

Five or six upper-division elective courses (minimum of 20 units) from the following list are required. At least one course in the upper-division electives must carry a lab ("L") designation or be 490. No more than 4 units of NEUR 490x may be used to fulfill the upper-division elective requirement.

Elective Courses

- BISC 307L General Physiology Units: 4
- BISC 312x Molecular Biochemistry Units: 4
- BISC 313L Evolution and Population Genetics Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 410 Applications of Molecular Biology to Medicine Units: 4
- BISC 411 Advanced Cell Biology Units: 4
- BISC 422L Neurobiology Laboratory Units: 2
- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4
- BISC 424 Brain Architecture Units: 4
- BISC 426 Principles of Neural Development Units: 4
- BISC 461 Seminar in Molecular and Computational Biology Units: 2
- BISC 462 Seminar in Neurobiology Units: 2
- BISC 480L Developmental Biology Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- CHEM 350g Molecular Principles of Biochemistry Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 445L Introduction to Robotics Units: 4

- ECON 405 Neuroeconomics Units: 4
- GERO 414 Neurobiology of Aging Units: 4
- GERO 415 Neuroaffective Disorders of Aging Units: 4
- HBIO 306 Biology of the Non-Human Primates Units: 4
- HBIO 435 Neurobiology of Feeding Behavior and Obesity Units: 4
- HP 409 Environmental Impacts on the Brain Units: 4
- MATH 265 Mathematical and Computational Methods for Neuroscience Units: 4
- NEUR 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- PSYC 301L Cognitive Processes Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 305 Learning and Memory Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 339Lg Origins of the Mind Units: 4
- PSYC 404L Psychophysiology of Emotion Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 425 Functional Imaging of the Human Brain Units: 4
- PSYC 426 Motivated Behaviors and Addiction Units: 4
- PSYC 438 Behavioral Genetics Units: 4
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4

Note:

*Students may take the third of the three courses BISC 407, BISC 408 and PSYC 440 as an elective.

Graduate Courses

A graduate class from the following list may be substituted for an upper-division elective with the permission of the co-directors and instructor and with a minimum GPA of 3.3.

- BME 575L Computational Neuroengineering Units: 3
- CSCI 564 Brain Theory and Artificial Intelligence Units: 3
- NSCI 524 Advanced Overview of Neurosciences Units: 4
- NSCI 531 Molecular and Cellular Neurobiology Units: 4
- NSCI 532 Systems and Behavioral Neurobiology Units: 3
- PSYC 506 Learning and Cognition Units: 4
- PSYC 540 Cognitive Neuroscience Units: 4
- PSYC 544 Psychophysiology Units: 4
- PSYC 545 Neuropsychology Units: 4
- PSYC 547 Functional Neuroanatomy Units: 4
- PSYC 551 Decision Neuroscience Units: 4
- PSYC 555 Introduction to Functional Magnetic Resonance Imaging Units: 4

Minor

Neuroscience Minor

Coordinator: Jason Zevin, PhD
Undergraduate Advisers: Elizabeth Linkous, linkous@usc.edu; Lucy A. Leon, lucyleon@usc.edu

Grade Requirements

A grade of C- or higher is required to count toward minor requirements.

Core Requirements (20 Units)

- PSYC 274Lg Statistics Units: 4 *
- BISC 421 Neurobiology Units: 4 **
- NEUR 408 Systems Neuroscience: From Synapses to Perception Units: 4 **
- PSYC 440 Foundations of Cognitive Neuroscience Units: 4 ***
- Electives A 300- or 400-level course from the elective list for majors Units: 4

Note:

**An equivalent course may be substituted with permission*
***Prerequisite: BISC 220 or BISC 221*
****Prerequisite: PSYC 100*
Recommended but not required: CHEM 103Lx (or CHEM 105La) plus MATH 125
Students who have not already taken the prerequisites (BISC 220/ BISC 221 and PSYC 100) will need to take a total of 28 units to satisfy the requirements of a minor in neuroscience. Thus, the range of units will vary from 20 to 28 depending on a student's background.

Ocean Sciences

Zumberge Hall of Science 117
(213) 740-6106
FAX: (213) 740-8801
Email: waite@usc.edu
oceansciences.usc.edu
Director: Douglas E. Hammond, PhD
Participating Faculty: See *Biological Sciences*, *Earth Sciences* and *Engineering* in this catalogue.

Applications for the Ocean Sciences program should be routed through the affiliated departments and a separate letter sent to the Ocean Sciences director, Douglas E. Hammond, USC Earth Sciences, Los Angeles, CA 90089-0740.

Degree Programs

The Graduate Program in Ocean Sciences (GPOS) provides interdisciplinary education and training to prepare professional ocean scientists for careers in academia, industry, and state and federal government. Students develop the ability to identify and solve significant problems in ocean sciences by using their training in several disciplines. They develop the ability to formulate and test hypotheses and integrate information and concepts about how the earth-ocean system is structured and how it functions. Training also is provided to develop skills in oral and written communication of technical and scientific information. Both MS and PhD degree programs are offered; both require preparation of a thesis (MS) or dissertation (PhD).

Admission Requirements

All rules and regulations described in The Graduate School section of this catalogue and Graduate Admission apply to students in the GPOS.

Official acceptance by the GPOS Admissions Committee is based on the recommendation of faculty from an affiliated department. Acceptance depends upon the applicant's letters of recommendation, research experience, intended area of research, personal interview (whenever possible), and the availability of a faculty member willing to advise and sponsor the applicant.

A BS or BA degree in an appropriate field of natural science, engineering or mathematics is required for admission.

It is expected that applicants to the GPOS will have attained a scholarship average of at least "B" (3.0 GPA on a 4.0 scale) preferably in the natural sciences or mathematics. Applicants to the GPOS are NOT required to submit GRE scores.

Applicants should contact the GPOS office by email or phone for an admission package. The GPOS admits students for both the fall and spring semesters; however, applicants for assistantships are encouraged to apply for the fall semester.

Graduate Degrees

Degree Requirements

Advanced degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations.

All courses applied toward the degrees must be courses accepted by the Graduate School.

Interdisciplinary Programs

The Graduate Program in Ocean Sciences is designed to be interdisciplinary, reflecting the nature of the field that combines principles of physical, chemical, geological and biological oceanography to solve relevant problems in the ocean environment.

Master's Degree

Ocean Sciences (MS)

The program does not accept applicants for a Master of Science degree in ocean sciences. The MS degree is intended only as a transitional degree in the process of completing requirements for the PhD in ocean sciences.

Research Tool Requirements

None required.

Course Requirements

The MS degree in Ocean Sciences requires at least 24 units of course work, including two core courses (OS 512 and 582). Four thesis units (OS 594) are also required. At least 16 units of course work must be at the 500-level or higher; no more than six units can be directed research (OS 590); a maximum of four units with superior grades in approved course work may be transferred from an accredited graduate school. Students are required to maintain an overall GPA of 3.0 in all graduate work.

Thesis

Students should arrange for the appointment of a thesis adviser and committee after the first semester, or at the latest, after the first year of graduate work. The thesis committee should consist of the adviser plus two other faculty members, all of whom are generally selected from GPOS faculty. Once the committee is arranged, the student may make formal application to the Graduate School for the MS degree.

Doctoral Degree

Ocean Sciences (PhD)

Research Tool Requirements

To be determined by qualifying exam committee.

Course Requirements

The PhD degree in Ocean Sciences requires at least 27 units of formal course work (including seminars) of the 60 total units needed. Two core courses are required (OS 512, OS 582). No more than 15 units of 400-level course work may be applied. A maximum of 30 units may be transferred from an accredited graduate school.

Students are required to maintain an overall GPA of 3.0 in all graduate work.

Students may request permission to take the PhD qualifying examination on completion of 24 units of course work, including two core courses in Ocean Sciences.

Screening Procedure

Students in the PhD program must pass the screening procedure before their 25th unit of graduate credit. Screening consists of a review of the student's progress and is usually done by the GPOS Review Committee following a written recommendation by the student's adviser(s). Screening occurs at the end of each semester.

Qualifying Exam Committee

The doctoral qualifying exam committee is formed after the student has passed the screening procedure. The committee is appointed by the department with the advice of the student's research adviser. The five-member committee consists of the adviser, a minimum of three other members from the GPOS faculty, and one additional tenure-track faculty member. The committee must include faculty members from more than one academic department. A tenure-track faculty member must serve as research adviser or co-adviser. The committee consults with the student, recommends an appropriate program of study and administers written and oral qualifying examinations.

Qualifying Examination

The student may request permission to take the PhD qualifying examination upon completion of 24 units of course work, including two core courses in ocean sciences. The qualifying examination consists of a written and an oral part, both parts prepared, conducted and evaluated by the student's examination committee. The written examination will consist of a number of questions given on two consecutive days. Questions will be comprehensive in scope with respect to the student's chosen area of specialization and will be designed to test the student's conceptual, analytical and integrative ability and preparation.

The written part of the qualifying examination must be taken before the oral examination. The oral examination will be in the area of the student's intended research and will be based on a research project selected and developed by the student into a written proposition. The oral examination will be conducted and evaluated by the student's examination committee. The oral examination must be taken within one month of the written examination.

Defense of the Dissertation

After the student has passed the qualifying examination, the qualifying exam committee recommends to the Graduate School that the student be admitted to candidacy for the PhD degree. Following admission to candidacy the student must register for OS 794 Dissertation every semester, except summers, until the degree is awarded.

Once the qualifying examination is passed, the student is required, as soon as possible, to appoint a dissertation committee, using an appointment of committee form which can be found on the Graduate School Website (usc.edu/schools/GraduateSchool). All or some of the qualifying exam committee may be nominated. Until a dissertation committee is appointed, the qualifying exam committee will have responsibility for the student's program of study. The student must undertake an original investigation of a problem in ocean sciences. The topic must be approved by the student's dissertation committee and will usually be based on the written proposition presented in the qualifying examination.

A dissertation based on the student's research must be approved by the student's dissertation committee. The student must then defend the dissertation. The process for submission of the dissertation to the Graduate School can be found on the Graduate School Website under "Current Students — Thesis and Dissertations." This process should be started approximately one month before the defense, and the student must allow adequate time after the defense for final copy preparation.

The dissertation must conform to the general regulations described in Regulations for Format and Presentation of Theses and Dissertations, also available from the Graduate School Website, Additional regulations and information on the organization and preparation of the dissertation are provided in *Directions for Preparation of Dissertations and Research Reports as Required by the Graduate Program in Ocean Sciences/University of Southern California, available in the GPOS office.*

Philosophy

The School of Philosophy offers courses in most areas of philosophy, including philosophy of mind, philosophy of language, epistemology, metaphysics, logic, philosophy of science, political philosophy, ethics, aesthetics, the history of philosophy, phenomenology, and existentialism. The major in philosophy is designed to acquaint students with the fundamental problems of Western thought and introduce them to the concepts and techniques necessary for independent philosophical thinking; it is equally intended to provide a broadening perspective for the various areas of specialization in the natural and social sciences and in literature and the arts. The school also offers a minor in philosophy and a minor in philosophy of law, politics and economics. It also offers bachelor's degrees in philosophy; philosophy and physics; philosophy, politics and economics; and philosophy, politics and law. In addition to these undergraduate programs, the School of Philosophy also offers a Master of Arts in Philosophy, a Master of Arts in Philosophy and Law, a joint degree with the USC Gould School of Law, and a Doctor of Philosophy in Philosophy.

Mudd Hall of Philosophy 113
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Email: philos@dornsife.usc.edu
dornsife.usc.edu/phil
Director: Scott Soames, PhD
Faculty
University Professor and David Dornsife Chair in Neuroscience and Professor of Psychology, Neurology and Philosophy: Antonio Damasio, PhD *(Psychology)*
University Professor and Professor of Philosophy, History and Accounting: Jacob Soll, PhD
Distinguished Professor of Philosophy: Scott Soames, PhD*
William T. Dalessi Professor of Law and Professor of Philosophy: Gregory Keating, PhD *(Law)*
Professors: Stephen Finlay, PhD; John Hawthorne, PhD; Robin Jeshion, PhD; Janet Levin, PhD; Sharon Lloyd, PhD*; Edwin McCann, PhD*; Jonathan Quong, PhD; Kevin W. Robb, PhD*; Barry Schein, PhD *(Linguistics)*; Mark Schroeder, PhD*; Gabriel Uzquiano Cruz, PhD; James Van Cleve, PhD; Kadri Vihvelin, PhD; Ralph Wedgwood, PhD
Associate Professors: Andrew Bacon, PhD; Susanna Berger, PhD *(Art History)*; Zlatan Damnjanovic, PhD; John H. Dreher, PhD; Jeremy Goodman, PhD; Shieva Kleinschmidt, PhD; Jacob Ross, PhD; Jefferey Sanford Russel, PhD; Alexis Wellwood, PhD*
Assistant Professors: Felipe Jimenez Castro, PhD *(Law);* Zoë Johnson King, PhD; Jake Nebel, PhD; Porter Williams, PhD
Emeritus: S. Marshall Cohen, MA*; Frank Lewis, PhD; Gary Watson, PhD; George Wilson, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Double Major

Double majors are encouraged but a student must work in close consultation with the undergraduate adviser.

Bachelor of Arts with a Combined Major in Linguistics and Philosophy

See Linguistics.

Philosophy Honors Program

Students who are considering the possibility of continuing their education at a graduate level in philosophy or similar disciplines, or students who wish to undertake a more intensive course of studies in philosophy, which includes original independent research, are strongly encouraged to take their major with honors.

Departmental honors for any of our majors requires completion of the requirements for the Bachelor of Arts, with the following additional requirements:

1. Students must take an honors capstone seminar. If it is not possible for the student to take an honors capstone seminar, the student may instead take PHIL 494: Senior Thesis, after completing the prerequisites for this course.
2. Students must have a GPA of 3.5 or higher in their philosophy courses.

Students who intend to complete the major with honors are encouraged to enroll in the program early in their junior year, and, in any case, no later than the first term of their senior year. Students must consult continuously with their faculty adviser on a mutually agreed basis.

Minor in Critical Approaches to Leadership

See Interdisciplinary Studies.

Graduate Degrees

The objective of the graduate program in philosophy is to equip suitably prepared and talented students to function effectively as teachers, thinkers and writers on philosophical topics in the Western tradition. The program provides for a wide range of studies within philosophy, but emphasizes the history of philosophy, both classical and modern, along with the traditional core disciplines: ethics, epistemology, metaphysics and logic.

Because philosophy is as much a special manner of intellectual activity as it is a special subject matter, the graduate student is expected not only to master major works in the historical and contemporary literature of philosophical thought, but also to develop the ability to engage in the ongoing process of philosophical research and dialogue.

Admission Requirements

An applicant for admission normally has an undergraduate major in philosophy, but programs may be arranged for promising students who do not. At least three letters of recommendation from the student's undergraduate teachers should be sent to the chair of graduate admissions of the School of Philosophy. All applicants are required to take the verbal and quantitative General Tests of the Graduate Record Examinations.

Degree Requirements

These degrees are awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Progressive Degree Program in Philosophy and Law

The progressive degree program permits exceptional undergraduate students with a major in philosophy to receive both an undergraduate degree and the Master of Arts in Philosophy and Law within five years. A minimum GPA of 3.5, two letters of recommendation and outstanding performance in philosophy courses are required for admission to this program.

Graduate Advisement

In addition to the departmental graduate adviser, who has the formal role in graduate advising, each student will be matched with a personal adviser, who will share responsibility with the graduate adviser for monitoring a student's progress semester by semester. The graduate adviser is available to counsel any graduate student on all aspects of the graduate program. A student's personal adviser will consult informally with the student semester by semester on how to interpret his or her grades and especially the written reports provided by the instructor for each course in which the student is enrolled, discuss informally the student's selection of courses each semester, and generally keep track of the student's progress in the program. At the appropriate time, the student will consult his or her adviser concerning the appointment of a faculty committee for guidance and supervision. An official

qualifying exam committee will be appointed at the time the student passes the screening examination; for the rules governing its establishment and makeup, see General Requirements for the Doctor of Philosophy degree in the Graduate School section. The qualifying exam committee will meet with the student soon after its appointment, and at least once each academic year thereafter.

Bachelor's Degree

Philosophy (BA)

The major in philosophy is designed to acquaint students with the fundamental problems that are debated within western philosophical thought, and to introduce them to the concepts and techniques necessary for independent philosophical thinking. It is equally intended to provide a broadening perspective for the various areas of specialization in the natural and social sciences and in literature and the arts.

The major in philosophy requires nine courses in philosophy; six of these must be at the upper-division level.

Total units for degree: 128

One course must be a gateway course:

This course must be taken before taking any 400-level courses.

- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 336 Philosophy of Mind and Language Units: 4
- PHIL 337 Political Philosophy Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 362 Possible Worlds Units: 4
- PHIL 385 Science and Rationality Units: 4

One course must be in logic:

- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 222g Logic and Language Units: 4
- PHIL 350 Symbolic Logic Units: 4
  or
- PHIL 450 The Limits of Logic Units: 4

Distribution Requirement

Students must take at least one course from each of the three categories listed below:

History of Philosophy

- PHIL 311 The Quest for the Individual in Early Modern Europe Units: 4
- PHIL 314 Origins of Free Market Thought in Early Modern Europe Units: 4
- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 337 Political Philosophy Units: 4
- PHIL 355 Existentialism Units: 4
- PHIL 410 Early Greek Thought Units: 4
- PHIL 411 Plato Units: 4
- PHIL 415 Aristotle Units: 4
- PHIL 421 Continental Rationalism Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 424 19th Century Philosophy Units: 4
- PHIL 427 Twentieth Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 473 Wittgenstein Units: 4

Ethics, Law and Value Theory

- PHIL 337 Political Philosophy Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 347 Philosophy in Literature Units: 4
- PHIL 355 Existentialism Units: 4
- PHIL 361 Philosophy of Religion Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 443 Value Theory Units: 4
- PHIL 446 Aesthetics and the Film Units: 4

Systematic Philosophy

- PHIL 350 Symbolic Logic Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 362 Possible Worlds Units: 4
- PHIL 363 Philosophy of Perception Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 427 Twentieth Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 450 The Limits of Logic Units: 4
- PHIL 460 Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4
- PHIL 480 Philosophy of Mathematics Units: 4
- PHIL 485 Development of Physical Science Units: 4
- PHIL 486 Methodologies of the Sciences Units: 4

Note:

During the senior year, students in a Philosophy major can take a capstone seminar. Students who are enrolled in one of the minors in philosophy may enroll in a capstone seminar only with the permission of the instructor. Enrollment in these seminars will not exceed 15 students. Students may enroll in a capstone seminar only if they have satisfied the following requirements: taken at least two 400-level courses in philosophy before enrolling in the capstone.

Philosophy and Physics (BA)

Philosophy and physics is a demanding and rewarding major that combines two of the most rigorous and fundamental subjects in the arts and the sciences. There are strong links between physics and philosophy, and the stimulus for each discipline lies in part in the other. The program of study is designed to seek understanding of the nature of reality and of our knowledge of it. Philosophy and physics graduates offer an unusual and valuable combination of skills to employers in commerce and industry and are also well prepared to pursue post-graduate studies in any number of related fields.

Lower-Division Physics and Math (21 units)

Students must complete these six courses.

- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4
- PHYS 162L Advanced Principles of Physics II Units: 4
- PHYS 190 Physics Discovery Series Units: 1

Upper-Division Physics and Math (16 units)

Students must complete these four courses.

- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4

Philosophy Gateway Course (4 units)

Students must complete one gateway course. This course will count as an upper-division philosophy elective.

- PHIL 315 History of Western Philosophy: Ancient Period Units: 4

- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 336 Philosophy of Mind and Language Units: 4
- PHIL 337 Political Philosophy Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 385 Science and Rationality Units: 4

Philosophy of Physics (4 units)

Students must complete the following course.

- PHIL 484 Philosophy of Physics Units: 4

Philosophy of Science (4 units)

Students must complete one course from this category.

- PHIL 254gp Science, Knowledge and Objectivity Units: 4
- PHIL 256g Science, Religion, and the Making of the Modern Mind Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 486 Methodologies of the Sciences Units: 4

Logic (4 units)

Students must complete one course from this category.

- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 222g Logic and Language Units: 4
- PHIL 452 Modal Logic Units: 4

Upper-Division Physics Electives (12 units)

Students must choose three additional upper-division physics courses to complete, from this list.

- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PHYS 408b Electricity and Magnetism Units: 4
- PHYS 430 General Relativity and Gravitation Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 440 Introduction to Condensed Matter Physics Units: 4
- PHYS 444 Physical Biology: From Molecules to Cells Units: 4

Upper-Division Philosophy Electives (8 units)

In addition to the philosophy gateway course, students must complete two upper-division philosophy courses such that one course is completed from each of the categories listed below. Note: Courses taken to satisfy other requirements will not be double counted.

History of Philosophy

Students must complete one course from this category.

- PHIL 311 The Quest for the Individual in Early Modern Europe Units: 4
- PHIL 314 Origins of Free Market Thought in Early Modern Europe Units: 4
- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 337 Political Philosophy Units: 4
- PHIL 355 Existentialism Units: 4
- PHIL 410 Early Greek Thought Units: 4
- PHIL 411 Plato Units: 4
- PHIL 415 Aristotle Units: 4
- PHIL 421 Continental Rationalism Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 424 19th Century Philosophy Units: 4
- PHIL 427 Twentieth Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 473 Wittgenstein Units: 4

Ethics, Law and Value Theory

Students must complete one course from this category.

- PHIL 337 Political Philosophy Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 347 Philosophy in Literature Units: 4
- PHIL 355 Existentialism Units: 4
- PHIL 361 Philosophy of Religion Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 443 Value Theory Units: 4
- PHIL 446 Aesthetics and the Film Units: 4

Systematic Philosophy

Students must complete one course from this category.

- PHIL 350 Symbolic Logic Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 363 Philosophy of Perception Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 427 Twentieth Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 450 The Limits of Logic Units: 4
- PHIL 460 Metaphysics Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4
- PHIL 480 Philosophy of Mathematics Units: 4
- PHIL 485 Development of Physical Science Units: 4
- PHIL 486 Methodologies of the Sciences Units: 4
- PHIL 462 Philosophy of Mind Units: 4

Philosophy, Politics and Economics (BA)

This demanding major trains students in political economy, grounding their study in the historical, conceptual, and moral foundations of our shared political and economic lives. The interdisciplinary major allows students to trace interconnections between political, economic and legal issues within a range of broader humanistic concerns. It also fosters the development of logical, quantitative and analytic skills needed for clear thinking and effective communication, leaving students with a wide range of options for further, more specialized study or careers in law, politics or economics. The major requires 11 courses including an introductory lower-division course, a final capstone seminar and a range of further courses in the three disciplines.

Lower-Division Course

Students must complete one of the following courses.

- PHIL 101 Free People, Free Thought and Free Markets Units: 4
- PHIL 103g Philosophy, Politics and Economics in Europe, from Renaissance to Enlightenment Units: 4
- PHIL 174gw Freedom, Equality, and Social Justice Units: 4
- PHIL 178gw Moral Dilemmas in the Legal Domain Units: 4
- PHIL 258g Probability and Rational Choice Units: 4
- PHIL 260gw Ethical Theory and Practice Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4

Logic Course

Students must complete one of the following courses.

- PHIL 222g Logic and Language Units: 4
- PHIL 350 Symbolic Logic Units: 4

Lower-Division Political Science Recommendation

One lower-division POSC course is *strongly* recommended before taking any upper-division POSC courses.

Philosophy Gateway Course

Students must complete one gateway course before taking any 400-level philosophy courses. This course will count toward the upper-division philosophy requirements.

- PHIL 311 The Quest for the Individual in Early Modern Europe Units: 4
- PHIL 314 Origins of Free Market Thought in Early Modern Europe Units: 4

- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 336 Philosophy of Mind and Language Units: 4
- PHIL 337 Political Philosophy Units: 4
- PHIL 339 Philosophy of Economics Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4

Philosophy of Economics, Political or Legal Philosophy

Students must complete one of the following courses.

- PHIL 339 Philosophy of Economics Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4

History of Philosophy, Politics and Economics

Students must complete one of the following courses.

- PHIL 311 The Quest for the Individual in Early Modern Europe Units: 4
- PHIL 314 Origins of Free Market Thought in Early Modern Europe Units: 4
- PHIL 337 Political Philosophy Units: 4

Moral Philosophy

Students must complete one of the following courses.

- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 443 Value Theory Units: 4

Upper-Division Political Science

Students must complete two of the following courses.

- POSC 300 Principles, Institutions, and Great Issues of American Democracy Units: 4
- POSC 311 Political Analysis Units: 4
- POSC 334 Interest Groups and Elite Behavior Units: 4
- POSC 340 Constitutional Law Units: 4
- POSC 360 Comparative Political Institutions Units: 4
- POSC 370 European Political Thought I Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 374 The American Founders: Visions, Values and Legacy Units: 4
- POSC 375 American Political Thought Units: 4
- POSC 380 Political Theories and Social Reform Units: 2, 4
- POSC 422 Political Attitudes and Behavior Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 425 Legislative Process Units: 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- POSC 435 Politics and the Economy Units: 4
- POSC 437 Mass Media and Politics Units: 4
- POSC 439 Critical Issues in American Politics Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 442m The Politics of Human Differences: Diversity and Discrimination Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- POSC 451 Politics of Resources and Development Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4
- POSC 476 Contemporary Political Thought Units: 4
- POSC 479 Critical Issues in Political Thought Units: 4

Economics

Students must complete the following two courses in economics.

- ECON 203g Principles of Microeconomics Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4

Upper-Division Economics

Students must complete one of the following courses *after* having completed ECON 203g and ECON 317.

- ECON 318 Introduction to Econometrics Units: 4
- ECON 330 The Political Economy of Institutions Units: 4
- ECON 332 Contracts, Organizations and Institutions Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- ECON 343 Economic Development of East Asia Units: 4
- ECON 344 Economic Development of Sub-Saharan Africa Units: 4
- ECON 348g Current Problems of the American Economy Units: 4
- ECON 350 The World Economy Units: 4
- ECON 366 Urban Economics Units: 4

Capstone Course

Students must complete the following capstone course.

- PHIL 475 Topics in Philosophy, Politics and Economics Units: 4

Philosophy, Politics and Law (BA)

This interdisciplinary major combines, in a systematic and structured way, basic education in philosophy, political theory and elements of law. An interdisciplinary approach to the combination of these three disciplines may be of particular interest to students contemplating post-graduate work in law; those interested in a career in public service or politics; and those attracted by the rigor of philosophy and its attention to foundational issues, who are also interested in politics and law. Students are exposed to a wider range of conceptual and methodological approaches than they would in any single discipline, while learning enough philosophy and political science to leave a choice of options for graduate schools. The major requires nine classes, one of which must be a gateway course — PHIL 315, PHIL 320, PHIL 336, PHIL 337, PHIL 340, PHIL 360 or PHIL 385 — distributed as follows.

Requirements

One lower-division class from the following:

- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- LAW 200w Law and Society Units: 4
- LAW 210p Fundamentals of the U.S. Legal System Units: 4
- PHIL 101 Free People, Free Thought and Free Markets Units: 4
- PHIL 166gw Current Moral and Social Issues Units: 4
- PHIL 174gw Freedom, Equality, and Social Justice Units: 4
- PHIL 178gw Moral Dilemmas in the Legal Domain Units: 4
- PHIL 240g Mind, Self, and Consciousness Units: 4
- PHIL 254gp Science, Knowledge and Objectivity Units: 4
- PHIL 256g Science, Religion, and the Making of the Modern Mind Units: 4
- PHIL 258g Probability and Rational Choice Units: 4
- PHIL 284gp Ideas on Trial Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4

Note:

Students who satisfy one of their general education requirements by taking a core, thematic options course of comparable scope and content, can, at the discretion of the director of the School of Philosophy and the philosophy undergraduate adviser for this major, substitute that course for one of the above.

One course in logic:

(Note: If selected, both PHIL 122ag and PHIL 122bg must be taken as they are considered two parts of one course.)

- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 122a Reasoning and Argument Units: 2
- PHIL 122b Reasoning and Argument Units: 2
- PHIL 222g Logic and Language Units: 4
- PHIL 350 Symbolic Logic Units: 4

One course in philosophy of law:

- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4

Two courses from Categories A, B and C below

The two courses must belong to different categories, and one of these courses must be a gateway course: PHIL 315, PHIL 320, PHIL 336, PHIL 337, PHIL 340, PHIL 360 or PHIL 385. *Students are required to take a gateway course before enrolling in any 400-level course in philosophy.*

A. Moral and political philosophy

- PHIL 337 Political Philosophy Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 443 Value Theory Units: 4

B. History of philosophy:

- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 317 History of Western Philosophy: Medieval Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 427 Twentieth Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4

C. Systematic areas of philosophy:

- PHIL 336 Philosophy of Mind and Language Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4

One course in constitutional politics:

- POSC 335 Political Parties, Campaigns, and Elections Units: 4
- POSC 340 Constitutional Law Units: 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4

One course in comparative or international politics and law:

- ANTH 345 Politics, Social Organization, and Law Units: 4
- POSC 345 International Law Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 448a The Politics of Peace Units: 4

One course in politics, law, and public policy:

- LING 412 Language and Law Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8
- POSC 443 Law in Film Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4
- SWMS 349 Women and the Law Units: 4

One course in law:

- LAW 300 Concepts in American Law Units: 4

Note:

Students in the major may enroll in a capstone seminar in philosophy if they have satisfied the general requirements: at least two 400-level courses in philosophy, completed prior to the capstone seminar.

Minor

Philosophy Minor

The minor in philosophy requires the completion of five philosophy courses, at least four of which are upper-division courses. All minors must take a gateway course — PHIL 315, PHIL 320, PHIL 340 or PHIL 360.

Distribution requirement:

Students must take at least one course from each of the three categories listed below:

History of Philosophy:

- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 410 Early Greek Thought Units: 4
- PHIL 411 Plato Units: 4
- PHIL 415 Aristotle Units: 4
- PHIL 421 Continental Rationalism Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 424 19th Century Philosophy Units: 4
- PHIL 427 Twentieth Century Anglo-American Philosophy Units: 4

Ethics, Law and Value Theory:

- PHIL 337 Political Philosophy Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4

Systematic Topics:

- PHIL 350 Symbolic Logic Units: 4
- PHIL 351 Reasoning and Logic Units: 4
- PHIL 352 Logic and Language Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 427 Twentieth Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 460 Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4
- PHIL 480 Philosophy of Mathematics Units: 4
- PHIL 485 Development of Physical Science Units: 4
- PHIL 486 Methodologies of the Sciences Units: 4

Philosophy of Law, Politics and Economics Minor

The Philosophical Foundations of Law, Politics and Economics minor requires a minimum of five courses, at least three of which must be philosophy courses, and at least four of which must be upper-division. Students must complete one course in Logic, and at least one course from each of the following three categories: Philosophy and Economics, Philosophy and Politics, Philosophy and Law.

Logic

Students must complete one course from this category.

- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 122a Reasoning and Argument Units: 2
- PHIL 122b Reasoning and Argument Units: 2
- PHIL 222g Logic and Language Units: 4
- PHIL 350 Symbolic Logic Units: 4
- PHIL 450 The Limits of Logic Units: 4

Philosophy and Economics

Students must complete at least one course from this category.

- PHIL 101 Free People, Free Thought and Free Markets Units: 4
- PHIL 314 Origins of Free Market Thought in Early Modern Europe Units: 4
- PHIL 339 Philosophy of Economics Units: 4

- ECON 101 Free People, Free Thought and Free Markets Units: 4
- ECON 203g Principles of Microeconomics Units: 4
- ECON 238xg Political Economy and Social Issues Units: 4
- ECON 339 Philosophy of Economics Units: 4

Philosophy and Politics

Students must complete at least one course from this category.

- PHIL 103g Philosophy, Politics and Economics in Europe, from Renaissance to Enlightenment Units: 4
- PHIL 174gw Freedom, Equality, and Social Justice Units: 4
- PHIL 258g Probability and Rational Choice Units: 4
- PHIL 337 Political Philosophy Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- POSC 300 Principles, Institutions, and Great Issues of American Democracy Units: 4
- POSC 374 The American Founders: Visions, Values and Legacy Units: 4
- POSC 375 American Political Thought Units: 4

Philosophy and Law

Students must complete at least one course from this category.

- LAW 210p Fundamentals of the U.S. Legal System Units: 4
- PHIL 178gw Moral Dilemmas in the Legal Domain Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- POSC 340 Constitutional Law Units: 4

Minimum Units Required: 20

Master's Degree

Philosophy (MA)

The department does not accept applicants for a Master of Arts degree in philosophy. The MA degree is intended only as a transitional degree in the process of completing requirements for the PhD in philosophy.

A student may obtain an MA in philosophy by fulfilling the following requirements: a minimum of 36 units in the USC philosophy school, at least 24 of which must be at the 500 level. Requirements include: PHIL 500, PHIL 503 and a 500-level course in each of the following three areas: metaphysics and epistemology, ethics and other value theory, and history of philosophy. Of the remaining four required (4-unit) courses, only four units of PHIL 590 are applicable to the degree. A publishable research paper is also required.

Philosophy and Law (MA)

A total of 36 units are required for the degree, including at least 24 units in philosophy. Twelve of these must come from completing the specialization and breadth requirements. The former requires students to take a 4unit, 500-level course in philosophy on a topic spanning philosophy and law. The latter requires students to take PHIL 500 or PHIL 503, plus another 4-unit, 500-level course in philosophy on a topic that does not span philosophy and law, including but not limited to topics in metaphysics, epistemology, philosophy of language, philosophy of science, ethics, aesthetics and history of philosophy. Students must also demonstrate a basic proficiency in symbolic logic, typically by passing, at a sufficiently high level, one of a specified range of 4-unit courses in logic offered by the School of Philosophy. The law requirement for this degree consists of two courses in the USC Gould School of Law. The first must be either LAW 503 Contracts or LAW 509 Torts I. The second must be either LAW 504 Criminal Law or LAW 508 Constitutional Law. Students who elect to take LAW 504 would normally also take 1 unit of PHIL 590 as an accompaniment. Degree candidates must also write a master's thesis on some subject in legal philosophy. At least one of the thesis advisers must have an appointment in the School of Philosophy.

Dual Degree

Master of Arts, Philosophy/Juris Doctor (MA/JD)

Students must complete 24 units in the USC School of Philosophy and 76 units in the USC Gould School of Law.

First Year: Required law school curriculum

Second and Third Years: The Department of Philosophy prefers that students take at least one philosophy course each semester. During the four semesters, students must take at least 16 units at the 500-level, including PHIL 450 Intermediate Symbolic Logic or PHIL 510 Philosophical Logic and PHIL 500 Introduction to Contemporary Philosophical Literature, and PHIL 503 Introduction to Contemporary Philosophical Literature on Value, one 400- or 500-level course in ethics or social/political philosophy or aesthetics or philosophy of law; one 400- or 500-level course in metaphysics or epistemology or philosophy of language or philosophy of science or philosophy of mind; one 400- or 500-level course in the history of ancient or early modern philosophy; passage of the second year review that shall include a research paper based on a completed seminar paper and completion of a publishable research paper. Students must also complete 46 additional law units.

Doctoral Degree

Philosophy (PhD)

Application deadline: January 1

Course Requirements

The minimum number of course credits required for the PhD is 60 units. No more than 8 of these units may be from 590 courses and no more than 8 of these units may be from 400-level courses in the School of Philosophy. PHIL 450 or PHIL 452 do not count toward this maximum of 8 units of 400-level courses in the School of Philosophy. No more than 8 of these units may be earned in 794 Doctoral Dissertation. Each student must pass PHIL 450 or PHIL 452 with a grade of B or better and must pass both PHIL 500 and PHIL 503 with a grade of B+ or better. PHIL 450 or PHIL 452 and both PHIL 500 and PHIL 503 must be satisfactorily completed by the end of the second year.

The student may take up to two courses in a field of study related to philosophy. The PhD dissertation may be written in any area of philosophy for which adequate supervision is available from within the university. PhD students are also required to show evidence of practical or editorial training, or their equivalent.

Foreign Language/Research Tool Requirement

A foreign language examination, specified by the school, in French, German, Latin or classical Greek is required. The faculty may approve a replacement of the language requirement by a research tool requirement, consisting of an approved course or examination in a subject essential to the student's research program. The course or examination must be passed before the qualifying examination is attempted.

There are three levels of evaluation in the PhD program prior to the dissertation:

Distribution Requirement

There is a distribution requirement of six courses at the 500 level in the School of Philosophy, two each representing breadth within each of the following three areas: (1) metaphysics and epistemology (broadly construed, including philosophical logic; philosophy of science; philosophy of math, mind, and language), (2) value theory (broadly construed, including aesthetics, political philosophy, and the philosophy of law), and (3) pre-1879 history of philosophy. PHIL 500, PHIL 503 and PHIL 590 courses cannot count toward this requirement. Up to two 400-level courses may count by petition toward this requirement, provided that the departmental standards for graduate-level course work are met. For courses straddling two areas (for example, history of ancient philosophy and metaphysics; history of modern philosophy and

ethics), instructors will indicate on the syllabus which requirement the course will satisfy. Courses dealing with subject matter within more than one of the areas listed may be used to satisfy any of the areas encompassed by the course although no single course may be used to satisfy two requirements at once. The two courses within each distribution area must represent breadth, as determined in advance by the graduate adviser and in accordance with departmental guidelines. All distribution requirements must be completed by the end of the fifth semester.

Screening Procedure

Students in the PhD program must pass a screening procedure before undertaking their 25th unit (seventh course) of graduate credit. This will be based on a review of the student's work to date, and will take into account not only information acquired but also those intellectual qualities and capacities that are essential for good work in philosophy: the capacity to think and write on philosophical issues with clarity, consistency and thoroughness; the ability to understand in detail what is involved in the meaning and justification of philosophical claims or positions; the ability to recognize and to draw out fine conceptual distinctions and to perceive their logical relationships; and strong intellectual curiosity and independence of thought.

Student Reviews

Graduate student progress is reviewed on a regular basis each term. In addition, apart from the screening procedure, there are more formal reviews conducted at the end of the fourth and sixth semesters of study, as described below.

In the fourth semester of study, normally the spring of the second year, each student shall submit a journal-length paper in philosophy. The choice of papers should be made in consultation with the graduate adviser. The second year evaluation will be made on the basis of faculty review of the submitted paper and consideration of the student's total record.

For the review following the sixth semester of study, students are to select one from a list of pre-designated areas in philosophy and master the material on a pre-assigned reading list of important works in that area. At the beginning of the sixth semester, each student will take a written examination, designed by the faculty of the School of Philosophy, on the materials covered in the relevant reading list followed by an oral examination exploring their knowledge of the field. This examination must be passed by the end of the sixth semester. The examining committee for each student will consist of faculty conversant with the field and appointed by the school.

Qualifying Examination

This examination consists of a written prospectus of the proposed dissertation and an in-depth oral examination on the form and subject matter of the proposed dissertation. All faculty members may inspect the prospectus and be present at the oral, but evaluation of the qualifying examination is the responsibility of the student's qualifying exam committee. The examination is not passed if two or more members of the qualifying exam committee find it unsatisfactory.

The qualifying examination is not offered in the summer. Those who intend to take this examination must meet all the conditions specified in the section on general requirements for the PhD Students are expected to pass the qualifying exam by the end of the eighth semester. Students who have not passed the qualifying exam by the end of the eighth semester will be subject to faculty review, and may not be allowed to continue in the program.

Doctoral Dissertation

When the student passes the qualifying examination, a dissertation committee (see Graduate Advisement), replacing the qualifying exam committee, is appointed by the director of the school in consultation with the student and the philosophy faculty. Normally, the qualifying exam committee simply becomes the dissertation committee. This committee and the candidate will then agree upon how the dissertation is to be developed and written. The dissertation must be an original contribution to some well-defined area in philosophy, and must give evidence of the student's ability to do respectable, large-scale research, thinking, and writing in the field. The school requires the defense oral when the research and writing of the dissertation is substantially complete. Attendance at this oral examination is open to all members of the university faculty, but the examination is conducted and evaluated by the candidate's dissertation committee. The faculty normally works with the dissertations only in the fall and spring semesters, and the student should plan accordingly.

Physical Education

The Dornsife Physical Education program offers students a variety of opportunities to improve their general health and increase their level of physical fitness. Classes are designed in such a way that participants of all levels can benefit. Courses are designed to introduce various aspects of health and wellness principles through experiential learning. Our hands-on learning approach connects fundamental instruction with the application of skills that students can utilize beyond their tenure at the university. Courses are housed within the following divisions: Mind and Body program, Sports and Activities, Health and Fitness, and Outdoor and Safety.

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Administrative Coordinator: Amber Harris, MPW, MA
Equipment Manager: Jordan Arteaga
Faculty
Master Lecturer: Steve VanKanegan, MS
Senior Lecturers: Timothy L. Burton, MEd; Stephanie Eggert, MS; Steve Hsu, MS
Lecturers: Arthur Chivichyan, BA; Carl Collins; Salena Collins-Black; Ian Culbertson, BA; Amanda Gilbert, BA; JoAnna Hardy, BA; Natascha Grundmann, BA; Jennifer Guinter, MS; John Jessee, MS; Irina Jestkova; Clio Manuelian, BA; Isabelle Pilliere Mazumdar, BA; Sarah McGill, MS; Kevin Robinson, MS; David Romero, BS; William Slaughter, BA; Julie Sprague, MS; George Toney, JD; Jarvis Turner, MS; Linda Yaron, MeD

General Requirements

No more than 4 units of physical education *activity* courses may be applied to a student's overall unit requirement, toward his or her USC degree.

Registration in courses PHED 102a, PHED 102b–PHED 163 is contingent upon assessment of students' knowledge and competence in performance during the first two class meetings. Students who wear glasses while participating in vigorous activities must secure departmental approval of provisions made for eye protection in courses PHED 140a and PHED 140b. Course PHED 165 is reserved for students who are reporting for regular freshman or varsity athletic squads.

To obtain a prerequisite waiver to take a "b" class before having taken the "a" class, the instructor's approval and signature are needed. Students should be aware that in the future they cannot take the prerequisite course in the activity for credit after having it waived.

Physics and Astronomy

The Department of Physics and Astronomy offers the Bachelor of Science in Physics, Bachelor of Science in Astronomy, Bachelor of Science in Physics/Computer Science, Bachelor of Arts in Physics, Bachelor of Arts in Astronomy, Bachelor of Science in Biophysics, Bachelor of Science in Physical Sciences, a minor in physics and a minor in astronomy, Master of Science in Physics, Master of Arts in Physics, Master of Science in Physical Biology, a Doctor of Philosophy in Physics and a Doctor of Philosophy in Physical Biology.

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Chair: Stephan Haas, PhD

Faculty

Anna H. Bing Dean's Chair in the College of Letters, Arts and Sciences and Professor of Physics and Astronomy: Amber Miller, PhD

William M. Keck Chair in Engineering and Distinguished Professor of Engineering, Computer Engineering, Chemical Engineering and Materials Science and Physics and Astronomy: P. Daniel Dapkus, PhD *(Electrical and Computer Engineering)*

Viterbi Professorship in Engineering and Professor of Electrical and Computer Engineering Systems, Chemistry and Physics and Astronomy: Daniel A. Lidar, PhD *(Electrical and Computer Engineering)*

Kenneth T. Norris Professor of Engineering Professor of Chemical Engineering and Material Science, Physics and Biomedical Engineering: Anupam Madhukar, PhD *(Material Science)*

Dean's Professor of Physics and Astronomy: Mohamed El-Naggar, PhD*

Gabilan Assistant Professor of Physics and Astronomy: Vera Gluscevic, PhD

Professors: Itzhak Bars, PhD; N. Eugene Bickers, PhD*; Todd Brun, PhD *(Electrical and Computer Engineering)*; Jack Feinberg, PhD*; Christopher M. Gould, PhD*; Martin A. Gundersen, PhD *(Electrical and Computer Engineering)*; Stephan Haas, PhD*; Clifford Johnson, PhD*; Rajiv Kalia, PhD; Vitaly Kresin, PhD; Joseph Kunc, PhD *(Aerospace Engineering)*; Anthony J. Levi, PhD *(Electrical and Computer Engineering)*; Jia Grace Lu, PhD; Aiichiro Nakano, PhD *(Computer Science)*; Dennis Nemeschansky, PhD; Elena Pierpaoli, PhD; Krzysztof Pilch, PhD; Michelle Povinelli, PhD *(Electrical Engineering)*; Oleg Prezhdo, PhD *(Chemistry)*; Edward J. Rhodes, Jr., PhD*; Remo Rohs, PhD *(Quantitative and Computational Biology)*; Hubert Saleur, PhD; Robin Shakeshaft, PhD; Armand Tanguay, PhD *(Electrical and Computer Engineering)*; Priya Vashishta, PhD *(Materials Science)*; Andrey Vilesov, PhD *(Chemistry)*; Nicholas P. Warner, PhD*; Paolo Zanardi, PhD

Associate Professors: James Boedicker, PhD; Rosa Di Felice, PhD; Christoph A. Haselwandter, PhD; Fabien Pinaud, PhD *(Biological Sciences)*; Susumu Takahashi, PhD *(Chemistry)*

Assistant Professors: Peter Chung, PhD; Eli Levenson-Falk, PhD

Professors (Research): Leonid Didkovsky, PhD; Geraldine J. Peters, PhD

Associate Professor (Teaching): Vahe Peroomian, PhD

Assistant Professor (Research): Satish T. Ka, PhD *(Information Sciences Institute)*

Senior Lecturer: Douglas Burke, PhD *(Electrical and Computer Engineering)*

Lecturer: Nicolas Moure, PhD

Emeritus: Lloyd Armstrong Jr., PhD *(Education);* Gerd Bergmann, PhD; Hans M. Bozler, PhD; Tu-Nan Chang, PhD; Werner Däppen, PhD; Melvin A. Daybell, PhD; Richard S. Thompson, PhD; William G. Wagner, PhD; Chung-Yung (Robert) Wu, PhD

**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Grade Point Average in Major Subject

A GPA of C (2.0) or higher is required in all upper-division courses taken in the department for all of the above major degree programs. A grade of C (2.0) or higher is required in all courses in the department specifically listed as subject requirements.

Advisement

Advisement is required for all BS and BA degree candidates in the department. Students should meet with their departmental academic adviser at least once a semester to review the direction of their academic programs. Students who have not met with an adviser should contact the director of undergraduate affairs. Students are also encouraged to seek the advisement of faculty members whose specializations are appropriate to their intended field of graduate study.

Undergraduate Research Opportunities

Students are encouraged to become familiar with the research programs of the faculty in the department. Students who intend to pursue a PhD and a career in research in physics or astronomy following graduation are strongly encouraged to become involved directly in one of the research programs, whether as summer research assistants or as part-time laboratory assistants during the academic year. Specific research opportunities will depend upon individual faculty research programs.

Graduate Degrees

The Department of Physics and Astronomy offers graduate study at the master's and doctoral degree levels. The graduate program prepares students for professional careers in research, teaching and developmental applications of physics.

Entering students spend time in intensive course work providing a broad background in advanced physics regardless of degree objective. Subsequent study involves a mix of course work, practical training and independent research (depending on degree objective). The doctoral program affords exceptionally close collaboration between students and faculty.

Research Areas: Experimental, Theoretical and Computational

Opportunities for research are offered in atomic, molecular and optical/laser physics, astrophysics, biological physics, elementary particle theory, string theory, quantum field theory, earthquake physics, helioseismology, condensed matter physics, quantum electronics/nonlinear optics, space physics and ultralow temperature physics.

Degree Requirements

Graduate degrees in the Department of Physics and Astronomy are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Graduate study in physics is divided into these degree objectives:

- Master of Science and Master of Arts in Physics
- Master of Science in Physical Biology
- Doctor of Philosophy in Physics
- Doctor of Philosophy in Physical Biology

Bachelor's Degree

Astronomy (BA)

This program is intended for students with an interest in astronomy who may not intend to pursue a career in the field.

Required Lower-Division Courses

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4

- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 163L Advanced Principles of Physics III Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- ASTR 400 The Solar System Units: 4, 2 years
- ASTR 422 Galaxies and Large-Scale Structures in the Universe Units: 4, 2 years
- ASTR 424 Cosmology Units: 4
- ASTR 450 Stellar Astrophysics Units: 4, 2 years
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PHYS 492L Senior Lab Units: 4

Total units: 57

*PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.

Astronomy (BS)

This program is intended primarily for students who are interested in a career in astronomy.

Required Lower-Division Courses

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 163L Advanced Principles of Physics III Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- ASTR 400 The Solar System Units: 4, 2 years
- ASTR 422 Galaxies and Large-Scale Structures in the Universe Units: 4, 2 years
- ASTR 424 Cosmology Units: 4
- ASTR 450 Stellar Astrophysics Units: 4, 2 years
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 492L Senior Lab Units: 4

Total units: 73

*PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.

Biophysics (BS)

This program is intended for students with an interest in the interdisciplinary field of biophysics. The degree program provides the physics and biology background necessary for the field while simultaneously fulfilling medical school entrance requirements.

Required Lower-Division Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 115aLg Advanced General Chemistry Units: 4 *
- CHEM 115bL Advanced General Chemistry Units: 4 *
- MATH 125g Calculus I Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 **
- PHYS 162L Advanced Principles of Physics II Units: 4 **
- PHYS 163L Advanced Principles of Physics III Units: 4 **
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 444 Physical Biology: From Molecules to Cells Units: 4

Total units: 56

**PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.*
***PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.*

Physical Sciences (BS)

This program is intended for students with an interest in the physical sciences. The program is designed to allow students interested in teaching at the secondary level to enroll in courses required for the California Single Subject Teaching credential offered through the School of Education.

Required Lower-Division Courses

- CHEM 115aLg Advanced General Chemistry Units: 4 **
- CHEM 115bL Advanced General Chemistry Units: 4 **
- GEOL 105Lg Planet Earth Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Upper-Division Courses

- Astronomy elective* Units: 4
- Chemistry elective* Units: 4
- Earth Science elective* Units: 4
- Physics elective* Units: 4
- Three additional electives from these fields* Units: 12

Note:

**Upper-division courses must be applicable to majors in their respective departments.*
***CHEM 105aL, CHEM 105bL may be substituted for the sequence CHEM 115aL, CHEM 115bL.*

Other Courses

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4

Total units: 64

Physics (BA)

This program is intended for students with an interest in physics who may not intend to pursue a career in physics.

Required Lower-Division Courses

- CHEM 105aLg General Chemistry Units: 4 **
- CHEM 105bL General Chemistry Units: 4 **
- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 163L Advanced Principles of Physics III Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 492L Senior Lab Units: 4

Choose one:

- PHYS 408b Electricity and Magnetism Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 440 Introduction to Condensed Matter Physics Units: 4
- PHYS 493L Advanced Experimental Techniques Units: 4

Total units: 65

**PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.*
**CHEM 115aL, CHEM 115bL may be substituted for the sequence CHEM105aL, CHEM105bL.

Physics (BS)

This program is intended primarily for students who are interested in a career in physics.

Required Lower-Division Courses

- CHEM 115aLg Advanced General Chemistry Units: 4 **
- CHEM 115bL Advanced General Chemistry Units: 4 **
- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 163L Advanced Principles of Physics III Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 408b Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 440 Introduction to Condensed Matter Physics Units: 4
- PHYS 492L Senior Lab Units: 4
- PHYS 493L Advanced Experimental Techniques Units: 4

Total units: 77

*PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.
**CHEM 105aL, CHEM 105bL may be substituted for the sequence CHEM 115aL, CHEM 115bL.

Physics/Computer Science (BS)

This program is intended for students with dual interests in physics and computer science who wish to complete the essential courses for both majors within their normal four-year career.

Required Lower-Division Courses

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- CSCI 350 Introduction to Operating Systems Units: 4
- EE 352L Computer Organization and Architecture Units: 3
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 408b Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 495 Senior Project Units: 2

Total units: 81

**PHYS 151L and 152L may be substituted for PHYS 161L and 162L respectively.

Minor

Astronomy Minor

The astronomy minor is open to all students. A minimum of three courses taken toward the minor must be unique to the minor.

Required Courses (24 Units)

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Elective - Choose 3 (12 Units)

- ASTR 400 The Solar System Units: 4, 2 years
- ASTR 422 Galaxies and Large-Scale Structures in the Universe Units: 4, 2 years
- ASTR 424 Cosmology Units: 4
- ASTR 450 Stellar Astrophysics Units: 4, 2 years

Total units: 36

Physics Minor

The physics minor is open to all students. Engineering students must take a minimum of three upper-division courses unique to the minor.

Required Courses (28 Units)

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Electives - Choose 3 (12 Units)

- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4

Total units: 40

Master's Degree

Physical Biology (MS)

The Master's Program in Physical Biology is designed for students who have backgrounds in physics, chemistry, biology, mathematics and engineering, and who are motivated to pursue training in biophysical research that emphasizes theoretical, computational, and experimental methods. The training faculty in the program includes faculty members from multiple departments at USC who have research programs in areas including structural biology, neuroscience, membrane biophysics, cellular biophysics and theoretical biophysics. Students are usually admitted to the program on the research-based thesis track; however, in special circumstances applications to the non-thesis track will be considered.

Admission

Applicants to the program will normally have earned a bachelor's degree and completed course work in mathematics (including calculus), physics, chemistry and biology. To be considered, applicants must complete a USC Graduate Admissions application and submit either GRE or MCAT test scores, a brief personal statement explaining the reasons for applying to the program, a brief statement regarding previous laboratory experience, official transcripts from all academic institutions previously attended, and three letters of recommendation. Foreign applicants are required to submit results from a TOEFL or IELTS examination. In the personal statement, applicants must specify whether they are applying to the thesis- or non-thesis track and the reasons for that choice. Normally, admission will be in the thesis track and a recommendation to admit an applicant will require Executive Committee approval of an agreement between an applicant and a faculty member who will serve as mentor of the thesis project. The agreement shall specify the general research area of the thesis. Prior to submission of a formal application, applicants may submit basic documentary information to determine how their credentials compare to expectations for admission.

The Physical Biology Master's program participates in Progressive Master's Degree Programs and seeks applications from qualified students (undergrad.usc.edu/programs/progressive/).

Continued enrollment

Continued enrollment in the program requires an average GPA of at least 3.0, and a "Pass" or "Credit" in all non-graded courses. At any time, after evaluating a student's progress, the MBPH Executive Committee, at its discretion, may require a student to pass a screening examination to be eligible to progress to the third or later semester of graduate study. If a student fails to achieve these metrics or pass a screening examination, the Executive Committee will make a recommendation as to whether or not to place the student on probationary enrollment with a defined remediation sufficient to remedy the deficiency or to recommend the student withdraw or be dismissed from the program.

Thesis track:

A three-member Guidance Committee will advise each student and monitor the progress of thesis work of each student in the thesis track. The Guidance Committee shall consist of at least:

1. the student's adviser who shall chair the committee and be a tenure-track member of the Graduate Committee;
2. the student's thesis mentor, if not the same faculty member as the adviser;
3. one (or two) additional members of the Graduate Committee.

Final examination

Passing the final examination requires: 1) submission of an acceptable thesis document describing the work of the thesis, and 2) an oral defense of the thesis. The Thesis Committee will administer the final examination. The composition of the Thesis Committee and the Guidance Committee may be the same. The thesis document shall be distributed to the student's Master's Thesis Committee and a copy provided to the Graduate Program Office at least two weeks prior to the oral examination. If the document is not provided by that date, then the oral examination shall be rescheduled to accommodate this requirement. Final acceptance of the document and passage of the oral examination requires the unanimous recommendation of all members of the Thesis Committee. If the student does not pass the examination on the first attempt, at its discretion the Executive Committee may grant a second opportunity to pass the examination according to policies in the *USC Catalogue*.

Non-thesis track:

Final Examination. A comprehensive examination replaces the thesis defense. The Executive Committee shall appoint a member of the Graduate Committee to supervise the final examination process (the "Examination Supervisor"). The examination shall be on a topic approved by the Examination Supervisor and shall consist of: 1) a document discussing the topic in sufficient detail, and 2) passing an oral examination on the substance of the topic. The document shall be submitted to the Examination Supervisor at least two weeks prior to the oral examination. If the document is not provided by that date, then the oral examination shall be rescheduled to accommodate this requirement. To qualify as the final examination, all the faculty of the Graduate Committee shall be invited to attend the presentation with notice given at least two weeks in advance and at least three members of the Graduate Committee or alternates selected by the program director shall attend.

During and following the presentation, faculty members may pose questions relevant to the presentation to determine if the student has mastered an appropriate breadth and depth of knowledge of biophysics. The Examination Supervisor shall then receive reports from faculty attending the presentation, usually within a week, and make a recommendation to the Graduate Committee as to whether or not the student passed the examination. Unless a member of the Graduate Committee objects, the recommendation shall be considered accepted. If an objection is received a decision shall be made by a secret ballot vote with two thirds of those voting in favor of passage required for passage of the examination. If the student does not pass the examination on the first attempt, at its discretion the Graduate Committee may grant a second opportunity to pass the examination according to policies in the *USC Catalogue*.

Required Courses

- CHEM 519 Biochemistry and Molecular Biology: An Introduction for Chemists Units: 4
  or
- CHEM 520a Advanced Chemical Biology Units: 2 and
- CHEM 520b Advanced Chemical Biology Units: 2
- CHEM 540 Introduction to Statistical Mechanics Units: 4
  or
- PHYS 518 Thermodynamics and Statistical Mechanics Units: 3

- PHYS 500 Graduate Colloquium Units: 1 (4 units required)
- PHYS 690 Introduction to Physical Biology Units: 3

Electives

In addition to the elective courses listed below, relevant 500- and 400-level courses may fulfill elective requirements with approval from the student's research adviser in consultation with the Program Committee. Given the interdisciplinary nature of this program, it is likely that the relevant elective courses will evolve over time. A maximum of 4 units may be taken from approved 400-level courses. The balance of the required units from Research Courses (PHYS 590).

- BISC 576 Practical Statistics and Bioinformatics Units: 2
- BISC 577a Computational Molecular Biology Laboratory Units: 2
- BISC 577b Computational Molecular Biology Laboratory Units: 2
- CHEM 521 Basic Principles of Physical Methods in Biochemistry Units: 2
- CHEM 538 Mathematical Techniques of Physical Chemistry Units: 4
- INTD 549 Protein Chemistry — Structure and Function Units: 4
- MPHY 572 Medical Physiology I Units: 4
- MPHY 573 Medical Physiology II Units: 4
- PHBI 650 Mechanisms of Ion and Solute Transport Across Cell Membranes Units: 2
- PHBI 651 Molecular Modeling and Kinetic Simulations in Membrane Transport Units: 2
- PHYS 504 Advanced Mechanics Units: 3
- PHYS 508a Advanced Electricity and Magnetism Units: 3
- PHYS 516 Methods of Computational Physics Units: 3
- PHYS 520 Methods for Complex Systems Units: 3
- PHYS 558a Quantum Mechanics Units: 3 and
- PHYS 558b Quantum Mechanics Units: 3
  or
- CHEM 544 Introduction to Quantum Chemistry Units: 4

Minimum Required Units: 24

Physics (MA)

Admission Requirements

The prerequisite for admission for a master's degree in the Department of Physics and Astronomy is a bachelor's degree in physics or a related field. All applicants for admission must take the Graduate Record Examinations, including the Physics Subject Test. Transcripts of undergraduate records as well as transcripts of any graduate level courses are required. The TOEFL or IELTS is required of international students applying for a teaching assistantship as well as for those applying for admission only. Applicants may be admitted as a degree candidate at the beginning of fall or spring semester.

Residence

All MS and MA degree students normally take at least three courses for each of two semesters. A total of 24 units of credit is required for graduation. Admitted students may transfer a maximum of 4 units of credit to apply toward the degree requirements.

Foreign Language Requirement

There is no foreign language requirement for the MS or MA

Course Requirements

Option A MS in Physics: The MS degree requires satisfactory completion of seven courses (exclusive of PHYS 500 and PHYS 594), of which no more than one course may be PHYS 590 Directed Research. In addition, satisfactory completion of a thesis (and 4 units of PHYS 594) is required.

Option B MA in Physics: The MA degree requires satisfactory completion of eight courses (exclusive of PHYS 500 and PHYS 590) plus a high level of performance on the comprehensive examination.

The required courses for either option are PHYS 504, PHYS 508a and PHYS 558a. For either option at least five courses must be at the 500 level or higher and remaining courses at the 400 level or higher; at least five courses must be in physics. All required physics courses must be passed with a grade of B- or better. No upper-division courses required for the BA in physics at USC may be counted for credit toward the MA or MS degree.

Comprehensive Examination

All master's degree candidates are required to take the departmental screening examination not later than during their second semester (excluding summer). This examination serves as the required comprehensive examination for the MA degree. A high level of performance is required for the MA degree, and a superior level is required for admission to (or continuation in) the PhD program.

Physics (MS)

Admission Requirements

The prerequisite for admission for a master's degree in the Department of Physics and Astronomy is a bachelor's degree in physics or a related field. All applicants for admission must take the Graduate Record Examinations, including the Physics Subject Test. Transcripts of undergraduate records as well as transcripts of any graduate level courses are required. The TOEFL or IELTS is required of international students applying for a teaching assistantship as well as for those applying for admission only. Applicants may be admitted as a degree candidate at the beginning of fall or spring semester.

Residence

All MS and MA degree students normally take at least three courses for each of two semesters. A total of 24 units of credit is required for graduation. Admitted students may transfer a maximum of 4 units of credit to apply toward the degree requirements.

Foreign Language Requirement

There is no foreign language requirement for the MS or MA

Course Requirements

Option A MS in Physics: The MS degree requires satisfactory completion of seven courses (exclusive of PHYS 500 and PHYS 594), of which no more than one course may be PHYS 590 Directed Research. In addition, satisfactory completion of a thesis (and 4 units of PHYS 594) is required.

Option B MA in Physics: The MA degree requires satisfactory completion of eight courses (exclusive of PHYS 500 and PHYS 590) plus a high level of performance on the comprehensive examination.

The required courses for either option are PHYS 504, PHYS 508a and PHYS 558a. For either option at least five courses must be at the 500 level or higher and remaining courses at the 400 level or higher; at least five courses must be in physics. All required physics courses must be passed with a grade of B- or better. No upper-division courses required for the BA in physics at USC may be counted for credit toward the MA or MS degree.

Comprehensive Examination

All master's degree candidates are required to take the departmental screening examination not later than during their second semester (excluding summer). This examination serves as the required comprehensive examination for the MA degree. A high level of performance is required for the MA degree, and a superior level is required for admission to (or continuation in) the PhD program.

Doctoral Degree

Physical Biology (PhD)

The interface between physics and biology is experiencing a revolution much like the one experienced by 17th century astronomers. Then, like now, new quantitative techniques allowed unprecedented observations, which in turn demanded quantitative

reasoning. Galileo's approach subjected the laws of motion to a unique blend of experiment and theory, before finally being placed in a predictive mathematical context. This style of inquiry, long favored by physicists, is now being applied to the biological sciences with increasing frequency. New experimental tools are elucidating phenomena ranging from the forces experienced by single biomolecules to the complex regulatory networks of gene expression, and the target biophysical problems range from the metabolism of individual cells to the dynamics of entire populations. The power of this physics-based approach is now widely recognized as essential for approaching all grand challenges in the biological sciences, from combating cancer to unraveling the mysteries of the brain.

Motivated by the promise of this approach at the physics/biology interface, the PhD program in Physical Biology integrates biophysical research experience leading to a dissertation with state-of-the art curriculum that (i) introduces molecular and cell biology to quantitatively minded students; (ii) presents a rigorous treatment of the physical principles underlying biological phenomena; and (iii) emphasizes the emerging physical methods that has transformed the biological sciences into a quantitative discipline. While distinct in its intellectual focus from existing graduate programs at USC, this program harnesses the critical mass of research-active biophysicists in multiple departments (physics, biological sciences, chemistry, multiple engineering departments, and the Keck School of Medicine of USC.

The Physical Biology (PBIO) PhD program is designed for graduate students who seek a quantitative framework for understanding the physical principles of biological organization and function. These students may have backgrounds from physics, engineering, mathematics and chemistry, but seek to wield their quantitative skills in the basic or applied life sciences. The program is also for students with training in the biological sciences looking for training and research opportunities grounded the physical sciences. and who seek a fundamental understanding of biological systems not emphasized in PhD programs associated with departments of biology, medicine, bioinformatics, or engineering. Graduates will likely move onto careers including medicine, pharmaceuticals and biotechnology, as well as career opportunities open to graduates with training in the physical sciences. Graduates may also pursue academic positions in the growing area of biophysics.

Admission Requirements:

Admission decisions will be made by the Department of Physics and Astronomy's Graduate Admissions Committee, which will be advised by the PBIO Program Committee (including representatives from other departments). The prerequisite for admission to the Physical Biology (PBIO) PhD program is a bachelor's (or master's) degree in physics, chemistry, biological sciences, engineering or a related field that stresses quantitative training. Successful applicants will have completed undergraduate course work in mathematics (including calculus), physics, chemistry and biological sciences. All applicants for admission must take the Graduate Record Examination (GRE). Transcripts of undergraduate records as well as transcripts of any graduate-level courses are required. The TOEFL or IELTS is required of international students applying for a teaching assistantship as well as for those applying for admission only. Applicants may be admitted to the program at the beginning of the fall or spring semester.

Potential applicants are encouraged to inquire about the program by contacting one or more members of the PBIO Program Committee prior to submitting the online application. In addition to the required test scores, as appropriate, applicants will submit a detailed personal statement explaining the reasons for applying to the PBIO Program, description of previous or ongoing research, and three letters of recommendation. Applicants who are deficient in some areas may be required to remedy the deficiencies as a condition of admittance to the program.

A minimum of 60 units is required.

Required Courses

- CHEM 519 Biochemistry and Molecular Biology: An Introduction for Chemists Units: 4
  or
- CHEM 520a Advanced Chemical Biology Units: 2 and
- CHEM 520b Advanced Chemical Biology Units: 2
- CHEM 540 Introduction to Statistical Mechanics Units: 4
  or
- PHYS 518 Thermodynamics and Statistical Mechanics Units: 3
- PHYS 500 Graduate Colloquium Units: 1 (4 units required)
- PHYS 690 Introduction to Physical Biology Units: 3

Elective Courses

Nine units minimum required.

- BIOC 522 Applications of Physical Methods in Biochemistry Units: 2
- BISC 576 Practical Statistics and Bioinformatics Units: 2
- BISC 577a Computational Molecular Biology Laboratory Units: 2
- BISC 577b Computational Molecular Biology Laboratory Units: 2
- CHEM 521 Basic Principles of Physical Methods in Biochemistry Units: 2
- CHEM 538 Mathematical Techniques of Physical Chemistry Units: 4
- CHEM 544 Introduction to Quantum Chemistry Units: 4
  or
- PHYS 558a Quantum Mechanics Units: 3 and
- PHYS 558b Quantum Mechanics Units: 3
- INTD 549 Protein Chemistry — Structure and Function Units: 4
- MPHY 572 Medical Physiology I Units: 4
- MPHY 573 Medical Physiology II Units: 4
- PHBI 650 Mechanisms of Ion and Solute Transport Across Cell Membranes Units: 2
- PHBI 651 Molecular Modeling and Kinetic Simulations in Membrane Transport Units: 2
- PHYS 504 Advanced Mechanics Units: 3
- PHYS 508a Advanced Electricity and Magnetism Units: 3
- PHYS 516 Methods of Computational Physics Units: 3
- PHYS 520 Methods for Complex Systems Units: 3

Note:

In addition to the elective courses listed above, relevant 500- and 400-level courses may fulfill the electives required after approval by the student's research adviser in consultation with the PBIO Program Committee. Given the interdisciplinary nature of this program, it is likely that the relevant elective courses will evolve over time. A maximum of 4 units may be taken from approved 400-level courses. The balance of the required units are from research and dissertation (PHYS 590, PHYS 790, PHYS 794a through PHYS 794z).

Graduate students in the program may serve as Teaching Assistants, but time as a TA is not a requirement for the degree of PhD.

Finding a Faculty Adviser

Given the interdisciplinary nature of the research interests of students coming to the program, graduate students will have research group rotations as part of the first year of the program. Each student will rotate with at least two different research groups. Rotations will begin in September and each will last six weeks. Rotation 1 and 2 will occur in the fall semester and rotation 3 will occur in the spring semester. Each student should have a tentative faculty adviser before the Screening Procedure.

Screening Procedure

The screening requirements designated for continuation in Physical Biology PhD program are: before the third semester of course work the student has demonstrated satisfactory progress towards the degree, to be determined in consultation with the

Program Director and an appointed faculty adviser; and an overall grade point average of B or better in at least 22 total units by the end of the fourth semester of course work (with no single grade lower than B-, as indicated above).

Only students who have passed the screening requirements are allowed to take the qualifying examination. Students who do not pass the qualifying exam may opt to continue their course work (as specified in the physics graduate program) toward a Master's Degree in Physics.

Qualifying Examination

The qualifying examination requires the presentation (and oral defense) of a critical review of a scientific article and a research proposal prepared by the student on the area in which the student intends to do a doctoral dissertation. The qualifying exam will be taken in the fifth semester.

The written critical review and research proposal are submitted to the committee at least one week prior to a meeting with the committee where an oral examination expands on the written parts. The qualifying examination is administered by the four-member qualifying exam committee, which is composed of the research adviser, two other members of the program, and one member from outside the program.

Language Requirement

Students in the Physical Biology PhD program are not required to pass a foreign language examination.

Dissertation and Dissertation Defense

The dissertation committee consists of three members of the qualifying exam committee including the research adviser and the outside member. An acceptable dissertation based upon completion of an original research investigation is required for the PhD in Physical Biology. The candidate must defend an approved draft of the dissertation in a public oral defense. The dissertation committee will then meet with the student in a closed session to complete the oral examination. The candidate must be prepared to answer general questions in the field as well as specific questions regarding the dissertation. Upon successful completion of the defense, the PhD in Physical Biology is awarded.

Physics (PhD)

Application deadline: January 1

Admission Requirements

The prerequisite for admission to the doctoral program in the Department of Physics and Astronomy is a bachelor's (or master's) degree in physics or related field. All applicants for admission must take the Graduate Record Examinations, including the Physics Subject Test. Transcripts of undergraduate records as well as transcripts of any graduate-level courses are required. The TOEFL or IELTS is required of international students applying for a teaching assistantship as well as for those applying for admission only. Applicants may be admitted to the program at the beginning of the fall or spring semester.

Residence

PhD students in physics normally enroll in three courses for each of the first four semesters in graduate school. A total of 60 units of credit is required for graduation. Students admitted to the PhD program may transfer a maximum of 30 units of credit to apply toward degree requirements. For students admitted with Advanced Standing (entry with an appropriate completed graduate degree from an accredited institution), a minimum of 36 units of course work beyond that graduate degree, exclusive of PHYS 794a and PHYS 794b, will be required.

Foreign Language Requirement

There is no foreign language requirement for the PhD.

Course Requirements

The student is expected to have prepared for understanding all branches of physics. The required courses for the PhD are (1) the following seven core courses: PHYS 504, PHYS 508a, PHYS 508b, PHYS 510, PHYS 518, PHYS 558a, and PHYS 558b; (2) a minimum of four elective graduate courses in Physics and Astronomy (or with departmental approval in related departments); (3) four units of PHYS 500; and (4) PHYS 794a and PHYS 794b. All required physics courses (except PHYS 500 and PHYS 794a, PHYS 794b, PHYS 794c, PHYS 794d, and PHYS 794z) must be passed with a grade of B- or better. After passing the qualifying examination the student must register for PHYS 794a, PHYS 794b, PHYS 794c, PHYS 794d, or PHYS 794z Doctoral Dissertation each fall and spring semester.

Screening Procedure

Any student proceeding toward the PhD in physics must pass the departmental screening examination at a superior level. The exam must be taken not later than during the second semester (excluding summers, but including time in the MA/MS program) in the department. New advanced students who have passed an equivalent comprehensive examination at a well-recognized research university with superior grades may apply to the departmental examination committee for an oral interview in order to be exempted from the written screening examination. A faculty member who supervises the research of such a student in the department must support this application.

Qualifying Exam Committee

The graduate adviser serves as adviser to incoming students and assists in the appointment of the qualifying exam committee, which is formed after the screening examination has been passed. After the student passes the qualifying examination and a dissertation topic is approved, the five-member qualifying exam committee becomes known as the dissertation committee and is responsible for monitoring the candidate's progress and for approving the final content and form of the dissertation.

Qualifying Examination

The qualifying examination must be attempted not later than during the seventh semester (or in the case of advanced students, the fifth semester) in the department (excluding summer). The PhD qualifying examination contains a written part and an oral part. The written part consists of a critical review by the student of a published work selected by the qualifying exam committee and of a research proposal prepared by the student on the area in which the student intends to do a doctoral dissertation. The oral part expands on the written part.

Dissertation

A doctoral dissertation in physics is expected to be an extensive description of original research carried out by the student. A complete discussion of reported research in relation to previous work by others is essential.

Defense of the Dissertation

The dissertation must be defended in a final oral examination. The candidate must be prepared to answer general questions in the field as well as specific questions regarding the dissertation.

Core Courses

- PHYS 504 Advanced Mechanics Units: 3
- PHYS 508a Advanced Electricity and Magnetism Units: 3
- PHYS 508b Advanced Electricity and Magnetism Units: 3
- PHYS 510 Methods of Theoretical Physics Units: 3
- PHYS 518 Thermodynamics and Statistical Mechanics Units: 3
- PHYS 558a Quantum Mechanics Units: 3
- PHYS 558b Quantum Mechanics Units: 3

Electives

A minimum of four elective graduate courses in Physics and Astronomy (or, with departmental approval, in related departments)

Colloquium

- PHYS 500 Graduate Colloquium Units: 1

Dissertation

- PHYS 794a Doctoral Dissertation Units: 2
- PHYS 794b Doctoral Dissertation Units: 2

Political Science

The Department of Political Science and International Relations offers: the BA in Political Science; minors in political science; law and society; race, ethnicity and politics; human rights; and practical politics.

The Political Science major combines study of the foundations of political systems and institutions with examination of public attitudes, participation and behavior. The major allows students to acquire an in-depth understanding of citizens' relationship to government while developing critical thinking and research skills.

The Political Science major offers courses in four broad fields: American politics, political thought, comparative politics, and law and public policy. Faculty provide regional specialization in Latin America, East Asia, Western Europe, Russia and Eastern Europe, the Middle East, and Africa.

The Political Science major also offers eight concentrations, allowing students to develop expertise in the areas of: applied politics; cross national and regional politics; environmental politics; law and human rights; parties, interest groups, and institutions; political thought and philosophy; public opinion, communication, and decision-making; and race, gender, and the politics of justice.

The Center for the Political Future/Jesse M. Unruh Institute of Politics offers students traditional internship opportunities with governmental and nongovernmental organizations as well as research internship opportunities as part of the political science program of study.

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Chair: Ange-Marie Hancock-Alfaro, PhD
Faculty: see Political Science and International Relations

Undergraduate Degrees

Advisement

The department has faculty and staff advisers who provide academic advisement, career counseling and advisement to pre-law students and those wishing to go on to graduate studies. All majors are encouraged to see their adviser.

Political Science Honors Program

The department offers an honors program for outstanding undergraduate students in the junior and senior years. The two semester program emphasizes a specialized topic (a different area each year) in political science. The organization of the course during the first semester follows the seminar model, emphasizing independent research, discussion, and oral and written reports. In the second semester, the student is required to write a thesis under the direction of a faculty member. Students are admitted to the program after careful screening on the basis of their academic record and a personal interview. Classes are limited to about 10 students.

The department also offers an honors sequence for freshmen and sophomores, POSC 190a, POSC 190b. The first semester is a small seminar of about 10 students. The second semester is a continuation with a major research paper due as the final.

Political Science Honor Societies

There are two honor societies of special interest to political science majors. Pi Sigma Alpha stimulates scholarship and interest in the subject of government by providing tangible recognition to students who have excelled in the field. Political science majors are eligible to join after successful completion of at least three upper-division courses in political science. An overall grade point average of 3.5 or higher is required, with a minimum of 3.5 in all political science classes.

The second honor society is Blackstonians. This is a pre-law honor society for undergraduate students designed to recognize academic excellence, assist the student in his or her preparation for law school, and expand the knowledge of the legal profession. Membership is restricted to students who have completed at least 32 units (16 of which must be from USC), but not more than 118 units, and have maintained at least a 3.5 grade point average.

Mock Trial Team

The department hosts the USC Mock Trial Team. This trial advocacy training program is designed to develop students' knowledge of substantive areas of civil law, criminal law and evidence. Additionally, public speaking skills are honed and societal mores are explored. Legal concepts, sociocultural theory and presentational skills are then applied through participation in courtroom advocacy competitions nationwide and local public interest advocacy assignments. Academic credit is earned through POSC 398. Membership on the team is required to enroll.

Graduate Degrees

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

All graduate students are required to maintain regular contact with the graduate coordinator to assure compliance with departmental regulations.

Bachelor of Arts

Political Science (BA)

Department majors are required to take ten courses (40 units) in political science.

Introductory Courses Requirement

All students must take at least two of the following four 100-level core courses that introduce students to the major sub-fields of political science (American, Comparative, Law and Public Policy, Political Thought).

- POSC 100g Theory and Practice of American Democracy Units: 4
- POSC 110g Ideology and Political Conflict Units: 4
- POSC 120 Comparative Politics Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4

Distribution (Field) Requirement

Students fulfill the distribution requirement by completing one upper division course (300 level or above) in three of the four major sub-fields (American, Comparative, Law and Public Policy, Political Thought).

American Politics
POSC 300, POSC 311, POSC 315, POSC 320, POSC 321, POSC 323, POSC 325, POSC 328, POSC 334, POSC 335, POSC 418, POSC 420, POSC 421, POSC 422, POSC 423, POSC 424m, POSC 425, POSC 427, POSC 428, POSC 437, POSC 439, POSC 449

Comparative Politics
POSC 350, POSC 351, POSC 352, POSC 354, POSC 355, POSC 356, POSC 358, POSC 360, POSC 363, POSC 365, POSC 366, POSC 430, POSC 431, POSC 450, POSC 451, POSC 453, POSC 456, POSC 463, POSC 464, POSC 469

Law and Public Policy
POSC 333, POSC 340, POSC 345, POSC 347, POSC 426, POSC 432, POSC 435, POSC 436, POSC 440, POSC 441m, POSC 442m, POSC 443, POSC 444, POSC 448a, POSC 448b, POSC 452

Political Thought
POSC 370, POSC 371, POSC 374, POSC 375, POSC 377, POSC 380, POSC 381, POSC 476, POSC 479

Concentration Requirement

Students fulfill the concentration requirement by taking three courses from one of eight Concentrations that focus on major topical interests in the study of politics. Students may take no more than one 200-level course per concentration. Students may not double-count any courses taken in the distribution (field) requirement and the concentration requirement. No more than a total of four units of POSC 395 and POSC 398L can count for the concentration requirement. Four units of the Honors Seminars POSC 391/POSC 392 can count toward a concentration if the topic of the honors thesis is in the area of the concentration. Critical Issues courses may count for a concentration area, but department approval must be received in advance.

The areas of concentration are:

Law and Human Rights (POSC 248gw, POSC 321, POSC 340, POSC 345, POSC 347, POSC 366, POSC 421, POSC 425, POSC 426, POSC 427, POSC 432, POSC 440, POSC 441m, POSC 442m, POSC 443, POSC 444, POSC 448a, POSC 448b, POSC 452)

Public Opinion, Communication, and Decision Making (POSC 311, POSC 334, POSC 335, POSC 422, POSC 423, POSC 426, POSC 435, POSC 437, POSC 449)

Parties, Interest Groups, and Institutions (POSC 300, POSC 311, POSC 315, POSC 325, POSC 334, POSC 335, POSC 360, POSC 420, POSC 423, POSC 425, POSC 428, POSC 435, POSC 436)

Political Thought and Philosophy (POSC 370, POSC 371, POSC 374, POSC 375, POSC 377, POSC 380, POSC 381, POSC 476, POSC 479)

Applied Politics (POSC 300, POSC 315, POSC 323, POSC 335, POSC 395, POSC 398L, POSC 418, POSC 420, POSC 425, POSC 437, POSC 449)

Cross-National and Regional Politics (POSC 350, POSC 351, POSC 352, POSC 354, POSC 355, POSC 356, POSC 358, POSC 360, POSC 363, POSC 365, POSC 366, POSC 430, POSC 431, POSC 450, POSC 451, POSC 453, POSC 456, POSC 463, POSC 464, POSC 469)

Race, Gender, and Politics of Justice (POSC 320, POSC 321, POSC 328, POSC 381, POSC 421, POSC 424m, POSC 427, POSC 428, POSC 432, POSC 441m, POSC 442m, POSC 444, POSC 448a, POSC 449)

Environmental Politics (POSC 265gw, POSC 270, POSC 321, POSC 347, POSC 363, POSC 418, POSC 436, POSC 451, POSC 456)

Elective Requirement

Students must complete two additional elective courses, both of which must be upper division (300 or 400 level courses). One course (or four units) of the following courses: POSC 395, POSC 398L or POSC 490x may be counted as an elective. In addition, one of the Honors Seminars (4 units of POSC 391/POSC 392) can count as an elective.

Students who have a double major in political science and in another department in the social sciences, may, with prior permission of the department undergraduate adviser, substitute one upper-division course from the second major for one upper-division political science course. In the development of an undergraduate program, students should consult periodically with the political science undergraduate adviser and/or with departmental faculty.

Minor

Human Rights Minor

The protection of human rights has become a matter of international concern. Despite widespread media coverage of violations, flagrant abuses occur daily throughout the world. The human rights minor provides students with in-depth knowledge about various human rights issues.

Drawing together classes from a range of departments in and outside the USC Dornsife College of Letters, Arts and Sciences, this interdisciplinary minor will cover the theoretical foundations of human rights, historical and current developments, case studies and policies. Students will be required to take their learning outside the classroom through an internship or by teaching human rights in the community and will be encouraged to join relevant student organizations.

Total unit requirements for the minor are 18*. Students take one core course in human rights, POSC 248gw Human Rights. In addition, the minor requires two courses dealing with international human rights, one domestic human rights related course and a community involvement experience through the Department of Political Science.

Required Courses (16 units)

- POSC 248gw Human Rights Units: 4

Two international human rights courses selected from:

- ANTH 330m Culture, Gender and Politics in South Asia Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- HIST 365 The Second World War Units: 4, 2 years
- IR 310 Peace and Conflict Studies Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 318 Violent Conflict Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 456 Women in International Development Units: 4
- PPD 382 International Development Units: 4
- REL 335 Gender, Religion, and Sexuality Units: 4

One domestic human rights course selected from:

- AMST 348m Race and Environmentalism Units: 4
- COMM 412 Communication and Social Movements Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- GERO 435m Women and Aging: Psychological, Social and Political Implications Units: 4
- JOUR 466m People of Color and the News Media Units: 4
- POSC 333 Stigma and Society: Physical Disability in America Units: 4
- POSC 380 Political Theories and Social Reform Units: 2, 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- PPD 342 Crime and Public Policy Units: 4
- PPD 439 Housing and Community Development Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4
- SOCI 360m Social Inequality: Class, Status and Power Units: 4

Additional Requirements

Community Involvement (2 units)

Students are required to take their learning outside the classroom through an internship with a focus in human rights, teaching human rights in the community or an independent project. Students who choose the internship must enroll in POSC 395 and those who choose do an independent project must enroll in POSC 490x. Approval is needed to enroll in POSC 395 and POSC 490x. *Political Science majors must take four courses (16 units) outside of the Political Science Department for a total of 22 units.

Law and Society Minor

This interdisciplinary program focuses on the effect of law on society as well as the ways in which social forces influence the legal system. The idea is that students will understand the law if they look beyond "law on the books" to "law in action." Thus, it is important to study key legal institutions such as the

legal profession, the judiciary, juries, the police, legislatures and administrative agencies. In addition, the minor introduces students to legal policies like plea bargaining and the death penalty, and the constitutional principles that underlie political debates about them, e.g., equal protection, due process and privacy.

The requirements for the minor include seven courses (28 units), including at least four upper-division courses (16 units). All students are required to take POSC 130 Law, Politics, and Public Policy.

Requirements

The Law and Society Minor requires seven courses (28 units), including at least four upper-division courses (16 units). All students must take the Core class. In addition, three political science upper-division courses are required, one each from categories 2, 3 and 4. Three elective courses are required: choose one course from category 5 and choose two courses from category 6.

1. Core

- POSC 130g Law, Politics and Public Policy Units: 4

2. Constitutional Law

- POSC 340 Constitutional Law Units: 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4

3. International Law

- POSC 345 International Law Units: 4
- POSC 448a The Politics of Peace Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4

4. Policy Analysis

- POSC 347 Environmental Law Units: 4
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8
- POSC 432 Politics of Local Criminal Justice Units: 4
- POSC 435 Politics and the Economy Units: 4
- POSC 436 Environmental Politics Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 442m The Politics of Human Differences: Diversity and Discrimination Units: 4
- POSC 443 Law in Film Units: 4
- POSC 448b The Politics of Peace Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4

5. Humanistic/Historical

- PHIL 340 Ethics Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4

6. Society

- ANTH 345 Politics, Social Organization, and Law Units: 4
- COMM 421 Legal Communication Units: 4
- ECON 434 Economic Analysis of Law Units: 4
- LAW 200w Law and Society Units: 4
- LAW 320p Law, Slavery, and Race Units: 4
- LAW 402 Psychology and Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4

Additional Requirements

At least four classes must be unique to the minor.

Political Organizing in the Digital Age Minor

The digital environment is changing the face of political organization, both in domestic American electoral politics and in the methods used by transnational social movements to call attention to problems around the globe. Howard Dean's use of the Internet to fund his 2004 presidential campaign has made other candidates aware of the political power of the Web in fundraising and grass-roots orchestration of local (and "global") events.

This minor should be of interest to students majoring in international relations, political science or other programs who plan to use technology to affect contemporary national and international affairs. As with all minors, students must choose four courses dedicated exclusively to this minor and four courses outside their major departments. These may, but need not be, the same four courses.

This minor is intended to help students engage in domestic and international political organizing by creating Websites, podcasting and using other new technologies. It should help students secure internships and jobs with political and international organizations, and generally improve their abilities to change the world.

Course Requirements

Choose one class from each of the following five lists:

I. Domestic Political Organizing:

- POSC 315 Regulation of Elections and Political Finance Units: 4
- POSC 335 Political Parties, Campaigns, and Elections Units: 4
- POSC 422 Political Attitudes and Behavior Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 437 Mass Media and Politics Units: 4

II. Transnational Social Movements:

- IR 305w Managing New Global Problems Units: 4
- IR 306 International Organizations Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4

III. New Technologies in Organizing:

IV. The Context of Political Organizing:

- COMM 321 Communication and Social Media Units: 4
- COMM 489 Campaign Communication Units: 4
- IR 308w Economic Globalization Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 444w Theories of Global Society Units: 4
- POSC 300 Principles, Institutions, and Great Issues of American Democracy Units: 4
- POSC 345 International Law Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- POSC 428 Latino Politics Units: 4
- POSC 451 Politics of Resources and Development Units: 4
- POSC 456 Women in International Development Units: 4
- PPD 372m Public Service in an Urban Setting Units: 4

V. Capstone Class:

The capstone class allows students to engage more deeply in one of the contributing areas of study.

- COMM 487 Communication and Global Organizations Units: 4
- IR 327 International Negotiation Units: 4
- ITP 413x Interactive Web Development Units: 4
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8

Total: Five courses, 20 units

Political Science Minor

Students who minor in political science must take five courses, 20 units, in political science. Students can either pursue course work in a traditional subfield (American politics, comparative politics, law and public policy, or political theory) or in a specific issue area of concentration (civil liberties and human rights, race, ethnicity, and gender, urban political problems, Asian politics, etc.).

Those who focus their studies on a traditional subfield must take the lower-level introductory course in that subfield: POSC 100 Theory and Practice of American Democracy (American politics); POSC 110 Ideology and Political Conflict (political theory); POSC 120 Comparative Politics (comparative politics) or POSC 130 Law, Politics and Public Policy (law and public policy).

Students pursuing the minor must also take four upper-division courses, three of which must be in the chosen subfield. Students choose from a predetermined list of courses divided by subfield in consultation with and approval of the department's undergraduate student adviser.

Those who pursue a specific issue area of concentration are required to take the department's designated gateway course, POSC 120 Comparative Politics, and at least three upper-division courses in the issue area of concentration. A fourth upper-division course must be taken in the issue area of concentration or a complementary area. The upper-division courses are chosen in consultation with and approval of the department's undergraduate student adviser.

Practical Politics Minor

The Practical Politics Minor offers students a unique opportunity to study the theory and practice of American Democracy. The minor includes courses on campaigns, elections, political communications, legislative politics, and governing. Students will engage with faculty who possess a wealth of knowledge and experience in electoral politics and campaign strategy. The minor will help students develop a multitude of skills applicable to the job market, such as problem solving, polling, social media analytics, micro-targeting, research, writing and public speaking. Students will also complete an internship that will provide them with professional training and exposure to different careers. In addition, students can pursue courses through Maymester and the Dornsife in Washington D.C. program toward the minor.

The Practical Politics Minor complements many majors in the Dornsife College of Letters, Arts, and Sciences including economics; sociology; philosophy, politics, and law; and international relations, as well as majors outside of the college including communications; business and public policy.

Requirements

The Practical Politics minor requires students to take five courses (20 units) from the following three categories. The minor requires 16 units of upper-division courses. Only 4 units of the 20 units may be fulfilled with a 100- or 200-level course.

1. Two courses in American Politics from the following list (8 units):

- POSC 100g Theory and Practice of American Democracy Units: 4
- POSC 300 Principles, Institutions, and Great Issues of American Democracy Units: 4
- POSC 334 Interest Groups and Elite Behavior Units: 4
- POSC 335 Political Parties, Campaigns, and Elections Units: 4
- POSC 422 Political Attitudes and Behavior Units: 4
- POSC 423 Presidents and the Presidency Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 425 Legislative Process Units: 4
- POSC 435 Politics and the Economy Units: 4
- POSC 437 Mass Media and Politics Units: 4
- POSC 449 Political Psychology Units: 4

2. Two courses in Applied Politics from the following list (8 units):

- POSC 220g Critical Issues in American Politics: Presidential Election in Real Time Units: 4
- POSC 323 Applied Politics Units: 4 *
- POSC 325 State Politics Units: 4
- POSC 420 Practicum in the American Political Process Units: 4 *
- POSC 439 Critical Issues in American Politics Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4

Note:

Multiple sections of Applied Politics (POSC 323) and Practicum in the American Political Process (POSC 420) may be offered and can be counted toward the minor.

3. One course in Practical Experience from the following list (4 units):

- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8
  Internship in Washington DC (part of the Washington DC Program)
  Maymester in Washington DC

Race, Ethnicity and Politics Minor

The interdisciplinary minor in race, ethnicity and politics helps students analyze and critically evaluate contemporary race relations and how race matters in politics today.

Requirements: Five Courses (20 Units)*

All students are required to take POSC 421 Ethnic Politics. In addition, students must also take one course from each category: Race and Gender in a Global Context, Comparative Racial Politics, Social/Historical (Racial Perspective) and Racial Formation. The following is a list of courses that fulfill each category.

Core Requirement

- POSC 421 Ethnic Politics Units: 4

Political Science Upper-Division Courses

Choose one course from each of the groups below:

Race and Gender in a Global Context:

- POSC 350 Politics of Latin America Units: 4
- POSC 351 Middle East Politics Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 354 Japanese Politics Units: 4
- POSC 356 Politics in the People's Republic of China Units: 4
- POSC 358 Politics of Sub-Sahara Africa Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4
- POSC 456 Women in International Development Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4

Comparative Racial Politics:

- POSC 320 Urban Politics Units: 4
- POSC 328 Asian American Politics Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- POSC 428 Latino Politics Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 442m The Politics of Human Differences: Diversity and Discrimination Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4

Electives

Choose one course from each of the groups below:

Social/Historical:

- HIST 265gw Racism, Sexism, and the Law Units: 4
- HIST 341 American Social History Units: 4
- HIST 347 Urbanization in the American Experience Units: 4
- SOCI 142gm Diversity and Racial Conflict Units: 4
- SOCI 155gm Immigrant America Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

Racial Formation:

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 385 African American Culture and Society Units: 4

Note:

**Political science majors are required to take seven courses (28 units).*

Political science majors must take four courses (at least three must be upper-division) from the Social/Historical and the Racial Formation categories. At least four classes must be unique to the minor and not taken for additional major, minor or general education credit.

Political Science and International Relations

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Vice Chair: David C. Kang, PhD

Faculty

University Professor and Wallis Annenberg Chair of Communication Technology and Society and Professor of Communication, Sociology, Planning and International Relations: Manuel Castells, PhD *(Communication)*
Blue Cross of California Chair in Health Care Finance and Professor of Policy, Planning and Development and Political Science: Glenn Melnick, PhD *(Public Policy)*
Robert R. and Katheryn A. Dockson Chair in Economics and International Relations and Professor of International Relations and Economics: Joshua Aizenman, PhD
Carl Mason Franklin Chair in Law and Professor of Law and Political Science: Andrew Guzman, PhD *(Law)*
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Emery Evans Olson Chair in Non-Profit Entrepreneurship and Public Policy and Professor of Public Policy and Political Science: James Ferris, PhD *(Public Policy)*
Robert C. Packard Trustee Chair in Law and Professor of Law, Political Science and Economics: Edward McCaffery, JD *(Law)*
Charles F. Sexton Chair in American Enterprise and Professor of Finance and Business Economics, Business and Law, and Political Science: John Matsusaka, PhD *(Finance and Business Economics)*
USC Associates Chair in Social Sciences and Professor of Political Science and Gender Studies: Jane Junn, PhD
Carmen H. and Louis Warschaw Chair in Practical Politics and Professor of the Practice of Political Science: Robert M. Shrum, JD
Dean's Professor of Gender Studies and Professor of Political Science and Gender and Sexuality Studies: Ange-Marie Hancock Alfaro, PhD
Dean's Professor of International Relations: Patrick James, PhD*
Maria B. Crutcher Professor of Citizenship and Democratic Values and Professor of Public Policy and Political Science: Terry L. Cooper, PhD *(Public Policy)*
Maria Crutcher Professor in International Relations, Business and East Asian Languages and Cultures: David C. Kang, PhD
Robert Kingsley Professor in Law and Professor of Law and Political Science: Susan Estrich, JD *(Law)*
Robert Grandford Wright Professor and Professor of International Relations and Middle East Studies: Laurie A. Brand, PhD*
Professors: Jonathan D. Aronson, PhD* *(Communication)*; John E. Barnes, PhD*; Dennis Chong, PhD; Ann Crigler, PhD*; Nicholas Cull, PhD *(Communication)*; Philip Ethington, PhD *(History)*; Thomas Hollihan, PhD *(Communication)*; Jeffery Jenkins, PhD *(Public Policy)*; Saori Katada, PhD; Steven L. Lamy, PhD*; Nancy Lutkehaus, PhD *(Anthropology)*; Gerardo Munck, PhD; Daniel A. Mazmanian, PhD *(Public Policy)*; Najmedin Meshkati, PhD *(Civil and Environmental Engineering)*; Gerardo Munck, PhD; Michael Parks *(Journalism)*; Brian Rathbun, PhD; Alison D. Renteln, PhD*; Stanley Rosen, PhD*; Eliz Sanasarian, PhD*; Philip Seib, JD *(Journalism)*; Jefferey M. Sellers, PhD; Shui Yan Tang, PhD *(Public Policy)*; Ernest J. Wilson III, PhD *(Communication)*; Carol Wise, PhD
Associate Professors: Pablo Barbera, PhD; Robert English, PhD; Benjamin Graham, PhD; Christian Grose, PhD; Jacques Hymans, PhD; Juliet Musso, PhD *(Public Policy);* Heather Wipfli *(Clinical Preventive Medicine)*
Assistant Professors: Erin Baggott Carter, PhD; Brett Carter, PhD; Jennifer Cryer, PhD; Allison Hartnett, PhD; Morris Levy, PhD; James Lo, PhD; Jonathan Markowitz, PhD; Miguel Pereira, PhD; Christian Phillips, PhD; Bryn Rosenfeld, PhD; Stephanie Schwartz, PhD; Audrye Wong, PhD; Sherry Zaks, PhD
Professors of the Practice: Lord John Eatwell, PhD; Gregory Treverton, PhD
Professors (Teaching): Nina Rathbun, PhD; Yael Wolinsky-Nahmias, PhD *(Environmental Studies)*
Associate Professors of the Practice: Jeffrey R. Fields, PhD; Steve Swerdlow, JD
Associate Professors (Teaching): Arthur Auerbach, PhD; Iva Bozovic, PhD; Shannon Gibson, PhD; Anthony Kammas, PhD; Pamela K. Starr, PhD
Assistant Professors (Teaching): Douglas Becker, PhD; Megan Becker, PhD
Emeritus: Peter A. Berton, PhD*; Richard H. Dekmejian, PhD; Michael G. Fry, PhD; Gary W. Glass, PhD; Nora Hamilton, PhD; Abraham F. Lowenthal, PhD; Joseph L. Nyomarkay, PhD*; John S. Odell, PhD; Ron Steel, MA; Rodger Swearingen, PhD; J. Ann Tickner, PhD

*Recipient of university-wide or college teaching award.

Graduate Degrees

Director: Gerardo Munck, PhD
Email: munck@usc.edu
dornsife.usc.edu/poir

Political Science and International Relations (MA)

The POIR program does not accept applicants for a Master of Arts degree in POIR. If a student admitted in the POIR doctoral program does not have a master's degree, the department strongly recommends that the student completes the requirements for the MA in POIR in his or her course of work toward the PhD degree. A student admitted to the doctoral program may also, at the recommendation of the department, earn a terminal MA degree.

A student may obtain an MA in POIR by fulfilling the following requirements: a minimum of 28 units in the POIR program, including POIR 600, POIR 610 and POIR 611, and the approval of a substantive paper.

Doctor of Philosophy in Political Science and International Relations/Juris Doctor (PhD/JD)

Application deadline (for PhD): December 1

The Political Science and International Relations program and the USC Gould School of Law jointly offer a dual degree program leading to the PhD/JD degree. Applicants must apply to the Political Science and International Relations program and

the law school and meet the requirements for admission to both. In addition to the LSAT, students interested in this program are required to take the Graduate Record Examinations (GRE).

In the first year, students take their course work in the law school exclusively. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law honors programs. The second and third years include a total of 40 units of courses in political science and international relations and 40 units of law. Students must complete a five-course core theory and methodology sequence. They must include a classics-oriented, two-semester political, social, comparative and international theory sequence (currently POIR 600), a multivariate statistics course (such as POIR 611) and a philosophies/methodologies in social inquiry course (POIR 610). Finally in their second, third or fourth year, they must take an approved advanced research methods course.

To obtain a PhD in Political Science and International Relations, students must pass the screening process. After the completion of required field course work with a grade of B or better, a substantive paper or USC MA thesis relevant to the program, students must take a PhD qualifying examination in two of their three fields of concentration. The third field will be completed by taking at least three courses and passing each with a grade of B or better. The final requirement, following successful completion of the qualifying examination, is a doctoral dissertation.

Political Science and International Relations (PhD)

USC Graduate School Requirements

The PhD degree is awarded to students who have demonstrated in-depth knowledge of the disciplines of political science and international relations and the ability to make an original research contribution. The PhD in Political Science and International Relations requirements are fulfilled by successfully completing a minimum of 70 units beyond the BA, the PhD screening process, three fields of concentration, a substantive paper, a foreign language requirement (if applicable), qualifying examinations, a dissertation proposal, and a written dissertation and its oral defense.

Admission

The faculty of the Department of Political Science and the School of International Relations welcome talented candidates from a variety of backgrounds. Although a prior degree in political science or international relations is not necessary, it is strongly recommended that applicants have completed at least some course work in related fields, including political theory, statistics and social science research methods.

Admission decisions are based on a holistic review of applications. This review includes, but is not limited to, consideration of applicants' prior academic performance, as reflected in course grades, the results of the Graduate Record Examinations, letters of recommendation, a statement of intent that demonstrates a seriousness of purpose, a high level of motivation and a desire to benefit from our faculty's areas of expertise or interest. Applicants also are required to submit a sample of their written work in English, preferably a research-oriented paper. Business, government and other practical experiences may also be taken into account. Applicants whose native language is not English must take the TOEFL or IELTS examination.

Screening Process

Before completion of 24 units, students will be reviewed by a screening committee made up of the Director of Graduate Studies and the faculty who taught the core courses. This committee will review the student's progress, including grades and written faculty evaluations of course work.

The committee will be responsible for deciding, at an early stage in the student's career, if the student is likely to finish the PhD program. After reviewing the student's record, the committee may decide to (1) continue the student, (2) not continue the student and admit the student into a terminal MA degree program, or (3) fail the student's performance in the screening process, i.e., not continue the student in either the MA or PhD programs.

Course Requirements

All doctoral candidates must complete an approved sequence of four courses in core theory and methodology, including a classics-oriented course in political theory POIR 600), a multivariate statistics course (POIR 611), a social inquiry and research design course (POIR 610), and an approved course in advanced research methods.

The selection of additional courses should be guided by the distribution requirements of the PhD program. The student will choose three fields of concentration, of which two will be examined fields. Each examined field of concentration requires completion of four graduate-level courses, including the core course in standard fields, with an average grade consistent with university and program requirements. The third non-examined field of concentration requires the completion of a minimum of three graduate-level courses with an average grade consistent with university and program requirements. Students are also advised to take an independent study course to work toward their substantive paper requirement. Additional courses necessary to complete the 70 units required by the Guidelines for Graduate Study in Political Science and International Relations should be taken in consultation with faculty advisers.

Fields of Concentration

All students must complete two examined fields of concentration and one non-examined field of concentration. The standing fields of concentration include: American politics (AP); comparative politics (CP); international relations (IR) and methods and research tools (MRT). Students may also select a customized field of concentration as their non-examined field with the approval of their faculty adviser and the Director of Graduate Studies.

For the American politics; comparative politics; international relations fields, students must complete four courses and pass a written and oral field qualifying examination. For the methods and research tools field, students must complete a total of four approved advanced methods courses. Students must also write and orally defend a methods paper as part of the qualifying exam utilizing the skills they have learned in their coursework. Students should consult the methods and research tools field coordinator(s) and the POIR Guidelines for a list of approved courses and overall field requirements and exam

The student may satisfy the third non-examined field by completing one of the following set of requirements: (a) complete at least three courses in the AP, CP, or IR fields, (b) complete three methods courses in the MRT field; and/or (c) complete at least three courses in a proposed customized field of study to be approved by relevant faculty and the Director of Graduate Studies. For example, students can design a third field that cuts across disciplinary boundaries or focuses on specific areas of political science and international relations beyond the standing fields. The guidelines and the Director of Graduate Studies can provide illustrations of this type of third field.

Foreign Language

The student is required to demonstrate intermediate proficiency in a language other than English if the student's primary field and/or dissertation research requires it. Students should consult the guidelines and the Director of Graduate Studies.

Substantive Paper

To show evidence of the capacity to conduct original research and before taking the qualifying exam, each student will submit a substantive paper. The student will submit the draft of his or her substantive paper to the chair of the qualifying exam committee one month prior to the qualifying examinations. After consultation with the chair and necessary revisions, the student is to distribute the paper to all members of the qualifying exam committee at least 14 days prior to the oral defense. The substantive paper should be presented and defended in the oral component of the qualifying

examination as a viable journal submission to a peer-reviewed professional journal. It is strongly encouraged that the paper should be submitted to a professional journal approved by the student's adviser within one year of the defense.

Qualifying Examinations

Ordinarily, students will take the qualifying exams no later than the fifth semester in the PhD program. Students will be examined in two of their three fields of concentration. The qualifying exam committee will evaluate the quality of the two written field exams as evidence of the capacity to define and complete a PhD dissertation.

The written examinations will be administered over two days at least once per academic year. Examination questions will be written by the field coordinators in consultation with the tenured and tenure track faculty in each field. Students who select the methods and research tools as one of their examined fields of concentration must complete a methods paper.

The oral portion of the student's qualifying examination will be administered by his or her qualifying exam committee. The oral examination will be based on the student's written field exams and/or methods paper; and the substantive paper. The qualifying exam committee will be made up of five members. In consultation with his or her principal adviser, the student will select two members, one from each standing field in which he or she will be examined, and the other two field examiners and the outside member of the qualifying exam committee. Final approval of the qualifying exam committee requires the signature of the Director of Graduate Studies and the Dornsife Vice Dean of Academic Programs.

Students will pass the qualifying examinations if no more than one member of the qualifying exam committee dissents after reviewing the student's record at USC and performance on the written and oral parts of the qualifying exams. At the discretion of the qualifying exam committee, students who do not pass the exams may be allowed to retake the qualifying exams the next time they are offered. Students are admitted to candidacy for the PhD when they have completed the university residency requirement, passed the written and oral portions of the PhD qualifying examinations, and defended their dissertation proposal.

Dissertation

Upon completion of the qualifying examinations, the student, in consultation with the principal adviser, selects a dissertation committee in accordance with university rules. Within six months of completing the qualifying examinations, students should have a formal defense of the dissertation proposal before their dissertation committee. The PhD is earned upon the submission of the written dissertation and its successful defense before the dissertation committee.

Consult the Requirements for Graduation section and The Graduate School section of this catalogue regarding time limitations for completion of the degree and other Graduate School requirements.

All graduate students considering an academic career should generally have research, teaching and advisement experiences as part of their program of study.

Master's Degree

Political Science and International Relations (MA)

The POIR program does not accept applicants for a Master of Arts degree in POIR. If a student admitted in the POIR doctoral program does not have a master's degree, the department strongly recommends the student completes the requirements for the MA in POIR in his/her course of work toward the PhD degree. A student admitted to the doctoral program may also, at the recommendation of the department, earn a terminal MA degree.

A student may obtain an MA in POIR by fulfilling the following requirements: a minimum of 28 units in the POIR Program, including POIR 600, POIR 610 and POIR 611, and the approval of a substantive paper.

Dual Degree

Doctor of Philosophy in Political Science and International Relations/Juris Doctor (PhD/JD)

Application deadline (for PhD): December 1

The Political Science and International Relations program and the USC Gould School of Law jointly offer a dual degree program leading to the PhD/JD degree. Applicants must apply to the Political Science and International Relations program and the law school and meet the requirements for admission to both.

In the first year students take 30 units of course work in the law school exclusively. To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC after the first year. The second and third years include a total of 40 units of courses in political science and international relations and 46 units of law. Students must complete a five-course core theory and methodology sequence. They must include a classics-oriented, two-semester political, social, comparative and international theory sequence (currently POIR 600), a multivariate statistics course (such as POIR 611) and a philosophies/methodologies in social inquiry course (POIR 610). Finally in their second, third or fourth year, they must take an approved advanced research methods course.

To obtain a PhD in Political Science and International Relations, students must pass the screening process. After the completion of required field course work with a grade of B or better, a substantive paper or USC MA thesis relevant to the program, students must take a PhD qualifying examination in two of their three fields of concentration. The third field will be completed by taking at least three courses and passing each with a grade of B or better. The final requirement, following successful completion of the qualifying examination, is a doctoral dissertation.

Doctoral Degree

Political Science and International Relations (PhD)

USC Graduate School Requirements

The PhD degree is awarded to students who have demonstrated in-depth knowledge of the disciplines of political science and international relations and the ability to make an original research contribution. The PhD in Political Science and International Relations requirements are fulfilled by successfully completing a minimum of 70 units beyond the BA, the PhD screening process, three fields of concentration, a substantive paper, a foreign language requirement (if applicable), qualifying examinations, a dissertation proposal, and a written dissertation and its oral defense.

Admission

The faculty of the Department of Political Science and the School of International Relations welcome talented candidates from a variety of backgrounds. Although a prior degree in political science or international relations is not necessary, it is strongly recommended that applicants have completed at least some course work in related fields, including political theory, statistics and social science research methods.

Admission decisions are based on a holistic review of applications. This review includes, but is not limited to, consideration of applicants' prior academic performance, as reflected in course grades, the results of the Graduate Record Examinations, letters of recommendation, and a statement of intent that demonstrates a seriousness of purpose, a high level of motivation and a desire to benefit from our faculty's areas of expertise or interest. Applicants also are required to submit a sample of their written work in English, preferably a research-oriented paper. Business, government and other practical experiences may also be taken into account. Applicants whose native language is not English must take the TOEFL or IELTS examination.

Screening Process

Before completion of 24 units, students will be reviewed by a screening committee made up of the director of Graduate Studies and the faculty who taught the core courses. This committee will review the student's progress, including grades and written faculty evaluations of course work.

The committee will be responsible for deciding, at an early stage in the student's career, if the student is likely to finish the PhD program. After reviewing the student's record, the committee may decide to (1) continue the student, (2) not continue the student and admit the student into a terminal MA degree program, or (3) fail the student's performance in the screening process, i.e., not continue the student in either the MA or PhD programs.

Course Requirements

All doctoral candidates must complete an approved sequence of four courses in core theory and methodology, including a classics-oriented course in political theory (POIR 660), a multivariate statistics course (POIR 611), a social inquiry and research design course (POIR 610), and an approved course in advanced research methods.

The selection of additional courses should be guided by the distribution requirements of the PhD program. The student will choose three fields of concentration, of which two will be examined fields. Each examined field of concentration requires completion of four graduate-level courses, including the core course in standard fields, with an average grade consistent with university and program requirements. The third non-examined field of concentration requires the completion of a minimum of three graduate-level courses with an average grade consistent with university and program requirements. Students are also advised to take an independent study course to work toward their substantive paper requirement. Additional courses necessary to complete the 70 units required by the Guidelines for Graduate Study in Political Science and International Relations should be taken in consultation with faculty advisers.

Fields of Concentration

All students must complete two examined fields of concentration and one non-examined field of concentration. The standing fields of concentration include: American politics (AP); comparative politics (CP); international political economy (IPE); international security and foreign policy (ISFP); and methods and research tools (MRT). Students may also select a customized field of concentration as their non-examined field with the approval of their faculty adviser and the Director of Graduate Studies.

For the American politics; comparative politics; international political economy; and international security and foreign policy fields, students must complete four courses and pass a written and oral field qualifying examination. For the methods and research tools field, students must complete the program's methods core course sequence required of all POIR students and a total of four additional approved advanced methods courses. Students must also write and orally defend a capstone project as part of the qualifying exam utilizing the skills they have learned in their coursework. Students should consult the methods and research tools field coordinator(s) and the POIR Guidelines for a list of approved courses and requirements.

The student may satisfy the third non-examined field by completing one of the following set of requirements: (a) complete at least three courses in the AP, CP, IPE or ISFP fields, (b) complete four additional methods courses in the MRT field beyond the program's methods core course sequence;and/or (c) complete at least three courses in a proposed customized field of study to be approved by relevant faculty and the Director of Graduate Studies. For example, students can design a third field that cuts across disciplinary boundaries or focuses on specific areas of political science and international relations beyond the standing fields. The guidelines and the Director of Graduate Studies can provide illustrations of this type of third field.

Foreign Language

The student is required to demonstrate intermediate proficiency in a language other than English if the student's primary field and/or dissertation research requires it. Students should consult the guidelines and the director of Graduate Studies.

Substantive Paper

To show evidence of the capacity to conduct original research and before taking the qualifying exam, each student will submit a substantive paper. The student will submit the draft of his or her substantive paper to the chair of the qualifying exam committee one month prior to the qualifying examinations. After consultation with the chair and necessary revisions, the student is to distribute the paper to all members of the qualifying exam committee at least 14 days prior to the oral defense. The substantive paper should be presented and defended in the oral component of the qualifying examination as a viable journal submission to a peer-reviewed professional journal. It is strongly encouraged that the paper should be submitted to a professional journal approved by the student's adviser within one year of the defense. Students who select the MRT field as one of their examined fields are expected to write a more sophisticated methodological section of their substantive paper that reflects the skills they have learned in their coursework; or produce an additional capstone project in addition to the substantive paper that has as its focus a significant methodological component.

Qualifying Examinations

Ordinarily, students will take the qualifying exams no later than the fifth semester in the PhD program. Students will be examined in two of their three fields of concentration. The qualifying exam committee will evaluate the quality of the two written field exams as evidence of the capacity to define and complete a PhD dissertation.

With the exception of the methods and research tools field examination, the written examinations will be administered over two days at least once per academic year. Examination questions will be written by a committee of the tenure track faculty in each field. The Director of Graduate Studies, in consultation with the chair of the Department of Political Science and the chair of the School of International Relations, will appoint one faculty member from each field to serve in the POIR Steering Committee and also serve as the field coordinator for the relevant field. The field coordinators will then seek assistance from other faculty in their field, including those with whom the student has studied, to compose the written examination questions. Students who select the methods and research tools as one of their examined fields of concentration must complete a capstone project which involves writing and orally defending a methodological component of their substantive paper or an additional paper with a substantial methodological component if the substantive paper does not have a significant methodological component.

The oral portion of the student's qualifying examination will be administered by his or her qualifying exam committee. The oral examination will be based on the student's written field exams or capstone projects; and the substantive paper. The qualifying exam committee will be made up of five members. In consultation with his or her principal adviser, the student will select two members, one from each standing field in which he or she will be examined, and the other two field examiners and the outside member of the qualifying exam committee. Final approval of the qualifying exam committee requires the signature of the Director of Graduate Studies and the Dornsife Vice Dean of Academic Programs.

Students will pass the qualifying examinations if no more than one member of the qualifying exam committee dissents after reviewing the student's record at USC and performance on the written and oral parts of the qualifying exams. At the discretion of the qualifying exam committee, students who do not pass the exams may be allowed to retake the qualifying exams the next time they are offered. Students are admitted to candidacy for the PhD when they have completed the university residency

requirement, passed the written and oral portions of the PhD qualifying examinations, and defended their dissertation proposal.

Dissertation

Upon completion of the qualifying examinations, the student, in consultation with the principal adviser, selects a dissertation committee in accordance with university rules. Within six months of completing the qualifying examinations, students should have a formal defense of the dissertation proposal before their dissertation committee. The PhD is earned upon the submission of the written dissertation and its successful defense before the dissertation committee.

Consult the Requirements for Graduation section and the Graduate School section of this catalogue regarding time limitations for completion of the degree and other Graduate School requirements.

All graduate students considering an academic career should generally have research, teaching and advisement experiences as part of their program of study.

Center for the Political Future

The mission of the Center for the Political Future is to advance civil dialogue that transcends partisan divisions and explores solutions to our most pressing national and global challenges. Now, more than ever, we need innovative pathways to restore dispassionate analysis to the political arena and renew the compromise essential to our democracy. The Center for the Political Future combines rigorous intellectual inquiry, teaching and practical politics to advance a new model for political discourse that opens those pathways.

Each semester, the Center hosts two to three Fellows on campus, each an exemplary leader in their field of politics and public service. Our Fellows spend the semester leading 2-unit seminar courses as well as hosting office hours, roundtable discussions, and bipartisan political panels designed to benefit students and the broader community. The Center also hosts weekly programs covering political issues, and conferences addressing national and global challenges such as immigration, climate change and tribalism.

An integral component of the Center is the Jesse M. Unruh Institute of Politics, which serves students by giving them the opportunity to be politically active and civically engaged through internships, scholarships, and professional development. The institute facilitates student internships in the offices of elected officials, non-profit organizations, public affairs professionals and more. At the institute, USC Dornsife students also conduct research into major public policy challenges at the local, state and national levels. In the spring, the institute organizes the Cerrell Seminar in Political Leadership, a trip to Sacramento where USC students meet with legislators, lobbyists and members of the media to discuss important issues in state politics.

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Director: Robert M. Shrum
Co-Director: Michael Murphy
Executive Director: Kamy Akhavan

Psychology

The Department of Psychology has five topical areas: 1) Brain and Cognitive Science focuses on understanding cognition, motivation, decision-making, computational modeling, emotion, and perception in terms of the underlying brain processes and manifested behaviors. Faculty work at the confluence of psychology, biology and neuroscience. 2) Clinical Science applies scientific theories and methods to examine psychosocial issues associated with significant societal problems including alcohol abuse, dementia and Alzheimer's disease, early identification of psychosis, family environments and risk and resilience in youth, bullying and peer victimization. Specialization is available in clinical-aging, child and family clinical, and adult clinical. 3) Developmental Psychology studies change in human behavior, cognition, language, neurological structure and emotions across the lifespan from childhood through early adulthood. 4) Quantitative Methods provides training in basic and advanced research methods and statistics used in psychometrics and measurement, longitudinal data analysis, behavior genetics modeling decision making, and methods for analyzing multivariate data. 5) Social Psychology studies the thoughts, feelings and actions of individuals as they are influenced by other individuals and by groups.

The department also participates in the Dornsife College's interdisciplinary program in Neuroscience.

Research is integral to psychology; it enables the faculty to make contributions in the field and to be more effective teachers. Undergraduate students are encouraged to work with members of the faculty on research projects. The most direct way for students to participate in research is to enroll in a directed research course (PSYC 290 or PSYC 490), but it is also possible to take part in ongoing research in less formal ways. Further options for research training also includes the honors program for psychology majors. The department now offers two MS programs in Applied Psychology (MAPP) and Applied Behavior Analysis (ABA).

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University Professor and Dana Dornsife Chair in Neuroscience and Professor of Psychology and Neurology: Hanna Damasio, MD
Dana and David Dornsife Chair and Professor of Psychology: Joseph Arvai, PhD
Harold Dornsife Chair in Neurosciences and Professor of Psychology and Computer Science: Irving Biederman, PhD
H. Leslie Hoffman and Elaine S. Hoffman Chair in Cancer Research and Professor of Psychiatry and the Behavioral Sciences and Psychology: Caryn Lerman, PhD *(Psychiatry and the Behavioral Sciences)*
W.M. Keck Chair in Neurogentics and Professor of Pediatrics and Psychology: Pat Levitt, PhD *(Cell and Neurobiology)*
University Professor and ARCO/William F. Kieschnick Chair in the Neurobiology of Aging and Professor of Gerontology, Psychology, Biological Sciences and Anthropology: Caleb E. Finch, PhD *(Gerontology)*
Niki and Max Nikias Chair in Engineering and Professor of Electrical and Computer Engineering, Computer Science, Linguistics, Psychology, Neuroscience, Pediatrics, Otolaryngology-Head and Neck Surgery: Shrikanth (Shri) Narayanan, PhD *(Electrical and Computer Engineering)*

University Professor and Milo Don and Lucille Appleman Professor of Biological Sciences and Professor of Biological Sciences and Psychology: Larry W. Swanson, PhD *(Biological Sciences)*
Stephen H. Crocker Professor of Education and Psychology: Gale M. Sinatra, PhD *(Education)*
Distinguished Professor and Orrin B. Evans Professor of Law and Professor of Law and Psychology: Elyn R. Saks, JD *(Law)*
Provost Professor of Public Policy, Psychology and Behavioral Science: Wandi Bruine de Bruin, PhD *(Public Policy)*
Provost Professor of Psychology and Marketing: Norbert Schwarz, PhD
Provost Professor of Psychology and Business: Wendy Wood, PhD
Dean's Professor of Psychology and Professor of Psychology, Education and Communication: Daphna Oyserman, PhD
Mendel Silberberg Professor of Social Psychology and Professor of Psychology: Stephen J. Read, PhD
Professors: Laura A. Baker, PhD; Antoine Bechara, PhD; Sarah Bottjer, PhD *(Biological Sciences)*; Peter Carnevale, PhD *(Business)*; Giorgio Coricelli, PhD *(Economics)*; Gerald C. Davison, PhD*; JoAnn M. Farver, PhD*; Ernest Greene, PhD; Andrea Hollingshead, PhD *(Communication)*; Laurent Itti, PhD *(Computer Science)*; Richard John, PhD; David G. Lavond, PhD; Adam Leventhal, PhD *(Preventive Medicine)*; Steven Lopez, PhD; Thomas D. Lyon, JD, PhD *(Law)*; Franklin R. Manis, PhD*; Gayla Margolin, PhD*; Mara Mather, PhD *(Gerontology)*; Beth E. Meyerowitz, PhD*; Lynn Miller, PhD *(Communication)*; Carol A. Prescott, PhD; Dan Simon, SJD *(Law)*; Elizabeth Sowell, PhD *(Pediatrics)*; Arthur Stone, PhD; Steven Yale Sussman, PhD *(Institute for Prevention Research)*; Suzanne Wenzel *(Social Work)*; Rand Wilcox, PhD; Elizabeth Zelinski, PhD *(Gerontology)*
Associate Professors: Carl Andrew Castro, PhD *(Social Work)*; Morteza Dehghani, PhD; Stanley J. Huey, Jr., PhD; Mary Helen Immordino-Yang, PhD *(Education)*; Toben Mintz, PhD; Henrike Moll, PhD; John Monterosso, PhD*; Judy Pa, PhD *(Neurology)*; Joseph Priester, PhD *(Business)*; Darby Saxbe, PhD; David Schwartz, PhD; April Thames, PhD; David A. Walsh, PhD; Amy West, PhD *(Pediatrics)*; Marian Williams, PhD *(Pediatrics)*; Jason D. Zevin, PhD
Assistant Professors: Christopher Beam, PhD; Teal Eich, PhD *(Gerontology)*; Chardee Galan, PhD; Leor Hackel, PhD; Hok Chio (Mark) Lai, PhD; Shan Luo, PhD *(Medicine);* Santiago Pamplona, PhD; Raina Pang, PhD *(Preventive Medicine)*; Jonathan Stange, PhD
Professor of the Practice of Psychology: Ellen Leggett, EdD
Professors (Research): Margaret Gatz, PhD; Jonathan Gratch, PhD *(Computer Science)*
Associate Professors of the Practice of Psychology: Shannon Couture O'Flinn, PhD; Meredith Lepley, PhD; Jonathan Tarbox, PhD; Steven Westberg, PhD
Associate Professor (Research): Karen Hennigan, PhD
Assistant Professors of the Practice of Psychology: Samantha Broitman, PhD; Lauren Shapiro, PhD
Assistant Professors (Teaching): C. Miranda Barone, PhD; Jorge Barraza, PhD; Clayton Stephenson, PhD
Assistant Professors (Research): Assal Habibi PhD; Jonas Kaplan, PhD; Matthew Kirkpatrick, PhD *(Preventive Medicine)*; Gale M. Lucas, PhD *(Computer Science)*
Lecturers: William Breland, PhD; Vitaliya Droutman, PhD; Sule Guney, PhD; Canan Ipek, PhD; Patricia George, PhD; Leslie Berntsen, PhD; Shirin Birjandi, PhD
Emeritus: Elaine Anderson, PhD; Michael A. Arbib, PhD *(Computer Science)*; Kathleen Chambers, PhD; Norman Cliff, PhD; Michael Dawson, PhD; William W. Grings, PhD; Jerald Jellison, PhD; Albert R. Marston, PhD; John J. McArdle, PhD; Norman Miller, PhD; Robert Rueda, PhD *(Education)*
**Recipient of university-wide or college teaching award.*

Undergraduate Programs

Minor in Critical Approaches to Leadership

See the Department of Interdisciplinary Studies.

Honors Program

The department offers an honors program for outstanding students in the BA, Psychology major who desire advanced research training in preparation for graduate work in the social sciences or in professional schools. The primary focus of the honors program is the completion of a research study under the guidance of a faculty adviser. Students are admitted to the program in the fall semester of their junior year and enter the program in the spring of their junior year by enrolling in PSYC 380. To be eligible for admission, a student must have an overall GPA of at least 3.5 at the time of application to the program. This program is not available to students majoring in Social Sciences with an emphasis in Psychology. Students in the honors program complete all major requirements, including PSYC 380 Junior Honors Seminar during the spring semester of their junior year and PSYC 480 Senior Honors Seminar during the spring semester of their senior year. Students complete an honors thesis proposal as part of the Junior Honors Seminar and must submit a completed senior honors thesis by April 1 of the senior year. Students are also expected to have an overall GPA of at least 3.5 at the time of graduation. For further information, contact the undergraduate adviser or the director of the program, Dr. JoAnn M. Farver.

Psi Chi

Psi Chi is the national honor society in psychology. Membership is open to graduate and undergraduates who meet the minimum qualifications. Psi Chi is a member of the Association of the College Honor Societies and is an affiliate of the American Psychological Association and the American Psychological Society.

Graduate Degrees

The Department of Psychology offers an MS in Applied Psychology, an MS in Applied Behavior Analysis, an MS in Computational Psychology, an MA in Psychology and five programs of study that lead to the PhD degree: (1) clinical science, including specializations in adult clinical, clinical-aging and child and family; (2) developmental psychology, including child and adolescent development and adult development and aging; (3) brain and cognitive science, including cognitive neuroscience, behavioral neuroscience, clinical neuroscience and behavioral genetics; (4) quantitative methods; and (5) social psychology. All five specialty PhD areas provide training for careers in research, teaching and applied work.

Admission Requirements

Psychology courses required for admission to the PhD program include the following courses: Introduction to Psychology, Statistics, Research Methods or Experimental Psychology; and at least one course from each of the following lists: (1) comparative psychology, physiological psychology, sensation and perception, learning and memory, motivation, and emotion; and (2) developmental psychology, social psychology, abnormal psychology, personality and history of psychology. Additional courses are desirable, as is work in the biological, physical and social sciences, in mathematics and in philosophy. Students with less background in psychology but outstanding undergraduate records in related fields are also encouraged to apply.

Students are selected on the basis of their undergraduate records, scores on the Graduate Record Examinations General Test, course background, letters of evaluation, personal statement of interests and goals and evidence of research skills or interests (e.g., publications or participation in research projects).

The faculty of each specialty area select the students to be admitted to that area. Therefore, applicants should designate the specialty area to which they seek admission.

Application for admission in psychology is completed online and all materials must be submitted by December 1 for admission to the following fall semester.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and

The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Cognitive Science (BA)

Director: Toben Mintz, PhD

Cognitive science is an interdisciplinary major that focuses on the mind and cognition from a variety of perspectives and approaches. The core and electives sample from courses from computer science, human and evolutionary biology, linguistics, mathematics, philosophy and psychology.

The major consists of four fixed core courses, plus two tiers of flexible core courses. The first tier generally consists of more introductory courses and the second tier of more advanced courses, although there are exceptions, and some courses satisfy either tier. Students must take two courses from the first tier and three courses from the second. The purpose of the flexible tiers is to structurally implement interdisciplinary breadth with some degree of flexibility. The flexible core is a subset of the electives, from which students can choose in order to complete the required number of units.

Students may elect to focus their curriculum from one of three tracks, which are suggested courses of study for focusing on a particular theme in cognitive science. This may be accomplished through individual advisement: language, reasoning and decision-making, and the computational mind.

Total required units for major: 46–48 units. Consisting of 16 core units, 20 flexible core units and 10–12 elective units.

Core Requirements (4 Courses)

- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4
- PSYC 301L Cognitive Processes Units: 4
- PSYC 339Lg Origins of the Mind Units: 4

  or
- PSYC 420 Animal Behavior Units: 4

Units: 16

Flexible Core Requirements (5 Courses)

Two courses from:

- CSCI 103L Introduction to Programming Units: 4 *
- LING 210g Introduction to Linguistics Units: 4
- LING 301 Introduction to Phonetics and Phonology Units: 4 *
- LING 302 Introduction to Syntax Units: 4 *
- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 246Lg Foundations of Cognitive Science Units: 4
- PSYC 304L Sensation and Perception Units: 4 *

Three courses from:

- CSCI 170 Discrete Methods in Computer Science Units: 4 *
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4 *
- CSCI 360 Introduction to Artificial Intelligence Units: 4 *
- HBIO 306 Biology of the Non-Human Primates Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4
- LING 385Lg Human Language as Computation Units: 4 *
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4 *
- LING 407 Atypical Language Units: 4
- LING 486 Natural Language Processing Units: 4 *
- LING 487 Speech Synthesis and Recognition Units: 4 *
- PHIL 222g Logic and Language Units: 4
- PHIL 240g Mind, Self, and Consciousness Units: 4
- PHIL 246Lg Foundations of Cognitive Science Units: 4
- PHIL 450 The Limits of Logic Units: 4 *
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 305 Learning and Memory Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 336L Developmental Psychology Units: 4
- PSYC 360 Abnormal Psychology Units: 4
- PSYC 422 Human Judgment and Decision Making Units: 4 *
- PSYC 433 Children's Learning and Cognitive Development Units: 4 *
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4
- PSYC 454 Social Cognition Units: 4

Units: 20

**Prerequisite required.*

Electives (3 Courses)

- BISC 230Lgx The Biology of the Brain Units: 4
- BISC 421 Neurobiology Units: 4 *
- BISC 424 Brain Architecture Units: 4
- CSCI 103L Introduction to Programming Units: 4 *
- CSCI 104L Data Structures and Object Oriented Design Units: 4 *
- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 170 Discrete Methods in Computer Science Units: 4 *
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4 *
- CSCI 360 Introduction to Artificial Intelligence Units: 4 *
- ECON 405 Neuroeconomics Units: 4 *
- HBIO 200Lg The Human Animal Units: 4
- HBIO 306 Biology of the Non-Human Primates Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4
- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4 *
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2
- LING 210g Introduction to Linguistics Units: 4
- LING 275Lg Language and Mind Units: 4
- LING 285Lg Human Language and Technology Units: 4
- LING 301 Introduction to Phonetics and Phonology Units: 4 *
- LING 302 Introduction to Syntax Units: 4 *
- LING 307 Introduction to Speech-Language Pathology Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4 *
- LING 407 Atypical Language Units: 4 *
- LING 412 Language and Law Units: 4
- LING 415 Phonetics Units: 4
- LING 486 Natural Language Processing Units: 4 *
- LING 487 Speech Synthesis and Recognition Units: 4 *
- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 222g Logic and Language Units: 4
- PHIL 240g Mind, Self, and Consciousness Units: 4
- PHIL 246Lg Foundations of Cognitive Science Units: 4
- PHIL 254gp Science, Knowledge and Objectivity Units: 4
- PHIL 258g Probability and Rational Choice Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 427 Twentieth Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 450 The Limits of Logic Units: 4 *
- PHIL 452 Modal Logic Units: 4 *
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 486 Methodologies of the Sciences Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 314L Experimental Research Methods Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 336L Developmental Psychology Units: 4
- PSYC 422 Human Judgment and Decision Making Units: 4 *
- PSYC 423 User Experience Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 425 Functional Imaging of the Human Brain Units: 4
- PSYC 428 Advanced Psychobiology Seminar Units: 4 *

- PSYC 433 Children's Learning and Cognitive Development Units: 4 *
- PSYC 438 Behavioral Genetics Units: 4
- PSYC 440 Foundations of Cognitive Neuroscience Units: 4
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4
- PSYC 454 Social Cognition Units: 4
  Note: Students that are interested in focusing on aspects of Cognitive Science that draw from Computer Science will need to take CSCI 103L, CSCI 104L *and* CSCI 109*, in order to take the more advanced Computer Science offerings in the curriculum. In considering how many CSCI courses to take, students should consider that units from these courses are outside of the Dornsife College, and will not be counted towards the required Dornsife College units.*
  ITP 115 *is not intended to be taken if* CSCI 103L *is taken.*

Units: 10-12

**Prerequisite required*

Total units: 46–48

Note: A course that is listed in multiple categories can only be applied once. Students must choose a minimum of 16 upper-division units from the flexible core and electives lists.

Psychology (BA)

Grade Requirement

A grade of C- or higher is required to count a class toward major requirements.

Required Courses, Lower-Division

- MATH 114gx Foundations of Statistics Units: 4 *
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4 **

Note:

**At least one math course of 2.67 units or more is required. MATH 114x (or MATH 208x or MATH 265) is required. Students with a strong math background may profit from a more advanced class.*

Thirty-two upper-division psychology units are required, including:

Required Courses, Upper-Division

- PSYC 314L Experimental Research Methods Units: 4 **
- PSYC 316L Non-Experimental Research Methods Units: 4

Note:

***It is recommended that no more than two upper-division psychology courses be taken prior to the completion of PSYC 274L and PSYC 314.*

One course from each of four of the following five lists is also required:

Cognitive

- PSYC 301L Cognitive Processes Units: 4
- PSYC 305 Learning and Memory Units: 4
- PSYC 440 Foundations of Cognitive Neuroscience Units: 4

Developmental

- PSYC 336L Developmental Psychology Units: 4
- PSYC 337L Adult Development and Aging Units: 4
- PSYC 339Lg Origins of the Mind Units: 4

Clinical

- PSYC 360 Abnormal Psychology Units: 4
- PSYC 361 Introduction to Clinical Psychology Units: 4
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4

Biological

- PSYC 304L Sensation and Perception Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 372 Human Sexuality Units: 4
- PSYC 404L Psychophysiology of Emotion Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 426 Motivated Behaviors and Addiction Units: 4

Social

- PSYC 355 Social Psychology Units: 4

Additional Requirements

Two 400-level psychology courses other than 490x totaling 8 units are also required. PSYC 404L and PSYC 420 may not count toward this requirement if used to satisfy the biological category above.

An additional psychology course, either upper or lower-division of at least 2.67 units is required.

Social Sciences, with an Emphasis in Psychology (BA)

The required courses are: PSYC 100, MATH 114*, PSYC 274L and eight upper-division courses in departments in the social sciences, including five in the Department of Psychology and three outside the department but within the division. These may be any 300- or 400-numbered courses.

*MATH 208, MATH 218 or MATH 265 may substitute for MATH 114.

Minor

Consumer Behavior Interdisciplinary Minor

This interdisciplinary minor explores consumer thinking from the perspective of psychology, marketing, economics, anthropology, sociology and other departments interested in popular culture. Why do people form the attitudes and impressions they do? How do individual factors, culture, mass media, economics and social trends influence people's decisions? See USC Marshall School of Business.

Psychology and Law Minor

This interdisciplinary minor brings together courses in psychology that focus on the social, clinical, cognitive and societal aspects of psychology and how it relates to law. This knowledge is augmented with courses from the USC Gould School of Law that identify the relationship between mental health, social psychology and law.

Twenty-four units are required for the minor. A minimum of four courses (16 units) must be unique to the minor. A minimum of 16 upper-division units must be completed. Psychology majors and students majoring in social sciences with an emphasis in psychology may "double count" up to two courses toward the major and minor; however, they must take a minimum of four courses that do not apply to the major.

Lower-Division Requirements

Students must complete LAW 200w or LAW 250 and PSYC 100Lg. (PSYC 100Lg is a prerequisite to upper-division PSYC courses.)

- LAW 200w Law and Society Units: 4
  or
- LAW 250w Children and the Law Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4

At least two upper-division Law courses from the following list (three minimum for PSYC majors):

- LAW 402 Psychology and Law Units: 4
- LAW 403 Mental Health Law Units: 4
- LAW 404 Law and Psychology: Examining the Criminal Justice Process Units: 4
- IR 349 International Law and Politics Units: 4
- LING 412 Language and Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4

At least two upper-division Psychology courses from the following list:

- PSYC 301L Cognitive Processes Units: 4
- PSYC 304L Sensation and Perception Units: 4

- PSYC 355 Social Psychology Units: 4
- PSYC 360 Abnormal Psychology Units: 4
- PSYC 363 Criminal Behavior Units: 4
- PSYC 365 Introduction to Forensic Psychology Units: 4
- PSYC 454 Social Cognition Units: 4

Psychology Minor

The minor requires six courses: PSYC 100 and five additional courses:

One course is required in each of three of the five topic areas listed under Major Requirements. PSYC 314L may be used to fulfill one of these topic areas.

Two elective PSYC courses. One must be upper-division, 300-level or higher.

Limitations:

1. Students must complete at least 16 upper-division PSYC units.
2. No more than four units of PSYC 490x is applicable to the minor.
3. Each of the six courses must be at least 2.67 units.

Master's Degree

Applied Behavior Analysis (MS)

The Master of Science in Applied Behavior Analysis (MABA) is designed for students who wish to pursue a career in Applied Behavior Analysis. The mission of the program is that all graduating students will become scientist-practitioners, who will be leaders in the provision of services that improve the quality of life of individuals with autism and other populations benefiting from positive behavior change. The program satisfies all requirements of the Behavior Analyst Certification Board, including 315 instructional hours of course work in applied behavior analysis, and 1,500 hours of supervised field experience. After graduating from the program, students will have completed all of the course work and fieldwork requirements to sit for the Board Certified Behavioral Analyst (BCBA) certification. A unique component of the program is the provision of two courses in developmental psychology that provide students with an up-to-date survey of theory and research in cognitive, social and emotional development of children and adolescents.

The program is especially appropriate for individuals who have majored in a behavioral science field, such as psychology and sociology, or who have a background in teaching or special education. Applicants must have received their baccalaureate degree by the semester in which they enter the program. Admission is competitive and based on grade point average, course work, GRE scores and practical experience with children. There are openings for approximately 24 students in each year of the program.

The program requires 42 units.

Applicants must apply for admission to the Graduate School, and satisfy all requirements for admission. Details on the method for applying, admission criteria and deadlines can be found at dornsife.usc.edu/aba.

Sample Student Curriculum

The following is a representative curriculum:

Fall, First Year

- PSYC 530 Concepts and Principles of Behavior Analysis Units: 3
- PSYC 531 Behavioral Assessment Units: 3
- PSYC 532 Ethics for Behavior Analysts Units: 3
- PSYC 587 Practicum in Applied Behavior Analysis Units: 2 – 18 hours per week – 15 weeks (270 hours)

Spring, First Year

- PSYC 533 Cognitive Development in Children Units: 4
- PSYC 535 Research Methods in Behavior Analysis Units: 3
- PSYC 536 Behavioral Interventions Units: 3
- PSYC 587 Practicum in Applied Behavior Analysis Units: 2 – 18 hours per week – 15 weeks (270 hours)

Fall, Second Year

- PSYC 534 Social and Emotional Development in Children Units: 4
- PSYC 537 Behavioral Supervision Units: 2
- PSYC 539 Behavioral Approaches to Skill Acquisition Units: 2
- PSYC 587 Practicum in Applied Behavior Analysis Units: 2 – 18 hours per week, 15 weeks (270 hours)
- PSYC 594a Master's Thesis Units: 2
  OR
- PSYC 597a Capstone Project in Behavior Analysis Units: 2

Spring, Second Year

- PSYC 587 Practicum in Applied Behavior Analysis Units: 2 – 20 hours per week, 15 weeks (300 hours)
- PSYC 596 Advanced Behavioral Theory Units: 3
- PSYC 594b Master's Thesis Units: 2
  OR
- PSYC 597b Capstone Project in Behavior Analysis Units: 2

Applied Psychology (MS)

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dornsife.usc.edu/map
Program Director: Ellen L. Leggett, EdD

The Master of Science in Applied Psychology program (MAP) is designed for individuals who wish to pursue or advance a career in a non-academic field where knowledge of human behavior is essential to effective job performance. The program stresses practical applications of psychological principles related to social influence, human motivation, interpersonal dynamics, decision-making, and performance improvement.

The program is especially appropriate for those who have majored in a behavioral science field, e.g., psychology, sociology, political science or anthropology. These applicants must have received their baccalaureate degree by the semester in which they begin the program.

Applicants must apply for admission to the Graduate School, and satisfy all requirements for admission. Details on the method for applying, admission criteria and deadlines can be found at dornsife.usc.edu/map.

Thirty-four units of course credit is required for the MAP degree. These units are taken from an inventory of courses that are specified for the MAP program. All students are required to take PSYC 505, PSYC 550a, PSYC 550b, PSYC 552, PSYC 565, 4 to 8 units of PSYC 591, and 2 units of PSYC 592. The specific number of PSYC 591 units taken in a given semester will depend in part on what options are available from internship sponsors. In addition, students choose from the following courses to focus on either organizational psychology or on consumer psychology: PSYC 513, PSYC 517, PSYC 556, PSYC 622. MAP students may take up to 4 units of PSYC 590.

Based on the student's academic background, work experience and career goals, substitutions of up to two courses may be made from other courses eligible for graduate credit.

The program for a given cohort of students begins in the fall semester. The normal expectation is that full-time students will complete the program in two semesters plus the summer. Part-time students will generally take one or two courses per semester, and must complete the program within five years.

The Master of Science in Applied Psychology program is also available as a part-time, online degree. Students may enter this program in fall, spring or summer terms.

Computational Psychology (MS)

Advances in statistical and machine learning, coupled with greater availability of human-related data, have provided unprecedented opportunities to study and model human behavior and cognition in ways that were not previously imaginable. The Master of Science in Computational Psychology provides the training in modern statistical methodology, state-of-the-art machine

learning algorithms and psychology needed to work on the cutting edge of human-related big data.

The program is 36 units in length and will typically require four semesters to complete. In addition to the required courses, students must complete a semester of lab rotation and participate in the Psychology and/or Quantitative Methods and Computational Psychology colloquium for two semesters.

Required Courses

Four courses required.

- PSYC 518 Cognitive Modeling Units: 4
- PSYC 571 Foundations of Statistical and Data Analytic Methods in Psychology Units: 4
- PSYC 573 Bayesian Data Analysis Units: 4
- PSYC 625 Applied Machine Learning Units: 4

Advanced Statistics

Choose one course:

- PSYC 520 Fundamentals of Psychological Measurement Units: 4
- PSYC 524 Research Design in Developmental Psychology Units: 4
- PSYC 575L Multilevel Modeling Units: 4
- PSYC 577 Analysis of Covariance Structures Units: 4
- PSYC 621 Seminar in Quantitative Psychology Units: 4

Substituted courses can be accepted upon approval from Director of Program:

- Selected Biostatistics courses
- Selected Math courses
- Selected Spatial Science courses (SSCI 583)
- Selected Economics courses

Data Science Core

Choose one course:

- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Advanced Data Science

Choose one course:

- CSCI 544 Applied Natural Language Processing Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 555 Interaction Design and Usability Testing Units: 4
- DSCI 558 Building Knowledge Graphs Units: 4

Psychology Core

Choose two courses:

- PSYC 512 Seminar in Social Psychology Units: 4
- PSYC 540 Cognitive Neuroscience Units: 4
- PSYC 547 Functional Neuroanatomy Units: 4
- PSYC 555 Introduction to Functional Magnetic Resonance Imaging Units: 4
- PSYC 622 Decision Analysis and Behavioral Decision Theory Units: 4
- PSYC 626 Computational Social Sciences Units: 4

Psychology (MA)

The department does not admit students whose objective is this master's degree. However, if a student accepted in the doctoral program does not have a master's degree, the department strongly recommends completion of the requirements for the MA in Psychology in the course of work toward the PhD degree. This involves 24 units of course work and a thesis.

Dual Degree

Doctor of Philosophy in Psychology (Clinical) and Master of Public Health (Health Promotion) (PhD/MPH)

The PhD/MPH dual degree combines knowledge of clinical psychology research and practice with an understanding of health from a population perspective. The student enrolls primarily in the clinical science doctoral program, while taking additional course work for the MPH. During the second and subsequent years, course work is taken in both programs. The dissertation is undertaken through the Department of Psychology.

Doctoral Degree

Psychology (PhD)

Residency Requirement

A minimum of 24 graduate units at USC is required for the doctoral degree.

Course Requirements

Each student must take at least 36 substantive units in psychology at USC during the first three years. Students must complete one statistics and/or research methods course as well as a set of core courses that cover topics in brain and cognitive sciences and clinical, developmental and social areas, the specifics of which are provided in the department's handbook for graduate students. Additional course requirements vary according to specialty area.

Research Requirement

During the first and second year, students work on either a master's thesis or a research report of comparable scope and quality. A research project done at USC is required of all students (by the conclusion of the summer following the student's second year), regardless of prior graduate work.

Screening Procedure

The student's ability to master graduate-level course material is first evaluated after completion of no more than 24 units, and not later than the third semester of graduate work at USC. The final screening procedure is the successful completion of a second-year project requirement. This evaluation is based on the student's performance in courses taken and on an evaluation of the student's research competence as reflected in the second year research project. The project is evaluated by a committee of three faculty, including the student's primary adviser.

Additionally, students are evaluated each year based on adviser input, course work and research progress.

Qualifying Exam Committee

In preparation for the qualifying examination, each student assembles a five-person qualifying exam committee to direct the student's program of studies and evaluate research competence. The committee continues to serve until after the qualifying examination has been passed, the dissertation topic approved, and the student admitted to candidacy for the PhD. At that time the student assembles a dissertation committee of four or more members (usually consisting of members of the qualifying exam committee, one of whom must be a faculty member from outside the department), who advise on and evaluate the dissertation.

Qualifying Examination

The qualifying examination evaluates the student's ability to conduct independent scholarship and research. The student is evaluated based on oral and written presentation of two elements: a written review paper or written exam and the dissertation proposal. The qualifying examination is planned, administered and evaluated by the student's qualifying exam committee. It should be taken no later than during the fifth semester.

Doctoral Dissertation

A student is expected to engage in research activity throughout his or her graduate career, leading up to and culminating in the PhD dissertation. The dissertation is based on an original investigation, usually involving empirical data.

Defense of the Dissertation

The student's doctoral dissertation is defended at either a defense oral, based on an approved preliminary copy of the

dissertation, or a final oral, based on the final version of the dissertation.

Advisement

Each student has a major adviser who is usually in the specialty area. The qualifying exam committee should be formed at least one semester before the student takes the qualifying examination. Advisement concerning graduate school requirements may also be sought from the staff graduate adviser and the faculty member serving as director of graduate studies.

Internship Requirement

Students in the clinical science PhD program need a minimum of three full-time in-residence academic years of graduate study plus one full year of internship at a facility approved by the clinical faculty.

Quantitative and Computational Biology

The Department of Quantitative and Computational Biology has faculty with research specialties in statistical and evolutionary genomics and epigenomics, computational structural biology, and mathematical modeling and systems biology. The department offers a Bachelor of Science degree in Quantitative Biology and an undergraduate minor in Computational Biology and Bioinformatics. The department also offers an honors program in which a Quantitative Biology student can earn a BS degree in Quantitative Biology with honors. The honors program is available to students who maintain a GPA of 3.5 in the sciences and who have completed their freshman year. The honors program includes research opportunities, seminars and thesis preparation courses. Quantitative Biology undergraduates will become involved in research as component of their degree requirements.

At the graduate level, the department offers a doctoral degree program that leads to a PhD in Computational Biology and Bioinformatics. The department also offers a progressive MS degree in Quantitative and Computational Biology and an MS degree in Molecular and Computational Biology.

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Website: dornsife.usc.edu/qcb/
Chair: Remo Rohs, PhD

Faculty

University Professor, Provost Professor of Neurology, Biomedical Engineering, and Quantitative and Computational Biology: Steve Kay, PhD (*Neurology*)
Distinguished Professor of Chemistry, Quantitative and Computational Biology, Biochemistry, and Chemical Engineering & Materials Science and Dana and David Dornsife Chair in Chemistry: Arieh Warshel, PhD* (*Chemistry*)
Gordon S. Marshall Early Career Chair and Associate Professor of Biomedical Engineering, and Quantitative and Computational Biology: Stacey Finley, PhD (*Biomedical Engineering)*
Provost Professor of Ophthalmology, Neurology, Psychiatry and the Behavior Sciences, Radiology, Biomedical Engineering, and Quantitative and Computational Biology: Arthur Toga, PhD *(Ophthalmology*)
Professors: Liang Chen, PhD; Yan Liu, PhD (*Computer Science*); Chi H. Mak, PhD (*Chemistry*); Aiichiro Nakano, PhD (*Computer Science*); Remo Rohs, PhD; Andrew Smith, PhD; Fengzhu Sun, PhD; Paul Thomas, PhD (*Preventive Medicine*); Paul Thompson, PhD (*Ophthalmology*)
Associate Professors: Rosa Di Felice, PhD (*Physics and Astronomy*); Christoph Haselwandter, PhD (*Physics and Astronomy*); Vsevolod Katritch, PhD
Assistant Professors: Mark Chaisson, PhD; Charleston Chiang, PhD (*Preventive Medicine*); Michael Edge, PhD; Geoffrey Fudenberg, PhD; Naomi Levine, PhD (*Biological Sciences*); Adam MacLean, PhD; Nicholas Mancuso, PhD (*Preventive Medicine*)
Associate Professors (Teaching): Peter Calabrese, PhD; Rory Spence, PhD
Emeritus: Simon Tavaré, PhD; Michael S. Waterman, PhD*
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Director of Undergraduate Studies, Quantitative Biology: Peter Calabrese, PhD

Advisement

Advisement in the Department of Quantitative and Computational Biology is required each semester. First semester freshman and transfer advisement takes place during orientation. Advisement in all remaining semesters takes place during the pre-registration period. The undergraduate coordinator forwards advisement appointment information each semester to all students in quantitative biology.

Pre-Medical Preparation

The Quantitative Biology major includes all requirements for admission to medical school.

Minor in Computational Biology and Bioinformatics

The Department of Quantitative and Computational Biology offers a minor in computational biology and bioinformatics. This minor provides essential training in using quantitative skills to solve fundamental biological problems as well as problems related to public health, neuroscience and the environment. The minor includes tracks matching the background of the students in biology, mathematics, computer science and engineering.

Graduate Degrees

Degree Programs in Quantitative and Computational Biology

The graduate programs in quantitative and computational biology include graduate level classes in computer science, mathematics, and statistics and access to high performance computing. Courses and faculty research interests allow a multidisciplinary approach. Students develop the ability to formulate and test hypotheses, integrating information and concepts in the completion of a dissertation (PhD). A qualifying exam committee is formed for each student during the first year to develop a particular program of course work and research, and to evaluate the student's progress. Specific information about the options in quantitative and computational biology can be obtained by requesting information brochures or online at dornsife.usc.edu/qcb/.

Doctor of Philosophy in Computational Biology and Bioinformatics

This program prepares students for careers in academic research in quantitative and computational biology, or data science, biotechnology and software industries. The department teaches computational biology courses after students have taken graduate level courses in computer science, algorithms, mathematics, statistics and probability, and molecular biology. Students take classes and rotate in the first year, take a written screening exam following the first year, and an oral qualifying exam after the second year. Computational biology and bioinformatics students can work with faculty members of the Department of Quantitative and Computational Biology (dornsife.usc.edu/qcb/people/) as PhD dissertation advisers.

Admission Requirements

Applicants must have a bachelor's degree in a natural science, mathematics, computer science or engineering from an accredited four-year college or university. Required background courses include computer science, general physics, bioinformatics and mathematics through integral calculus. Applicants are evaluated by their transcripts and GPA; research experience; three letters of recommendation; and a statement of interest. Applicants who are accepted into the program but judged to have minor deficiencies are expected to correct them within the first year.

Degree Requirements

These graduate degrees are awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Quantitative Biology (BS)

The Department of Quantitative and Computational Biology offers a BS degree in Quantitative Biology (QBIO). This program allows biology students to achieve a fuller background in the quantitative sciences such as computer science and statistics that are essential for modern data-driven biological science. The students will take an introductory seminar, participate in undergraduate research and write an honors thesis. This program will have the designation on the transcript of Bachelor of Science in Quantitative Biology.

The general education, writing, language and diversity requirements for a USC Dornsife College of Letters, Arts and Sciences degree are applicable.

Core Courses (38 units)

Students must complete the following courses:

Required Introductory Course (2 units)

- QBIO 105 Introduction to Quantitative Biology Seminar Units: 2

Required Foundational Courses (36 units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- MATH 125g Calculus I Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 or
- PHYS 161Lg Advanced Principles of Physics I Units: 4 or
- PHYS 171Lg Applied Physics I: Mechanics Units: 4
- QBIO 310 Statistical Thinking for Quantitative Biology Units: 4 or
- MATH 307 Statistical Inference and Data Analysis I Units: 4

Specialization Courses (12 units)

Choose three of the following courses:

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 407 Probability Theory Units: 4
- MATH 308 Statistical Inference and Data Analysis II Units: 4 or
- MATH 408 Mathematical Statistics Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4 or
- PHYS 162L Advanced Principles of Physics II Units: 4 or
- PHYS 172L Applied Physics II: Electricity, Magnetism and Optics Units: 4

Capstone Course (4 units)

Choose one of the following capstone courses:

- BISC 478 Computational Genome Analysis Units: 4 or
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4

Biology Elective (4 units)

Choose one of the following courses:

- BISC 300L Introduction to Microbiology Units: 4
- BISC 307L General Physiology Units: 4
- BISC 313L Evolution and Population Genetics Units: 4
- BISC 315L Introduction to Ecology Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 312x Molecular Biochemistry Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 421 Neurobiology Units: 4
- CHEM 350g Molecular Principles of Biochemistry Units: 4
- QBIO 401 Introduction to Computational Analysis of Biological Data Units: 4

Upper-Division Electives (minimum 8 units)

Choose two to three of the following courses for upper-division electives. The capstone course and biology elective selected may not double-count toward upper-division electives.

- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 407 Cellular and Molecular Neuroscience Units: 4
- BISC 408 Systems Neuroscience: From Synapses to Perception Units: 4
- BISC 410 Applications of Molecular Biology to Medicine Units: 4
- BISC 411 Advanced Cell Biology Units: 4
- BISC 424 Brain Architecture Units: 4
- BISC 434 Introduction to Genome Science Units: 4
- BISC 435 Advanced Biochemistry Units: 4
- BISC 450L Principles of Immunology Units: 4
- BISC 473L Biological Oceanography Units: 4
- BISC 478 Computational Genome Analysis Units: 4 *
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4 *
- BME 430 Principles and Applications of Systems Biology Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 467 Introduction to Machine Learning Units: 4
- MATH 447 Mathematics of Machine Learning Units: 4
- MATH 466 Dynamic Modeling Units: 4
- MATH 467 Theory and Computational Methods for Optimization Units: 4

- PHYS 444 Physical Biology: From Molecules to Cells Units: 4
- QBIO 401 Introduction to Computational Analysis of Biological Data Units: 4

* Capstone course.

Research Experience (6 units)

Students are required to enroll in a total of 6 units of directed research in a lab approved by the Quantitative Biology Executive Committee or assigned faculty adviser. Students may choose from any of the courses listed below, however, students in the honors program will enroll in both QBIO 493 and QBIO 494x.

- QBIO 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- QBIO 493 Quantitative Biology Honors Seminar Units: 2

and

- QBIO 494x Quantitative Biology Honors Thesis Units: 2

Minor

Computational Biology and Bioinformatics Minor

The USC Dornsife College of Letters, Arts and Sciences departments of quantitative and computational biology and mathematics and the Viterbi School of Engineering departments of computer science and biomedical engineering jointly offer the cross-departmental minor in computational biology and bioinformatics. This minor provides essential training in using quantitative skills to solve fundamental biological problems as well as problems related to public health, neuroscience and environment. The minor includes four tracks according to the background of the students in biology, mathematics, computer science and engineering.

As with all minors, students must include at least four upper-division courses (16 units) and four courses (16 units) dedicated exclusively to this minor (they can overlap). Four courses (16 units) taken outside the major department are required. The courses are designed for students in biology, mathematics, computer science or biomedical engineering. Other students may need more units to receive the minor. The CHEM 105bL or CHEM 115bL prerequisite for BISC 320 may be waived if the students have the necessary background determined by the faculty adviser for the minor. Students who waive these prerequisites cannot retake CHEM 105bL or CHEM 115bL for credit.

Please see the minor adviser for specific program requirements.

Required Courses

Biological Sciences

- BISC 305g Statistics for Biological Sciences Units: 4 (Can be substituted by MATH 208 or MATH 408 or BME 423)
- BISC 320Lg Molecular Biology Units: 4
- BISC 478 Computational Genome Analysis Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4

Mathematics

- MATH 125g Calculus I Units: 4 *
- MATH 126g Calculus II Units: 4 *

Computer Science

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4

Electives

Biological Sciences:

- BISC 230Lgx The Biology of the Brain Units: 4
- BISC 300L Introduction to Microbiology Units: 4 *
- BISC 313L Evolution and Population Genetics Units: 4 *
- BISC 325 Genetics Units: 4 *
- BISC 330L Biochemistry Units: 4 *
- BISC 403 Advanced Molecular Biology Units: 4 *
- BISC 406L Biotechnology Units: 4 *
- BISC 410 Applications of Molecular Biology to Medicine Units: 4 *

Mathematics:

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 *
- MATH 226g Calculus III Units: 4 *
- MATH 408 Mathematical Statistics Units: 4 *
- MATH 432 Applied Combinatorics Units: 4 *
- MATH 458 Numerical Methods Units: 4 *
- MATH 465 Nonlinear Dynamics in Science and Engineering Units: 4 *
- MATH 466 Dynamic Modeling Units: 4 *
- MATH 467 Theory and Computational Methods for Optimization Units: 4 *

Computer Science:

- CSCI 170 Discrete Methods in Computer Science Units: 4 *
- CSCI 201L Principles of Software Development Units: 4 *
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4 *
- CSCI 485 File and Database Management Units: 4 *

Note:

**Prerequisite required*

Additional Requirements

Total requirements for students with no prior course work: 30 units. Students need to take 30 units of the courses listed: all requirements, and enough electives to add up to 30 units, while fulfilling the requirement that they must take 16 units unique to the minor (not used for their major or general education) and 16 units not offered by their major.

Students majoring in biological sciences, mathematics, computer science and biomedical engineering can meet many of these requirements with course work that also satisfies their majors.

Students of other majors need to take all the required courses plus at least one elective from mathematics or computer science (e.g., MATH 226, MATH 407, CSCI 201) from the list of elective courses to meet the minor requirements.

Master's Degree

Computational Molecular Biology (MS)

The computational molecular biology program is designed to attract recent graduates in either mathematics, statistics, biology or computer science, or scientists and engineers interested in retraining. A commercial or laboratory internship is required. Students will be prepared for employment in the rapidly expanding areas of computational molecular biology and bioinformatics. The program has two tracks, appropriate for different undergraduate backgrounds: biology and mathematical science. The required courses for each track are indicated below.

Required Courses

Biological Sciences

- BISC 403 Advanced Molecular Biology Units: 4 ***
- BISC 478 Computational Genome Analysis Units: 4 **
- BISC 505 Genomics and Molecular Genetics Units: 4 *
- BISC 542 Seminar in Molecular Biology Units: 1 *
- BISC 577a Computational Molecular Biology Laboratory Units: 2 *
- BISC 577b Computational Molecular Biology Laboratory Units: 2 *

Computer Science

- CSCI 485 File and Database Management Units: 4 **
- CSCI 570 Analysis of Algorithms Units: 4 ***

Mathematics

- MATH 407 Probability Theory Units: 4 **
- MATH 408 Mathematical Statistics Units: 4 **
- MATH 505a Applied Probability Units: 3 ***
- MATH 541a Introduction to Mathematical Statistics Units: 3 ***
- MATH 578a Computational Molecular Biology Units: 3 ***

- MATH 592 Computational Molecular Biology Internship Units: 3 *
- MATH 650 Seminar in Statistical Consulting Units: 3 *

Total units: 33-34

**Both tracks*
***Biology track*
****Mathematical science track*

Students are required to demonstrate skill in C++, Java or Perl, and to demonstrate knowledge of molecular biology at the level of BISC 320L. A substantial report on the commercial or laboratory internship must be submitted (for which enrollment in MATH 592 is required).

Quantitative and Computational Biology (MS)

The Department of Quantitative and Computational Biology offers a Master of Science in Quantitative and Computational Biology (MQCB), which integrates quantitative graduate courses from the Biological Sciences, Biomedical Engineering, Chemistry, Computer Science, Mathematics, and Physics and Astronomy departments. Students will gain additional skills across these disciplines that prepare them well for advanced graduate-level work, MD/PhD programs at top universities and/or jobs in industries at the intersection of biotechnology and software.

The program requires 32 units, as indicated below.

Required Courses (8 units)

Students must complete the following courses.

- BISC 542 Seminar in Molecular Biology Units: 1 (two semesters, computational biology section)
- BISC 577a Computational Molecular Biology Laboratory Units: 2
- QBIO 502 Molecular Biology for Quantitative Scientists Units: 4

Research Experience (7-9 units)

Students are required to enroll for 7 to 9 units of directed research in a lab approved by the Quantitative Biology Executive Committee or assigned faculty adviser.

- QBIO 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Graduate-Level Elective Courses (7-9 units)

Select two or three of the following courses. Options include 3- and 4-unit courses.

- BISC 545 Modeling and Numerical Techniques for Marine Scientists Units: 4
- BME 530 Introduction to Systems Biology Units: 4
- CHEM 538 Mathematical Techniques of Physical Chemistry Units: 4
- CHEM 540 Introduction to Statistical Mechanics Units: 4
- CHEM 544 Introduction to Quantum Chemistry Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 596 Scientific Computing and Visualization Units: 4
- MATH 505a Applied Probability Units: 3
- MATH 507a Theory of Probability Units: 3
- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- PHYS 518 Thermodynamics and Statistical Mechanics Units: 3
- PHYS 558a Quantum Mechanics Units: 3
- PHYS 690 Introduction to Physical Biology Units: 3

Foundational Elective Courses (8 units)

Select two of the following courses.

- BISC 478 Computational Genome Analysis Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4
- CSCI 455x Introduction to Programming Systems Design Units: 4
- MATH 407 Probability Theory Units: 4
- MATH 408 Mathematical Statistics Units: 4
- QBIO 401 Introduction to Computational Analysis of Biological Data Units: 4

Doctoral Degree

Computational Biology and Bioinformatics (PhD)

Application deadline: December 15

During the first year, the student's program is under the direction of an initial qualifying exam committee composed of members of the admissions committee. After passing the screening procedure before the end of the first semester, the student must form a qualifying exam committee consisting of an adviser and four other faculty members, including at least one from another department. Thereafter, the student's program of studies and dissertation are under the direction of the permanent qualifying exam committee and the dissertation committee.

Screening Procedure

The screening examination should be taken by the end of the second semester in the program. If the student fails the examination, the department, at its discretion, may permit the student to repeat the examination during the next semester. The screening examination consists of written examinations on topics including molecular biology, mathematical probability and statistics, and algorithms.

Course Requirements

The students must complete, with no grade lower than a B, a minimum of 60 units of courses carrying graduate credit and approved by the qualifying exam committee. The required courses include: BISC 542, BISC 577a, CSCI 570, MATH 505a, MATH 541a, and MATH 578a/MATH 578b. Students must take at least one biology course in the area of molecular biology, genetics or biochemistry. An additional 6 units of elective courses will be taken from the following list: BISC 502a/BISC 502b, BME 530, MATH 502a, MATH 505b, MATH 541b, MATH 555a, MATH 650, CSCI 521, CSCI 559, CSCI 567, CSCI 596, CSCI 596, or other graduate level courses in BISC, BME, MATH or CSCI. Students must register for a minimum of 4 units of dissertation research (BISC 794a/BISC 794b). Students must be registered in BISC 542 (computational section) their first three years in the program (6 semesters). Students are required to enroll in BISC 593 (2 units) during the fall semester of their second year for TA preparation. In addition, international students may be required to take courses in the American Language Institute (ALI).

Transfer of Credit

No transfer of credit will be considered until the screening examination is passed. A maximum of 30 units of graduate work at another institution may be applied toward the course requirements for the PhD A grade of B- (A = 4.0) or lower will not be accepted and, at most, two grades of B will be accepted. A PhD candidate may petition the department for transfer of additional credit, after he or she passes the qualifying examination.

Qualifying Examination

The qualifying examination should be taken within two semesters following successful completion of the screening examination.

The written portion of the qualifying examination consists of a dissertation proposal. This document should include: introduction, statement of the problem, literature survey, methodology, summary of preliminary results, proposed research, references, appendix (including one or two fundamental references).

The oral portion of the qualifying examination consists of presentation of the PhD dissertation proposal. The student must demonstrate research potential.

Dissertation

Following passage of the screening examination and approval of a dissertation topic by the qualifying exam committee, the

student begins research toward the dissertation under the supervision of the dissertation committee. The primary requirement of the PhD is an acceptable dissertation based on a substantial amount of original research conducted by the student.

Defense of the Dissertation

The defense of the dissertation is either a defense oral or a final oral. In most cases a defense oral will suffice if approved by the dissertation committee.

Required Courses

Select one from the following:

- BISC 320Lg Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 502a Molecular Genetics and Biochemistry Units: 4

Other Required Courses

- BISC 542 Seminar in Molecular Biology Units: 1
- BISC 577a Computational Molecular Biology Laboratory Units: 2
- BISC 593 Practicum in Teaching the Biological Sciences Units: 2
- CSCI 570 Analysis of Algorithms Units: 4
- MATH 505a Applied Probability Units: 3
- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 578a Computational Molecular Biology Units: 3
- MATH 578b Computational Molecular Biology Units: 3

Elective Courses

Choose a minimum of 6 units from the following courses:

- BISC 502a Molecular Genetics and Biochemistry Units: 4
- BISC 502b Molecular Genetics and Biochemistry Units: 4
- BME 530 Introduction to Systems Biology Units: 4
- CSCI 521 Optimization: Theory and Algorithms Units: 3
- CSCI 559 Machine Learning I: Supervised Methods Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 596 Scientific Computing and Visualization Units: 4
- CSCI 670x Advanced Analysis of Algorithms Units: 4
- MATH 502a Numerical Analysis Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 650 Seminar in Statistical Consulting Units: 3
- or other graduate courses in BISC, BME, CSCI or MATH selected in consulation with an adviser

Religion

The School of Religion offers undergraduate courses in biblical studies; ancient near eastern religion, east and south Asian religions, including Hinduism, Buddhism and Daoism; religions in Latin America; contemporary North American religions; the histories of Judaism, Christianity and Islam; religion and gender and topics in religious ethics. Courses are designed to facilitate a critical and comparative understanding of religious traditions in the light of the most current scholarship. The School of Religion offers the Bachelor of Arts in Archaeology, the Bachelor of Arts in Jewish Studies, the Bachelor of Arts in Religion, the minor in Archaeology, the minor in Archaeology of California, the minor in Jewish Studies, the minor in Religion, the minor in Contemplative Studies, a graduate certificate in Religious Studies, a graduate certificate in Jewish Studies, and the Doctor of Philosophy in Religion. Students also have the opportunity to enroll in USC courses offered by faculty of the Louchheim School for Judaic Studies, and receive regular USC course credit.

Ahmanson Center 130
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dornsife.usc.edu/religion
Director: Duncan Williams, PhD

Faculty

King Faisal Chair in Islamic Thought and Culture and Professor of Religion and American Studies and Ethnicity: Sherman Jackson, PhD*
Knight Center Chair in Media and Religion and Associate Professor of Journalism: Diane Winston, PhD *(Communication)*
John R. Tansey Chair in Christian Ethics and Professor of Religion: Rev. Cecil (Chip) Murray, RelD
Ruth Ziegler Early Career Chair in Jewish Studies and Associate Professor of Religion, Law and History: Jessica Marglin, PhD
Alton M. Brooks Professor of Religion: James Heft, PhD
Leonard K. Firestone Professor of Religion and Professor of Religion: Donald Miller, PhD
Dean's Professor of Religion and Professor of Religion and History: Lisa Bitel, PhD *(History)*
Professors: Janet Hoskins, PhD *(Anthropology*); Paul Lichterman, PhD *(Sociology)*; Duncan Williams, PhD; Bruce Zuckerman, PhD*
Associate Professors: David Albertson, PhD*; Sheila Briggs, MA; Cavan W. Concannon, PhD; James McHugh, PhD; Lori Rachelle Meeks, PhD
Assistant Professors: Kelsey Moss, PhD; Arjun Nair, PhD; Jessica Xiaomin, PhD
Associate Professor of the Practice: Lynn Swartz Dodd, PhD
Emeritus: John P. Crossley, Jr., ThD*; Robert Ellwood, PhD; Ronald Hock, PhD; John Orr, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Religion Major with Honors

Majors who wish to graduate from the university with honors in religion must achieve a minimum 3.5 grade point average in the major at the time of graduation. In addition to completing the required 32 units listed above, candidates for honors must register for REL 491x Undergraduate Honors Research, in which they must complete an acceptable senior honors project in religion. The total unit requirement to graduate with honors is 36 upper-division units.

Honor Society

Theta Alpha Kappa is a national honor society for those involved in the study of religion at the undergraduate and graduate level. It is open to declared majors who have completed at least three semesters of college and at least 12 units of religion courses. Students must have a GPA of at least 3.5 in major courses and an overall GPA of at least 3.0.

Judaic Studies Minor

See Jewish Studies for a full description of the minor.

Critical Approaches to Leadership Minor

See the Department of Interdisciplinary Studies for a full description of the minor.

Graduate Degrees

The School of Religion offers graduate study at the doctoral degree level in the field of religion with three tracks: Asia Pacific Religions, Comparative Christianities and Global Islam. Graduate work in the field of religion is designed to develop competencies and critical apparatuses in the distinct tracks and religious traditions as well as in religions' interactions with society, culture and the major themes that transcend the boundaries of geography, history and tradition.

Track I: Asia Pacific Religions

Trains students in the foundational texts, histories, worldviews, socio-political and cultural impact of religions in the pre-modern and modern Asia Pacific. These religious traditions include

Hinduism, Buddhism and other religious movements in the region as well as their global manifestations.

Track II: Comparative Christianities

Trains students in the vast global range of historical and contemporary Christian traditions often grouped together homogeneously as Christianity. Rather than focusing exclusively on textual and intellectual traditions, this track integrates the social, cultural and material dimensions of religion in its study of plural Christianities, and challenges students to frame their research in transnational and transhistorical terms as a matter of course.

Track III: Global Islam

Trains students in the "global" dimensions of the Islamic tradition, from the traditional confines of the Middle East, Africa and South and Southeast Asia to include Islam, Islamic thought, Muslim culture and Muslim communities in the modern Western world. In addition to the acquisition of traditional skills for the study of religious texts, doctrine and spiritual life of believers, students will learn how Muslims negotiate concrete spaces and contexts they inhabit in the modern world.

Degree Requirements

The degree is conferred under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School. Decisions regarding the number of transfer credits to be awarded will be made on a case-by-case basis by the faculty of the School of Religion.

Bachelor's Degree

Archaeology (BA)

Director: Lynn Swartz Dodd, PhD

Archaeology deepens our understanding of peoples and societies across space and time, in all parts of the world, while expanding our knowledge of issues relevant in contemporary society. Archaeologists interpret material culture and action from our shared human past using a range of tools and approaches whether the discovery occurs with trowel in hand, or through laboratory analysis, artifact study, remote sensing or by documenting heritage.

Archaeology majors strengthen their skills in critical thinking, assessing evidence, and formulating clear and persuasive arguments, both oral and written. Students from a wide range of disciplines will gain perspective on their own intellectual and professional interests through the study of the past.

In addition to the general education requirements, the following courses are required:

Lower-Division Requirement (8 units)

Required Course (4 units)

- ANTH 202g Archaeology: Our Human Past Units: 4

Select either one 4-unit course or two 2-unit courses from the following list (4 units):

- AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128gp Arts of Latin America Units: 4
- AHIS 201g Digging into the Past Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- ARCG 298aL Introduction to Scientific Diving Units: 2
- ARCG 298bL Introduction to Scientific Diving Units: 2
- CHEM 102 The Molecular World Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- CHEM 105bL General Chemistry Units: 4
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 205Lgx Chemical Forensics: The Science, and Its Impact Units: 4
- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 212 Archaeology: Interpreting the Past Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- CORE 103g The Process of Change in Science: Thematic Option Honors Program Units: 4*
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 150gx Environmental Issues in Society Units: 4
- GESM 110g Seminar in the Arts Units: 4*
- GESM 111g Seminar in the Arts Units: 4*
- GESM 120g Seminar in Humanistic Inquiry Units: 4*
- GESM 121g Seminar in Humanistic Inquiry Units: 4*
- GESM 130g Seminar in Social Analysis Units: 4*
- GESM 131g Seminar in Social Analysis Units: 4*
- HBIO 200Lg The Human Animal Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- LING 295g The Ancient Near East: Culture, Archaeology, Texts Units: 4
- MASC 110L Materials Science Units: 4
- REL 111g The World of the Hebrew Bible Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 115g Jerusalem, City of Three Faiths Units: 4
- REL 121g The World of the New Testament Units: 4
- REL 125gp Introduction to Christianity: Antiquity to 1500 Units: 4
- REL 132g Origins of Western Religions Units: 4
- REL 135g Chinese Religions and Culture Units: 4
- REL 136g Sense and Sensuality in Indian Religions and Culture Units: 4
- REL 137g Introduction to Islam Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 265Lg The Water Planet Units: 4

*Note:

CORE 103 and all GESM courses listed are allowed for credit by individual petition only. Contact program director or adviser.

Upper-Division Requirement (28 units)

Select one course from Ethics and Heritage (4 units)

- AHIS 301 Guardians of the Past? Art Preservation, Ethics, and the Law Units: 4
- REL 304 Ethics and Global Heritage Units: 4

Select two courses from Theories and Methods (8 units):

- AHIS 325 Roman Archaeological Excavation: Methods and Practice Units: 4
- AHIS 415 Object-Worlds: Histories and Theories of Things Units: 4
- AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology Units: 4
- AHIS 427 Archaeological Theories, Methods, and Practice Units: 4
- ANTH 307 Trojan Archaeology: Excavating USC Units: 4
- ANTH 400 Maya Resilience: Constructing Past and Present Identities Units: 4
- ANTH 440 History of Anthropological Theory Units: 4
- ANTH 450 Field Research in Maya Archaeology Units: 4
- ANTH 481L GIS for Investigating the Past Units: 4 *
- ARCG 305L Virtual and Digital Culture, Heritage and Archaeology Units: 2, 4 *
- ARCG 323p Roman Archaeology: History, Methods and Field Work Units: 4
- REL 303g Exploring Ancient Ways of Living: Experimental Archaeology Units: 4
- REL 494 Lab Methods and Theories in Archaeology Units: 4
- REL 495 Field Methods and Theories in Archaeology Units: 4

Select three courses from the following two areas (12 units):

Cultural/Historical

- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4
- AHIS 330 Medieval Art Units: 4
- AHIS 381g Visual Cultures of Asia Units: 4
- AHIS 384 Early Chinese Art Units: 4
- AHIS 420 Studies in Ancient Art Units: 4
- ANTH 304 Prehistoric Archaeology Units: 4
- ANTH 310 Archaeology of the Americas Units: 4
- ANTH 311 Old World Archaeology Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 329 Archaeology and Global Cultural Heritage Units: 4
- ANTH 337 Anthropology of Warfare Units: 4
- ANTH 338g Food in Culture and Society Units: 4
- ANTH 344g Living with the Past: Encountering History through Ritual, Experience and Practice Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 372 Interpretation of Myth and Narrative Units: 4
- ANTH 377g Archaeological Interpretation of Complex Societies Units: 4
- CLAS 323 Aegean Archaeology Units: 4
- CLAS 324 Late Antique Art and Archaeology Units: 4
- CLAS 328 Archaeology of Religion in the Greco- Roman World Units: 4
- CLAS 338 Warfare, State, and Society in the Ancient World Units: 4
- CLAS 339 Ancient Science Units: 4
- CLAS 349gp Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- JS 370gp Digs and Dispute: Religion and Archaeology in Israel Units: 4
- JS 378 Jewish Magic in the Ancient World Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- REL 302 Religions of Ancient Egypt and the Near East Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4
- REL 325g Religious Experience in the Greco-Roman World Units: 4
- REL 326gp Historical Jesus Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- REL 475 Religion, Material Culture and the Senses Units: 4
- REL 493 Art and Archaeology of Religion Units: 4

Applied/Analytical

- ANTH 376 Scientific Analysis in Archaeology Units: 4
- ANTH 481L GIS for Investigating the Past Units: 4 *
- ARCG 305L Virtual and Digital Culture, Heritage and Archaeology Units: 2, 4
- ARCG 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CHEM 300L Analytical Chemistry Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- GEOL 305L Introduction to Engineering Geology Units: 4
- GEOL 320L Surficial Processes and Stratigraphic Systems Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 382L Geographic Information Science: Spatial Analytics Units: 4
- SSCI 383L Geographic Information Science: Geospatial Modeling and Customization Units: 4

Note:

*ANTH 481L *and* ARCG 305L *may not be double-counted toward the degree in Archaeology.*

Take Capstone Course (4 units):

- CLAS 465 Archaeology and Society Units: 4

Total Requirement: 9 courses (36 units)

Jewish Studies (BA)

The interdisciplinary major in Jewish Studies investigates the study of Jewish religion, history, culture and languages through a variety of academic perspectives. Students can work with scholars in the School of Religion in USC Dornsife College, the Louchheim School for Judaic Studies at Hebrew Union College-Jewish Institute of Religion and faculty across the USC campus trained in religious studies, Jewish thought, history, linguistics, literature, international relations, political science, music and sociology. The curriculum is designed to allow students options in combining courses that focus on Judaism as a religion with those that focus on history, literature and other forms of Jewish culture and civilization.

Major Requirements

Students choose among courses that focus on Judaism as a living religious system and those that focus on Jewish history, culture and society in its global setting.

Three core courses are required: REL 301 Introduction to the Study of Religion, REL 401 Seminar in Religious Studies, and either JS 100 Introduction to Jewish History or JS 180 Judaism.

Students must choose one course from the Judaism as a Religious Tradition track and one course from the Jewish History and Culture track which are listed below.

In addition, students must select three courses from either track. No more than two courses in total may come from the lower-division (100 and 200) levels. A total of eight courses are required for the degree (32 units.)

A. Core Courses

Three courses are required. Students must take REL 301 and REL 401 and select one course from either JS 100 or JS 180.

- JS 100gp Jewish History Units: 4
- JS 180gp Judaism Units: 4
- REL 301 Introduction to the Study of Religion Units: 4
- REL 401 Seminar in Religious Studies Units: 4

B. Judaism as a Religious Tradition (at least one course required)

- JS 180gp Judaism Units: 4
- JS 258gp Food, Faith and Conflict Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 321 Gender and Judaism Units: 4
- JS 361 Scripture and Polemic in Judaism, Christianity and Islam Units: 4
- JS 374 Messiah: The History of an Idea Units: 4
- JS 378 Jewish Magic in the Ancient World Units: 4
- JS 382 Judaism as an American Religion Units: 4
- JS 467 Modern Jewish Thought Units: 4
- REL 111g The World of the Hebrew Bible Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 115g Jerusalem, City of Three Faiths Units: 4
- REL 121g The World of the New Testament Units: 4
- REL 132g Origins of Western Religions Units: 4
- REL 311g The Bible in Western Literature Units: 4
- REL 312 Biblical Wisdom Literature Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4

- REL 359g Culture in Diaspora: The Jews of Spain Units: 4
- REL 364 Religion and Ethics Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 473 Advanced Hebrew Bible Studies Units: 4

C. Jewish History and Culture (at least one course required)

- HEBR 315 Modern Hebrew Language (Hebrew IV) Units: 4
- HIST 305 Women and Gender in Pre-Modern Europe Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- HIST 443 Race and Religious Riots in Modern World History Units: 4
- HIST 444 Mass Violence and Comparative Genocide in Modern World History Units: 4
- HIST 446 Resistance to Genocide Units: 4
- ITAL 352 The Holocaust in Italian Fiction and Film Units: 4
- JS 100gp Jewish History Units: 4
- JS 211gw The Holocaust Units: 4
- JS 214 Zionism, Israel, and the Modern World Units: 4
- JS 300 American Jewish History Units: 4
- JS 315g Anti-Semitism, Racism and Other Hatreds Units: 4
- JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era Units: 4
- JS 340 Modern Jewish History Units: 4
- JS 342 Reading in Two Directions: Connecting Law and Literature in Jewish Tradition Units: 4
- JS 360m Identity, Community, and Service: Jews and Other Americans Units: 4
- JS 362 Terror and Resistance in Literature and the Media Units: 4
- JS 370gp Digs and Dispute: Religion and Archaeology in Israel Units: 4
- JS 379gm Mixing and Matching: Intermarriage in the 21st Century Units: 4
- JS 381 The Jew in American Society Units: 4
- JS 383 Jews in American Popular Culture Units: 4
- JS 389 Culture and Society in Israel: Inventing the Dream Units: 4
- JS 390 Special Problems Units: 1, 2, 3, 4
- JS 415 The American Jewish Experience in Film Units: 4
- JS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- JS 499 Special Topics Units: 4
- MSCR 475 Introduction to Jewish Music Units: 2
- REL 324g Sex and the Bible: Gender, Sexuality, and Scripture Units: 4
- SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages Units: 4

D. Major Electives (three courses required)

In addition to the three core courses in Area A and one required course in each of Areas B and C, students must complete three additional courses chosen from lists B and C. No more than two courses in total may come from the lower-division (100 and 200) levels.

Jewish Studies majors are encouraged to take HEBR 120, HEBR 150 and HEBR 220, which fulfill the Dornsife College foreign language requirement.

Religion (BA)

The department major requires REL 301 Introduction to the Study of Religion (preferably taken at the beginning of the student's major courses) and REL 401 Seminar in Religious Studies. Further, students must take six additional courses from the list below. The total unit requirement for the major is 32 units (at least 24 units must be upper-division).

Lower-division Options:

- REL 111g The World of the Hebrew Bible Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 115g Jerusalem, City of Three Faiths Units: 4
- REL 121g The World of the New Testament Units: 4
- REL 125gp Introduction to Christianity: Antiquity to 1500 Units: 4
- REL 132g Origins of Western Religions Units: 4
- REL 134g Introduction to Buddhism Units: 4
- REL 135g Chinese Religions and Culture Units: 4
- REL 136g Sense and Sensuality in Indian Religions and Culture Units: 4
- REL 137g Introduction to Islam Units: 4
- REL 138g Japanese Religions and Culture Units: 4
- REL 141g Global Religions in Los Angeles Units: 4
- REL 147g Religion, Media and Popular Culture Units: 4

Upper-division Options:

- CLAS 323 Aegean Archaeology Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- EALC 431 The Taoist Tradition Units: 4
- JS 321 Gender and Judaism Units: 4
- JS 361 Scripture and Polemic in Judaism, Christianity and Islam Units: 4
- JS 382 Judaism as an American Religion Units: 4
- JS 467 Modern Jewish Thought Units: 4
- REL 302 Religions of Ancient Egypt and the Near East Units: 4
- REL 303g Exploring Ancient Ways of Living: Experimental Archaeology Units: 4
- REL 304 Ethics and Global Heritage Units: 4
- REL 311g The Bible in Western Literature Units: 4
- REL 312 Biblical Wisdom Literature Units: 4
- REL 314 Introduction to Shiism Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4
- REL 324g Sex and the Bible: Gender, Sexuality, and Scripture Units: 4
- REL 325g Religious Experience in the Greco-Roman World Units: 4
- REL 326gp Historical Jesus Units: 4
- REL 327g Heretics, Martyrs, and Miracles Units: 4
- REL 329 Themes in the Religions of China Units: 4
- REL 330 Introduction to the Religions of India Units: 4
- REL 331 Religions of East Asia Units: 4
- REL 332 Religions of Japan Units: 4
- REL 334g Religion and Colonial Encounter Units: 4
- REL 335 Gender, Religion, and Sexuality Units: 4
- REL 336w Re-Viewing Religion in Asian America Units: 4
- REL 338 Mysticism and Religious Desire Units: 4
- REL 339 Studies in the History of Christianity Units: 4
- REL 340 Introduction to Indian Philosophy Units: 4
- REL 341 Technology, Culture, and Ethics Units: 4
- REL 342g Buddhist Modernism Units: 4
- REL 345p Islamic Mysticism: Sufism Units: 4
- REL 350 Drugs, Alcohol, Visions and Altered States in Religion Units: 4
- REL 359g Culture in Diaspora: The Jews of Spain Units: 4
- REL 361 Law and Religion Units: 4
- REL 364 Religion and Ethics Units: 4
- REL 366 Religion and Social Change Units: 4
- REL 370 Religion and Visuality Units: 4
- REL 371 Religion and the Supernatural Units: 4
- REL 376g Religion and Human Rights Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- REL 414 History of Islamic Law Units: 4
- REL 415 Seminar in Buddhism Units: 4

- REL 417 Seminar in South Asian Religions Units: 4
- REL 435 Religious Thought After the Enlightenment Units: 4
- REL 440 Christian Thought in the 20th Century Units: 4
- REL 441 Origins of Modern Theology Units: 4
- REL 442 Religion and Science Units: 4
- REL 462 Religion and Violence Units: 4
- REL 468 Sociology of Religion Units: 4
- REL 469 Black Religion in America Units: 4
- REL 473 Advanced Hebrew Bible Studies Units: 4
- REL 474 Advanced New Testament Studies Units: 4
- REL 475 Religion, Material Culture and the Senses Units: 4
- REL 479 Seminar in Christian Thought Units: 4
- REL 481 History of Religion in America Units: 4
- REL 483 Religion and Popular Culture in the United States Units: 4
- REL 493 Art and Archaeology of Religion Units: 4
- REL 494 Lab Methods and Theories in Archaeology Units: 4
- REL 495 Field Methods and Theories in Archaeology Units: 4
- REL 499 Special Topics in Religion Units: 2, 3, 4

Additional Requirements

Students who intend to do graduate work in some area of religious studies are encouraged to concentrate their course selections in the area of their preference and to begin learning the languages that are essential for study in that area. This includes modern languages such as Arabic, Chinese, French, German or Japanese, and perhaps an ancient language.

Minor

Archaeology Minor

Students gain long-term perspectives by studying of the material traces of the past human activity and by joining in its discovery. The minor in Archaeology is available to students in all schools and departments.

Lower-Division Requirement (4 units)

Required Course (4 units)

- ANTH 202g Archaeology: Our Human Past Units: 4

Upper-Division Requirement (16 units)

Select one course from the Theories and Methods list of the Archaeology Major (4 units).

Additionally, select any one upper-division course from those listed under Archaeology Major (4 units):

Take one course from the Ethics and Heritage list of the Archaeology Major (4 units)

Take Capstone Course (4 units)

- CLAS 465 Archaeology and Society Units: 4

Total Requirement: 5 courses (20 units)

Archaeology of California Minor

Students gain diverse, long-term perspectives on Los Angeles, California state, the west, and the USA by joining in the discovery and study of the material traces of past human activity during an archaeological excavation and/or survey on USC's campus and/or elsewhere in California. The minor in Archaeology of California is available to students in all schools and departments. Students complete this minor through the archaeology block semester program.

In a single semester, complete these three courses:

- ANTH 307 Trojan Archaeology: Excavating USC Units: 4
- REL 304 Ethics and Global Heritage Units: 4
- REL 494 Lab Methods and Theories in Archaeology Units: 4

and complete one of these courses:

- ANTH 377g Archaeological Interpretation of Complex Societies Units: 4
- CLAS 465 Archaeology and Society Units: 4

Contemplative Studies Minor

The minor in Contemplative Studies provides students with the opportunity to explore contemplative traditions — such as mindfulness, meditation and prayer — critically and from multiple perspectives. Courses taken from within the department will enable students to understand contemplative traditions from historical, doctrinal, institutional and cultural perspectives. Courses from other units included in the program place contemplative traditions within scientific, sociological and experiential frameworks and also consider contemporary applications of such practices.

Total unit requirement for the minor is 20 units; 16 units must be upper-division.

Required Course

- REL 301 Introduction to the Study of Religion Units: 4

Lower-division Electives

Complete a total of 4 units.

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- PHED 120a Yoga Units: 1
- PHED 120b Yoga Units: 1
- PHED 120c Yoga Units: 1
- REL 134g Introduction to Buddhism Units: 4
- REL 135g Chinese Religions and Culture Units: 4
- REL 136g Sense and Sensuality in Indian Religions and Culture Units: 4
- REL 138g Japanese Religions and Culture Units: 4
- REL 141g Global Religions in Los Angeles Units: 4
- REL 146gp Spirituality in America Units: 4

Upper-division Electives

Complete 8 units.

- BAEP 472 The Science of Peak Performance Units: 2
- COLT 382gw Zen and Daoism in Asian Literature Units: 4
- HP 440 Happiness, Well-Being, and Health Units: 4
- REL 312 Biblical Wisdom Literature Units: 4
- REL 329 Themes in the Religions of China Units: 4
- REL 330 Introduction to the Religions of India Units: 4
- REL 331 Religions of East Asia Units: 4
- REL 332 Religions of Japan Units: 4
- REL 338 Mysticism and Religious Desire Units: 4
- REL 340 Introduction to Indian Philosophy Units: 4
- REL 342g Buddhist Modernism Units: 4
- REL 345p Islamic Mysticism: Sufism Units: 4
- REL 350 Drugs, Alcohol, Visions and Altered States in Religion Units: 4
- REL 415 Seminar in Buddhism Units: 4
- REL 417 Seminar in South Asian Religions Units: 4
- REL 431 The Taoist Tradition Units: 4

Additional Course Work

Select 4 additional units from Religion or Jewish Studies in consultation with an adviser.

Total Units: 20

A total of 16 units must be upper-division.

Jewish Studies Minor

Students taking the Jewish studies minor must enroll in either JS 100 or JS 180. In addition, they must complete four upper-division courses selected from the Judaism as a Religious Tradition track and the Jewish History and Culture track listed in the Jewish studies major description.

The total unit requirement for the minor is 20 units; 16 of those units must be upper-division.

Religion Minor

Students taking the religion minor must enroll in REL 301 Introduction to the Study of Religion. In addition, they must complete four additional religion courses, at least three of which must be upper-division courses.

The total unit requirement for the minor is 20 units; 16 of those units must be upper-division.

Students who wish to focus their minor in Jewish studies must minor in Judaic Studies.

Graduate Certificate

Jewish Studies Graduate Certificate

The Graduate Certificate in Jewish Studies is offered by the School of Religion in USC Dornsife College. It is designed to give students pursuing research in areas related to Jewish Studies (including Judaism as a religion, the history of Jews, Jewish thought, etc.) a solid grounding in the field, as well as mentorship from Jewish Studies faculty.

Students interested in pursuing the program should meet with the adviser to apply for the program and plan a course of study. In addition to taking relevant course work, candidates must include research on a topic related to Jewish Studies in their PhD dissertation projects (generally the PhD dissertation, though potentially an MA thesis depending on the program); or take a concluding qualifying oral exam based on three seminar or research papers written in conjunction with their Jewish Studies course work.

Completion of the certificate requires 16 units of course work, including REL 560 Colloquium in Jewish Studies and three additional courses that may be pre-approved courses or courses requiring prior approval from the adviser. After consultation and with prior approval, additional appropriate courses taught at USC and HUC-JIR may count toward the certificate. All certificate courses must be at the 500-level or above, and at least 50 percent of their content must focus on Jewish Studies. Students may apply no more than 4 units of 590 Directed Research.

Required Course (4 units)

- REL 560 Colloquium in Jewish Studies Units: 4

Electives (12 units)

Pre-Approved Courses

- HIST 516 Studies in the History of the Holocaust Units: 4
- HIST 518 Problems in Modern European Jewish History Units: 4
- HIST 589 Fascism, Nazism and Communism Units: 4
- JS 501a Bible Texts Units: 4
- JS 501b Bible Texts Units: 4
- JS 501c Bible Texts Units: 4
- JS 504 Modern Hebrew Literature Units: 3
- JS 680 Boundaries of Jewish Normative Behavior Units: 4
- MUHL 550 Music and the Holocaust Units: 2
- REL 500 Methods and Theories in the Study of Religion Units: 4

Additional Courses

Courses may be selected with prior approval from Jewish Studies Graduate Certificate Adviser.

- Hebrew Union College - Jewish Institute of Religion courses and any other appropriate 500-level course from USC.
- One 590 Directed Research course from any department.
- Courses from the list below:
  - AHIS 520 Seminar in Modern Art Units: 4
  - COLT 575 Studies in Literature and Ethnicity Units: 4
  - COLT 620 Seminar in Literature, Culture and Thought Units: 4
  - LAW 871 First Amendment Units: 2, 3, 4
  - REL 525 Colloquium in Global Islam Units: 4

Religious Studies Certificate

The Graduate Certificate in Religious Studies (GCRS) allows students across diverse fields in the humanities, social sciences and professional schools to take advantage of the broad knowledge and expertise of Dornsife's Religion faculty.

Students interested in pursuing the GCRS program should meet with the director of Graduate Studies to apply to the program and plan a course of study. In addition to taking relevant course work, candidates must also do one of the following: (1) include the study of religion in their dissertation projects; or (2) take a concluding qualifying oral exam based on three seminar or research papers written in conjunction with their Religion course work.

Students admitted into the GCRS program will be required to complete REL 500 Methods and Theories in the Study of Religion *or* REL 502 Themes in the Study of Religion. They must also take 12 units of elective courses from the pre-approved list below. (Students may also take as an elective whichever of the REL 500 - REL 502 series they did not take as a requirement.) In addition to the courses listed below, others may also be considered for credit on a case-by-case basis at the discretion of the director of Graduate Studies. All GCRS courses must be at the 500-level or above, and at least 50 percent of their content must focus on the study of religion. REL 590 Directed Research may not count for more than 4 of these additional 12 units.

Required Course (4 units)

Select one course.

- REL 500 Methods and Theories in the Study of Religion Units: 4
- REL 502 Themes in the Study of Religion Units: 4

Electives (12 units)

Select 12 units.

Pre-Approved Religion Courses

- REL 500 Methods and Theories in the Study of Religion Units: 4
- REL 502 Themes in the Study of Religion Units: 4
- REL 525 Colloquium in Global Islam Units: 4
- REL 535 Colloquium in Christian Studies Units: 4
- REL 545 Colloquium in Asia Pacific Religions Units: 4
- REL 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- REL 625 Advanced Graduate Seminar in Global Islam Units: 4
- REL 635 Advanced Graduate Seminar in Christian Studies Units: 4
- REL 645 Advanced Graduate Seminar in Asia Pacific Religions Units: 4
- REL 650 Readings in Islamic Texts Units: 4
- REL 651 Readings in Christian Texts Units: 4
- REL 652 Readings in Buddhist Texts Units: 4
- REL 653 Readings in Indic Religious Texts Units: 4
- REL 654 Readings in Chinese Religious Texts Units: 4
- REL 655 Readings in Japanese Religious Texts Units: 4

Pre-Approved Cross-Listed Courses

- EALC 610 Seminar: Buddhism and the Literary Arts in Japan Units: 4
- JOUR 585 Specialized Reporting: Religion Units: 4
- JS 501a Bible Texts Units: 4
- JS 501b Bible Texts Units: 4
- JS 501c Bible Texts Units: 4
- MSCR 571 Music of the Great Liturgies Units: 2
- SOWK 682 Spirituality, Religion, and Faith in Clinical Practice Units: 3

Doctoral Degree

Religion (PhD)

Course Requirements

Sixty-four units of course work are required for the PhD degree, including units of previous graduate work for which credit is allowed. No more than two language courses at the 400-level and no more than two non-language courses at the 400-level (i.e., 16 units) may be applied to the total requirement of 64 units. Time of residency is contingent upon the background and preparation of the student.

Core requirements for all doctoral students regardless of track include REL 500, REL 592, REL 593 and a maximum of 8 units of REL 794a Doctoral Dissertation to be applied toward the 64-unit total requirement.

Additionally, mandatory courses for students in the Asia Pacific Religions track include REL 545, REL 645, and one course from the REL 652/REL 653/REL 654/REL 655 series. Mandatory courses for students in the Christian Studies track include REL 535, REL 635 and REL 651. Mandatory courses for students in the Global Islam track include REL 525, REL 625 and REL 650.

In addition to the mandatory courses, students are expected to take elective courses in areas that will support their dissertation work. Such courses may be offered in related departments in the university as well as in the School of Religion and should be selected in consultation with the primary adviser.

Each student entering the PhD program will select a primary academic adviser before classes begin. The adviser must be a member of one of the three tracks that the student envisions specializing in. In addition, at least one other faculty member from that track is selected to constitute, along with the primary adviser, the student's "mentoring committee." The mentoring committee is responsible for overseeing the student's program of course work, course of language study, timing of qualifying exams and so on. The membership of the mentoring committee can be changed at any time with the agreement of the student, the student's primary adviser, and the School of Religion director of Graduate Studies. The dissertation Committee (see below) will replace the mentoring committee once candidacy is achieved. Students are expected to maintain a 3.5 GPA in course work.

The mentoring committee conducts an annual review of the student's academic performance and progress toward the degree in the spring of each year, before the end of the spring term. Should a student's performance be considered unsatisfactory, following consultation with the director of Graduate Studies, the student will be placed on probation for one year and given the opportunity to improve his or her performance. If a student's performance is still considered unsatisfactory at the end of the probationary year, the student will be dismissed from the program. Only after a successful annual review in the second year will the student be permitted to convene their qualifying examination committee.

Foreign Language Requirements

Language competencies vary by track and are determined in consultation with the mentoring committee. Here are some general guidelines:

Asia Pacific Religions Track: Advanced facility in at least one Asian language is considered essential to the Asia Pacific Religions Track. Each student selects a primary language area. The Mentoring Committee determines which possible additional languages are necessary for the student's course of study, and the procedures for the evaluation of proficiency in those languages. The following is provided as a guideline depending on the area of sub-specialization.

- *Chinese:* Classical and modern Chinese, as well as modern Japanese (as a research language) and a modern European research language.
- *Japanese:* Classical (Bungo) and modern Japanese, as well as Kanbun, and one modern research language (European, modern Chinese, or modern Korean)
- *Korean:* Advanced Korean, as well as either modern Japanese (as a research language) or a European modern research language.
- *Sanskrit and Hindi:* Advanced competency in two South Asian languages, classical or modern, plus a modern research language judged relevant to the student's research.

Christian Studies Track: Students are required to demonstrate advanced ability in two languages other than English in order to enable comparative research. Given the temporal and global span of Christian traditions, the specific languages will be determined on a case-by-case basis by the student's mentoring committee. Customarily the committee will select one or two ancient languages and one or two modern languages. The following are the languages most frequently studied in the Christian Studies Track, but the mentoring committee can select others as needed:

- Ancient: *Hebrew, Greek, Syriac, Latin,* as well as medieval vernaculars
- Modern: French, Spanish, Italian, German, Portuguese, Korean

Global Islam Track: Required to demonstrate advanced ability in the primary lingua franca of Islamic civilization to ensure the ability to conduct original research. Secondarily, students are generally encouraged to acquire facility in a secondary language within traditional Muslim religious and secular literature. Students are also encouraged to acquire facility in one European research language where deemed appropriate.

- *Arabic:* Classical and Modern Standard, as the primary research language.
- *Persian:* Classical and Modern, as a possible secondary research language.
- *French or Spanish:* (Elective) a reading knowledge to conduct research on or in specific modern communities.

Qualifying Examination and Dissertation Prospectus

The qualifying examination process consists of five stages: (1) constituting the qualifying examination committee (this would normally include the members of the mentoring committee), (2) determining the three exam areas by the student and the qualifying examination committee, (3) taking the written examinations, (4) submission of the dissertation prospectus, (5) the qualifying oral examination.

Preparation for these exams should begin early in the student's course work. In consultation with the mentoring committee the students will select their primary area and also take an exam in the other two cognate areas. Preparation for the qualifying exam continues with supplementary readings based on a bibliography prepared by the student in conjunction with the qualifying examination committee. This committee is responsible for setting the exam questions for the cognate written exams. The student is given 24 hours to write on a total of three questions for each exam. Each of the written exams is evaluated by all members of the examination committee.

The dissertation prospectus should begin with a general review of the scholarship in the field, and situate the thesis within that field. It should clearly articulate the thesis and program of research, identifying the available source material to be consulted. The prospectus must include a chapter outline, and a full bibliography of primary and secondary sources.

The oral examination will occur shortly after the submission of the dissertation prospectus. It will focus on the content of the written exams, the basic literature in the student's primary field, as well as the content and cogency of the prospectus.

Dissertation

The dissertation committee, consisting of three faculty members, is formed immediately following advancement to candidacy. The committee consists of at least two faculty members in the track of the student's specialization as well as one other School of Religion faculty member. Candidates may also add an additional faculty member external to the School of Religion if appropriate. This final stage of the program requires the submission of an acceptable dissertation based on original investigation. The dissertation must show technical mastery expected in each track, evidence of independent research, and the analytical and interpretive ability expected of a scholar.

Slavic Languages and Literatures

The Department of Slavic Languages and Literatures offers a BA in Russian and minors in Russian and Russian Area Studies. The major combines thorough preparation in the Russian language with the study of Russian literature, art and culture. Particular emphasis is placed on developments in contemporary Russia. Students are required to study four semesters of Russian language as a prerequisite to the major. The Russian major requires an additional three semesters of language study, three semesters of an advanced seminar on Russian culture (with varying content), and two elective courses, either in Russian literature and culture (in translation or Russian, depending on course scheduling) or in Russian Area Studies. The department also administers, together with the School of International Relations, a major in Central European Studies, which combines background in relevant languages (Russian plus either German or Polish or more intensive study of Russian) with course work in international relations and the history, culture and politics of the region. In addition, the department offers a doctorate in Slavic Languages and Literatures.

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Faculty
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Associate Professors: Robert English, PhD *(Political Science and International Relations)*; Colleen McQuillen, PhD; Roumyana Pancheva, PhD* *(Linguistics)*
Assistant Professors: Greta Matzner-Gore, PhD*; Kelsey Rubin-Detlev, PhD
Professor (Teaching) of Russian: Tatiana Akishina, PhD*
Associate Professor (Teaching): Britta Bothe, PhD
Assistant Professors (Teaching): John W. Arensmeyer, Jr., PhD; Eve Lee, PhD
Emeritus: John Bowlt, PhD*; Gerhard Clausing, PhD; Marcus Levitt, PhD*
**Recipient of university-wide or college teaching award.*

Graduate Degrees

Doctor of Philosophy in Linguistics (Specialization in Slavic Linguistics)

Application deadline: January 1
See Linguistics in this catalogue.

Bachelor's Degree

Central European Studies (BA)

The major in Central European studies combines background in relevant languages (Russian plus either German or Polish, or more intensive study of Russian) with course work in international relations and the history, culture and politics of the region.

No longer an imperial backwater, Central Europe has risen from its Cold War stasis to become one of the world's most dynamic and important regions. Stretching from the Baltic Sea to the Balkan Peninsula, and from the Eastern lands of Germany to the Western regions of Russia, this onetime great-power battleground is now a vital trade and energy corridor, a mosaic of languages and cultures, a place of both successful state-building and persistent ethnic frictions, and a promising but still-precarious bridge between the former Soviet Union and the West. Central Europe rivals the Far East and Southwest Asia as one of the world's most strategically important regions — now, and over the coming decades. Those who master its history and politics, its economic, cultural and linguistic diversity, will be well positioned for fellowships, graduate work, business or analytical careers centered on this fascinating region.

The objectives of this interdisciplinary major are to provide students with: 1) the historical background and linguistic-cultural skills necessary for in-depth study of Central Europe; 2) knowledge of its main post-Cold War political, ethnic, and economic trends; and 3) understanding of current issues from nationalism and immigration to trade, military-diplomatic and alliance politics.

Requirements

The fundamental linguistic background of the major is Russian (12 units).

Required Courses

- RUSS 120 Beginning Russian I Units: 4
- RUSS 150 Beginning Russian II Units: 4
- RUSS 220 Intermediate Russian I Units: 4

Courses

Beyond the second year of Russian, students may choose from among three options: further work on Russian; or a year of German; or a year of Polish (8 units).

Russian

- RUSS 250 Intermediate Russian II Units: 4
- RUSS 310 Advanced Russian in Popular Culture Units: 4 or
- SLL 340 Intercultural Communication in Russian Units: 4

German

- GERM 101 German I Units: 4
- GERM 102 German II Units: 4

Polish

- SLL 122 Elementary Polish I Units: 4
- SLL 152 Elementary Polish II Units: 4

Required Courses, Upper-Division

Required upper-division courses in international relations: two courses must be chosen from among the following (8 units):

- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4

Elective Courses

In addition three electives are required from among the following. At least one course must be at the 400 level. With prior approval, IR 490x Directed Research (4 units) or SLL 490x Directed Research (4 units) may be substituted for one of these courses (12 units):

- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 365 The Second World War Units: 4, 2 years
- HIST 414 Contemporary Europe Units: 4
- HIST 416 History of Imperial Russia: 1689–1917 Units: 4
- HIST 417 History of Soviet Russia: 1917–1991 Units: 4, 2 years
- HIST 422 European Intellectual and Cultural History: The 20th Century, 1920 to the Present Units: 4
- HIST 427 The German Question: Nation and Identity in Modern Central Europe Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 468 European Integration Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 463 European Politics Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4
- SLL 302g Modern Russian Literature Units: 4
- SLL 303 Contemporary Russian Literature Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4
- SLL 397 Literature and Film in Eastern European Historical Experience Units: 4
- SLL 465 Seminar in Russian Studies Units: 4

Russian (BA)

Required Courses, Lower-Division

- RUSS 120 Beginning Russian I Units: 4
- RUSS 150 Beginning Russian II Units: 4
- RUSS 220 Intermediate Russian I Units: 4
- RUSS 250 Intermediate Russian II Units: 4 or
- SLL 255 Business Russian Units: 4

Required Courses, Upper-Division

- RUSS 310 Advanced Russian in Popular Culture Units: 4
- SLL 321 Russian Culture Units: 4 or
- SLL 330gp Russian Thought and Civilization Units: 4
- SLL 340 Intercultural Communication in Russian Units: 4
- SLL 465 Seminar in Russian Studies Units: 4 (12 units required; taken three times with varying content)

Elective Courses

- Two courses approved by the undergraduate adviser

Minor

Russian Area Studies Minor

Lower-division Requirements

Four semesters of Russian language

- RUSS 120 Beginning Russian I Units: 4
- RUSS 150 Beginning Russian II Units: 4
- RUSS 220 Intermediate Russian I Units: 4 and either
- RUSS 250 Intermediate Russian II Units: 4 or
- SLL 255 Business Russian Units: 4
  or its equivalent

Upper-division Requirements

The core course

- SLL 330gp Russian Thought and Civilization Units: 4

One course outside the Slavic department, from among the following:

- HIST 415 Medieval and Early Modern Russia Units: 4, 2 years
- HIST 416 History of Imperial Russia: 1689–1917 Units: 4
- HIST 417 History of Soviet Russia: 1917–1991 Units: 4, 2 years
- HIST 424 Family, Work, and Leisure in Russian History Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 483 War and Diplomacy: The U.S. in World Affairs Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4

And one elective, to be chosen from among: any upper-division SLL/RUSS course in Russian literature, art or culture

- HIST 415 Medieval and Early Modern Russia Units: 4, 2 years
- HIST 416 History of Imperial Russia: 1689–1917 Units: 4
- HIST 417 History of Soviet Russia: 1917–1991 Units: 4, 2 years
- HIST 424 Family, Work, and Leisure in Russian History Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 483 War and Diplomacy: The U.S. in World Affairs Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4

Note:

The course taken to fulfill the requirement outside the Slavic department cannot also count as an elective.

Minimum units required: 28

Russian Minor

Lower-division requirements for the major (RUSS 120, RUSS 150, RUSS 220 and choice of RUSS 250 or SLL 255) plus three upper-division elective courses chosen from the following (at least two of the areas must be represented): Russian language (RUSS 310, SLL 340); Russian literature and culture taught in Russian (SLL 321, SLL 465); Russian literature, art and culture taught in translation (SLL 330, SLL 344, SLL 345, SLL 348, SLL 378).

Minimum units required: 28

Doctoral Degree

Slavic Languages and Literatures (PhD)

The doctorate in Slavic languages and literatures is designed to prepare students for a career of teaching and scholarship at the university level. It provides a thorough grounding in Russian literary and cultural history as well as in the theoretical perspectives current in the field. Elective course work, particularly at the upper level, allows students to take advantage of the department's expertise in such additional areas as Russian art, Russian theater, and eastern European cinema. The linguistic component of the curriculum together with the experience as a teaching assistant in Russian language courses that many students gain also serves as preparation for positions involving language teaching. Depending on departmental offerings, further study in a second Slavic language and culture may also be possible.

Admission Requirements

An undergraduate major in Russian or its equivalent is a prerequisite for graduate work.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation page and the Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Master of Arts in Slavic Languages and Literatures

The department does not accept applicants for a Master of Arts degree in Slavic Languages and Literatures. The MA degree is intended only as a transitional degree in the process of completing requirements for the PhD in Slavic Languages and Literatures. The MA portion of the program comprises 30 units.

First-year Review

The program conducts a thorough review of all first-year students at the end of the second semester. To be permitted to continue doctoral work, students must receive a satisfactory evaluation in this review.

Language Requirements

Non-native speakers of Russian must successfully complete 8 units (4 semesters) of SLL 500 Topics in Advanced Russian and pass a proficiency exam in the language.

Field Examination

A written exam based on a reading list, followed by an oral exam, must be successfully passed before the MA can be awarded. It is normally taken at the end of the semester in which MA course work is completed.

Required MA - Level Courses

- SLL 500 Topics in Advanced Russian Units: 2
- SLL 501 Proseminar in Russian Literature Units: 3
- SLL 512 History of the Russian Language Units: 3
- SLL 532 18th Century Russian Literature Units: 3
- SLL 546 The Russian Novel Units: 3

Doctor of Philosophy in Slavic Languages and Literatures

Students pursuing the Ph.D. in Slavic Languages and Literatures are required to complete a minimum of 60 units of

course work beyond the baccalaureate. In addition to the 30 units completed toward the M.A., students are required to complete the courses listed below; to demonstrate proficiency in spoken and written Russian; to demonstrate reading knowledge of French and German (in exceptional cases a second Slavic language may substitute for either French or German; instruction in Slavic languages other than Russian is not scheduled on a regular basis); to pass the qualifying examination, which must be taken after all course work has been completed; to complete and successfully defend a dissertation.

Required PhD - Level Courses

- SLL 515 Russian Linguistics Units: 3
- SLL 545 19th Century Russian Poetry Units: 3
- SLL 550 Russian Modernism Units: 3
- SLL 555 Soviet Literature I (1917–1953) Units: 3

Two of the following courses (6 units):

- SLL 650 Seminar in Russian Literature Units: 3
- SLL 660 Seminar on a Single Author or Work Units: 3
- SLL 665 Seminar in Russian Culture and the Arts Units: 3

Additional Requirements

Plus electives, from SLL or relevant offerings in CSLC, COLT, ENGL, FREN, SPAN etc. as approved by the department. At least 9 of these units must be completed in SLL.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Slavic Languages and Literatures is conferred when all of the degree requirements have been completed satisfactorily.

Sociology

The Department of Sociology offers bachelor's degrees in Sociology, Health and Human Sciences, and Non-Governmental Organizations and Social Change. The Department of Sociology also offers a number of minors, a graduate certificate in science and technology studies, and the Doctor of Philosophy in Sociology. Students of sociology examine the patterns of social life, focusing on the relationship of individuals to society and the interaction of culture, economy and politics in shaping social life. The greater Los Angeles area provides a natural laboratory for students to explore such sociological themes as race relations, work and the workplace, immigration, the family in a changing society, population trends, globalization, religion and the criminal justice system. Matching the special strengths of our faculty and cutting edge research in the discipline, USC's sociology program offers students the opportunity to learn about social issues locally, nationally and internationally, as well as develop empirical research tools to conduct research, and analyze and interpret data in order to create social change. Many of our undergraduate courses include opportunities to engage actively with the community and to pursue multi-faceted independent research projects.

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Chair: Tim Biblarz, PhD*
Faculty
University Professor and Wallis Annenberg Chair of Communication Technology and Society and Professor of Communication, Sociology, Planning and International Relations: Manuel Castells, PhD *(Communication)*
Distinguished Professor of Sociology and American Studies and Ethnicity and Turpanjian Chair in Civil Society and Social Change: Manuel Pastor, Jr., PhD*
Florence Everline Professor of Sociology: Pierrette Hondagneu-Sotelo, PhD*
Professors: Lynne Casper, PhD; Nina Eliasoph, PhD; Jennifer Hook, PhD; Andrew Lakoff, PhD; Paul Lichterman, PhD; Michael Messner, PhD*; Dowell Myers, PhD *(Policy, Planning and Development)*; Rhacel Salazar Parreñas, PhD; John P. Wilson, PhD*
Associate Professors: Tim Biblarz, PhD*; Elaine Bell Kaplan, PhD; Ann Owens, PhD; Leland Saito, PhD; Emily Smith-Greenaway, PhD; Jody Agius Vallejo, PhD*
Assistant Professors: Brittany Friedman, PhD; Jessica Ho, PhD *(Gerontology)*; Daniel Schrage, PhD; Joshua Seim, PhD; Hajar Yazdiha, PhD
Professor (Teaching): Karen Sternheimer, PhD
Professor (Research): Brian Finch, PhD
Assistant Professor (Teaching): Juliana McGene, PhD
Lecturer: Dan Lainer-Vos, PhD
Emeritus: Constance Ahrons, PhD; Vern Bengtson, PhD *(Gerontology)*; Lamar T. Empey, PhD; Malcolm Klein; Jon Miller, PhD*; H. Edward Ransford, PhD; Maurice D. Van Arsdol Jr., PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Honors Program

Seniors with 3.5 GPAs in the major and 3.25 overall are encouraged to apply to the sociology honors program. Under faculty guidance, honors students design and complete a significant piece of original sociological research.

Juniors and seniors who have made substantial progress toward completion of the program and have achieved a 3.3. GPA in sociology and a 3.0 GPA overall are eligible for the Alpha Kappa Delta International Sociology Honors Society.

University Requirements for All Minors

To satisfy the university's minor requirements, students must choose at least four courses (16 units) outside their major department and at least four courses (16 units) of upper-division course work. In addition, at least four courses (16 units) must be dedicated to the minor (not counting for credit toward a major, another minor or USC core requirements).

Interdisciplinary Minors

American Studies and Ethnicity (see American Studies and Ethnicity).

Law and Society (see Political Science).

Race, Ethnicity and Politics (see Political Science).

Graduate Degrees

The Department of Sociology offers programs of study leading to the Doctor of Philosophy degree. The PhD is directed toward the training of theoretically and methodologically sophisticated sociologists who have an enduring commitment to the practice and teaching of sociology.

Deadline

Applicants must complete their applications by December 1. Consideration for university fellowships is possible as early as November for students whose applications are complete.

Prerequisites

All applicants must have a bachelor's degree, a GPA of at least 3.0, and one or more courses in either undergraduate statistics or college algebra.

Criteria

Admission to regular graduate status ordinarily requires possession of a bachelor's degree, a GPA of at least 3.0, one or more courses in undergraduate statistics and/or college algebra, and three letters of recommendation. The GRE is also required. International applicants must also submit their score on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). Approximately 5-8 students enroll each year from the available pool of applicants. Each application receives careful attention and is judged in terms of the full set of criteria.

A limited number of graduate course units taken elsewhere may be considered for transfer into the graduate program. These units are transferred in on a course-by-course basis.

Application Procedures

The following materials should be submitted to apply for graduate study:

1. an online USC application form (available at gradadm.usc.edu) plus a check for the admission fee;
2. official transcripts of all undergraduate and graduate work;
3. the official results of the general aptitude scores of the Graduate Record Examinations (verbal, quantitative and analytical);
4. for international students, a TOEFL or IELTS score;
5. a completed Sociology Department Graduate Application form (please save and upload);
6. one example of written work (normally a paper written for a course) of no more than 20 pages;
7. three letters of recommendation from persons who can write about your academic performance and your potential as a social scientist;
8. a personal statement describing (1) your present sociological interest, (2) the books, articles or ideas that have had the greatest influence on your interests in sociology, and (3) what you hope to be doing in the field of sociology 10 years after you receive your degree. We welcome you to include other aspects of your experience that you think are important sources of your sociological interests. We stress, though, that an effective personal statement will illustrate your intellectual engagement and your interest in producing high-quality scholarship.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Residence

All graduate students must be in residence and must take at least 8 units of graduate work each semester (except during Advanced and Qualifying Examinations), prior to work on the dissertation.

Master of Arts in Sociology

The department does not admit students whose objective is a master's degree. However, if a student accepted in the program does not have a master's degree, the department strongly recommends completion of the requirements for the MA in the course of work toward the PhD degree.

Bachelor's Degree

Health and Human Sciences (BA)

This degree is for individuals who desire the freedom and responsibility to design their own educational path. USC students, living in urban Los Angeles, have access to a myriad of research and volunteer experiences to complement their academic course work. The Health and Human Sciences major encourages the inquiry skills and knowledge needed to succeed in the evolving disciplines of health, science and medicine.

The field of health care, including medicine, pharmacy, dentistry and allied health providers, has changed so dramatically over the last 25 years that our traditional approach to training undergraduates has become obsolete. The traditional biology degree does not adequately provide the student with the knowledge to pursue a career in health. Preparing for a career in health requires an interdisciplinary approach with a foundation of science. As stated by the Association of American Medical Colleges (AAMC), doctors must be able to appreciate the diverse populations they work with and "have a clear understanding of the impact of behavior on health." This requires understanding how psychological, cultural, social, economic, ethical and biological factors influence our lives and most importantly, our health.

The Health and Human Sciences curriculum combines all of the necessary science, social science, humanities and critical thinking concepts, as well as field experience, in order to educate a broadly thinking and prepared student. The major is designed so that every student will be able to choose a semester abroad program as a component of this major.

This major is open to all students. Students are not required to pursue a pre-health track to declare this major.

Lower-Division Core Requirements (16 Units)

- BISC 150Lgx The Nature of Human Health and Disease Units: 4 or
- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4
- MATH 114gx Foundations of Statistics Units: 4 or
- MATH 125g Calculus I Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4
- SOCI 242g Sociology, Demography and Health Units: 4

Modules in the Human Sciences (16 Units)

Choose one module among the six below:

1. Health, Gender and Ethnicity

- ANTH 125g Social Issues in Human Sexuality and Reproduction Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4
- PSYC 462m Culture and Mental Health Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

2. Health and the Mind

- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 336L Developmental Psychology Units: 4 or
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4
- PSYC 360 Abnormal Psychology Units: 4
- PSYC 361 Introduction to Clinical Psychology Units: 4 or
- PSYC 462m Culture and Mental Health Units: 4

3. International Health

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4 or
- ANTH 105g Culture, Medicine and Politics Units: 4
- IR 339 Public Health and International Relations Units: 4
- IR 306 International Organizations Units: 4 or
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4 or
- SOCI 362 Global and Transnational Sociology Units: 4 or
- ANTH 305 Childhood, Birth and Reproduction Units: 4

4. Sociology of Health

- ANTH 336 Health, Gender and Ethnicity Units: 4 or
- IR 339 Public Health and International Relations Units: 4
- SOCI 200gm Introduction to Sociology Units: 4 or
- SOCI 225gw Sociology of Health and the Body Units: 4 or
- SOCI 210g Science, Technology, and Social Conflict Units: 4
- SOCI 360m Social Inequality: Class, Status and Power Units: 4
- SOCI 475 Medical Sociology Units: 4

5. Health and Aging

- GERO 321 Introduction to Psychology and Aging Units: 4 or
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4 or
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4 (4 units required)
- GERO 380m Diversity in Aging Units: 4 or
- GERO 435m Women and Aging: Psychological, Social and Political Implications Units: 4
- GERO 416 Health Issues in Adulthood Units: 4

6. Biology of Health

- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 301L Human Anatomy Units: 4
- HBIO 302L Nutrition and Metabolism Units: 4 or
- BISC 450L Principles of Immunology Units: 4
- BISC 307L General Physiology Units: 4 or
- HBIO 420L Applied Human Physiology Units: 4

Experiential Learning Component (1-4 Units)

Choose one course from the list below:

- AMST 365 Leadership in the Community — Internship Units: 4
- GERO 495 Practicum in Geriatric Care Units: 4
- MDA 250 Internship for Liberal Arts: Work and Career — Theory and Practice Units: 1, 2
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8
- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4
- SOCI 472 Health, Disease, Language and Culture: Guatemala Units: 3
- SWMS 311 Gender and Sexuality Studies: Internship Units: 2, 4, 8

Upper-Division Electives (8 Units)

Choose two courses from the list below, *or* one from this list and one upper-division elective from a different module option that you have not completed.

- BISC 312x Molecular Biochemistry Units: 4 or
- CHEM 350g Molecular Principles of Biochemistry Units: 4
- BISC 325 Genetics Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 421 Neurobiology Units: 4
- BISC 440 Biodemography of Aging Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- HBIO 405 Evolutionary Medicine Units: 4
- HIST 330 Drugs: A Global Cultural History Units: 4
- MDA 320 Global Ethics: Poverty, Health and the Human Condition Units: 4
- REL 460 Senior Seminar: Medical Ethics Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 337L Adult Development and Aging Units: 4
- PSYC 355 Social Psychology Units: 4
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 325 Applied Social Research Methods Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 369 The Family in a Changing Society Units: 4
- SOCI 431 Cities Units: 4
- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4
- SSCI 340 Community Health Scan Units: 4

Total units required for the BA in Health and Human Sciences: 41-44

(at least 20 upper-division)

Non-Governmental Organizations and Social Change (BA)

This interdisciplinary program focuses on the roots of social conflict, on theories and methods for understanding them, and on the non-governmental organizations (NGOs) and nonprofits that address them. To remedy social problems, we need to examine their economic, political and social roots, as well as the varied forms of organizations that aim to fix them. Students will engage in various methods of analysis, from investigations of everyday interactions to explorations of larger economic, political and social structures. In classrooms and internships, students will learn how people in NGOs and nonprofits promote new forms of citizenship and governance, aiming to protect the environment and to lessen the suffering of people around the world.

The major requires nine courses (36 units) chosen from the specific lists of requirements below. As with all interdisciplinary majors, students may double-count no more than three courses from this degree to satisfy any other major.

Course Requirements

A. Lower division requirement

Choose one course (4 units) from the following list:

- AMST 252gmw Black Social Movements in the U.S. Units: 4
- ECON 238xg Political Economy and Social Issues Units: 4
- ENST 150gx Environmental Issues in Society Units: 4
- ENST 270 Introduction to Environmental Law and Politics Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- IR 101gxw International Relations Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- PHIL 141gp The Professions and the Public Interest in American Life Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 255g Cultures, Civilizations and Ethnicities in World Politics Units: 4
- POSC 265gw Environmental Challenges Units: 4
- SOCI 100gm Los Angeles and the American Dream Units: 4
- SOCI 150gm Social Problems Units: 4
- SOCI 200gm Introduction to Sociology Units: 4
- SOCI 255g Sociology of Globalization Units: 4
- SWMS 215gw Introduction to Gender and Sexuality: International Perspectives Units: 4

B. Core methods

Choose one course (4 units) from the following two:

- SOCI 313L Sociological Research Methods Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4

C. Core theory

Choose one course (4 units) from the following five:

- PHIL 337 Political Philosophy Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- POSC 380 Political Theories and Social Reform Units: 2, 4
- SOCI 270g Sociological Theory Units: 4
- SOCI 445 Political and Social Theory Units: 4

D. Perspectives on NGOs

Choose one course (4 units) from the following three:

- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4
- SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Politics Units: 4
- PPD 371 The Nonprofit Sector and the Public Interest Units: 4

E. Analyzing and identifying roots of social conflict

Choose two courses (8 units):

- ANTH 355 Urban Anthropology Units: 4
- ANTH 316gmp Native Americans in American Public Life Units: 4
- ANTH 357g Cultures of Genocide, Cultures of Care Units: 4
- ANTH 371gm Cross-Cultural Research on Urban Gangs Units: 4

- ANTH 380 Sex and Gender in Anthropological Perspective Units: 4
- BISC 427 The Global Environment Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4 *
- ECON 344 Economic Development of Sub-Saharan Africa Units: 4 *
- ECON 350 The World Economy Units: 4 *
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 483 Global Health and Aging Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 372 Modern Latin America Units: 4
- IR 308w Economic Globalization Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 344 The Global South in World Politics Units: 4
- IR 349 International Law and Politics Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 367 Africa in International Affairs Units: 4
- MOR 385gm Business, Government and Society Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4
- PHIL 340 Ethics Units: 4
- POSC 320 Urban Politics Units: 4
- POSC 321 Urban Political Problems Units: 4
- POSC 345 International Law Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- POSC 381 Sex, Power, and Politics Units: 4
- POSC 436 Environmental Politics Units: 4
- SOCI 362 Global and Transnational Sociology Units: 4
- SOCI 402 Human Trafficking Units: 4
- SOCI 429 Immigration, Work and Labor Units: 4
- SOCI 430m Work and the Workplace Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 464 Sociology of Gender and Work Units: 4

Note:

**Prerequisite required*

F. Addressing social conflict and organizing advocacy

Choose two courses (8 units):

- AMST 357m Latino Social Movements Units: 4
- BAEP 491 Introduction to Social Entrepreneurship Units: 4
- BUCO 485 Business Communication Management for Nonprofits Units: 4
- COMM 322 Argumentation and Advocacy Units: 4
- COMM 366 Designing Media for Social Change Units: 4
- COMM 400 Seminar in Communication Units: 4
- COMM 402 Public Communication Campaigns Units: 4
- COMM 412 Communication and Social Movements Units: 4
- COMM 413 Propaganda, Ideology and Public Controversy Units: 4
- COMM 487 Communication and Global Organizations Units: 4
- GERO 350 Administrative Problems in Aging Units: 2 or 4
- IR 306 International Organizations Units: 4
- IR 318 Violent Conflict Units: 4
- IR 337 The Impact of Remittances on Development in Mexico Units: 4
- JS 360m Identity, Community, and Service: Jews and Other Americans Units: 4
- POSC 323 Applied Politics Units: 4
- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 353 Philanthropy and Social Change Units: 4
- REL 468 Sociology of Religion Units: 4
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4
- SOCI 425 Social Movements: Power, Resistance and Political Dynamics Units: 4
- SOWK 350 Adolescent Gang Intervention Units: 4
- THTR 488mw Theatre in the Community Units: 4

G. Internship experience

One course (4 units) required

- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4

Total course requirements: 36 units

Sociology (BA)

All students must achieve an overall average of C (2.0) or better in the 10 courses (40 units) required for completion of the major.

All sociology majors must complete five core courses of sociology.

At least 8 of the 20 elective units must come from 400-level courses.

Core Courses

- SOCI 200gm Introduction to Sociology Units: 4
- SOCI 270g Sociological Theory Units: 4
- SOCI 313L Sociological Research Methods Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SOCI 325 Applied Social Research Methods Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4

Electives

20 elective units are required to complete the major, with at least 8 of the 20 units from 400-level courses.

300-Level Electives

- AMST 357m Latino Social Movements Units: 4
- JS 379gm Mixing and Matching: Intermarriage in the 21st Century Units: 4
- JS 382 Judaism as an American Religion Units: 4
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 335 Society and Population Units: 4
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 345 Social Institutions Units: 4
- SOCI 350 Social Exclusion, Social Power and Deviance Units: 4
- SOCI 351 Public Policy and Juvenile Justice Units: 4
- SOCI 353 Public Policy and Criminal Justice Units: 4
- SOCI 355m Immigrants in the United States Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4
- SOCI 360m Social Inequality: Class, Status and Power Units: 4
- SOCI 362 Global and Transnational Sociology Units: 4
- SOCI 369 The Family in a Changing Society Units: 4
- SOCI 376m Contemporary Issues in Asian American Communities Units: 4
- SWMS 385m Men and Masculinity Units: 4

400-Level Electives

- REL 468 Sociology of Religion Units: 4
- SOCI 402 Human Trafficking Units: 4
- SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Politics Units: 4
- SOCI 410 The Sociology of Popular Culture Units: 4
- SOCI 425 Social Movements: Power, Resistance and Political Dynamics Units: 4
- SOCI 429 Immigration, Work and Labor Units: 4

- SOCI 430m Work and the Workplace Units: 4
- SOCI 431 Cities Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4
- SOCI 435m Women in Society Units: 4
- SOCI 445 Political and Social Theory Units: 4
- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 464 Sociology of Gender and Work Units: 4
- SOCI 465 Visual Sociology of the City and Its Residents Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4
- SOCI 475 Medical Sociology Units: 4
- SOCI 480 The Sociology of Risk and Disaster Units: 4
- SOCI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- SOCI 494 Sociology Honors Seminar I Units: 4
- SOCI 495 Sociology Honors Seminar II Units: 4
- SOCI 499 Special Topics Units: 2, 3, 4

Minor

Forensics and Criminality Minor

The interdisciplinary minor in forensics and criminality was designed for students interested in the study of law, deviant behavior or careers in the criminal justice system. In this program, students study psychological and/or ethical issues related to criminal behavior, consider criminality in the context of social class analysis, and learn about the American system of criminal justice. Twenty units are required, 4 at the lower-division and 16 at the upper-division level. Contact Dornsife College Advising for further details.

Students should choose a curriculum for their minor based on their academic interests. Those students interested in white collar crime, for example, might choose POSC 130 Law, Politics, and Public Policy at the lower-division level, SOCI 350 Social Exclusion, Social Power, and Deviance and PPD 342 Crime and Public Policy.

Those who are interested in the criminal justice system might choose LAW 200x Law and Society, REL 341 Ethics in a Technological Society, SOCI 351 Public Policy and Juvenile Justice, POSC 340 Constitutional Law and POSC 432 The Politics of Local Criminal Justice.

Those interested in individual and social determinants of deviancy might take PSYC 100 Introduction to Psychology, PSYC 360 Abnormal Psychology, or PSYC 363 Criminal Behavior, or PSYC 365 Introduction to Forensic Psychology; SOCI 360 Social Inequality: Class, Status, and Power, LAW 402 Psychology and Law and SOCI 353 Public Policy and Criminal Justice.

Lower-Division Requirement (4 Units)

Choose one course from:

- AMST 101gmw Race and Class in Los Angeles Units: 4
- LAW 200w Law and Society Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 165Lg Drugs, Behavior and Society Units: 4
- SOCI 142gm Diversity and Racial Conflict Units: 4
- SOCI 150gm Social Problems Units: 4
- SOCI 200gm Introduction to Sociology Units: 4

Upper-Division Requirements (16 Units)

Choose one course from each group below:

The Individual in Society

- LAW 404 Law and Psychology: Examining the Criminal Justice Process Units: 4
- LING 412 Language and Law Units: 4
- LING 450 New Horizons in Forensic Speaker Identification Units: 4
- PSYC 355 Social Psychology Units: 4 * or
- POSC 441m Cultural Diversity and the Law Units: 4
- PSYC 360 Abnormal Psychology Units: 4 *
- PSYC 363 Criminal Behavior Units: 4 *
- PSYC 365 Introduction to Forensic Psychology Units: 4 *
- REL 341 Technology, Culture, and Ethics Units: 4

Note:

**Prerequisite: PSYC 100*

Social Class and Criminality

- ANTH 371gm Cross-Cultural Research on Urban Gangs Units: 4
- SOCI 350 Social Exclusion, Social Power and Deviance Units: 4
- SOCI 351 Public Policy and Juvenile Justice Units: 4
- SOCI 360m Social Inequality: Class, Status and Power Units: 4
- SOWK 350 Adolescent Gang Intervention Units: 4

The System of Criminal Justice

- LAW 402 Psychology and Law Units: 4
- LAW 403 Mental Health Law Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- POSC 340 Constitutional Law Units: 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- PPD 340 The American System of Justice Units: 4

Crime and Punishment

- POSC 432 Politics of Local Criminal Justice Units: 4
- PPD 342 Crime and Public Policy Units: 4
- SOCI 353 Public Policy and Criminal Justice Units: 4

Total requirements: five courses (20 units)

Managing Human Relations Minor

College Academic Services Building

(213) 740-2534

This interdisciplinary minor is intended for students in all schools with an interest in human relations as a subject of study or professional goal. In addition to course work in organizational behavior, social psychology and management, this minor includes attention to questions of ethics and leadership.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (not used for credit toward a major, another minor or general education requirements). Finally, students must select four courses outside their major department. Students seeking the Bachelor of Arts in Sociology must choose four courses outside of sociology; those seeking the Bachelor of Science in Business Administration must choose four courses outside the USC Marshall School of Business.

Requirements

Choose one course from the following (4 units):

- BUAD 304 Organizational Behavior and Leadership Units: 4
- PSYC 355 Social Psychology Units: 4 *

Choose one course from the following (4 units):

- MOR 431 Interpersonal Competence and Development Units: 4 *
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 345 Social Institutions Units: 4

Choose one course from the following list of classes on leadership (4 units):

- CLAS 370 Leaders and Communities: Classical Models Units: 4
- IR 303 Leadership and Diplomacy Units: 4
- MDA 325 Case Studies in Modern Leadership Units: 2 or 4

- MDA 365 The Art and Adventure of Leadership Units: 4
- MOR 470 Global Leadership Units: 4 *

Choose one course from the following list of classes on ethics (4 units):

- BUCO 425 Ethics and Professional Communication Units: 4 *
- MOR 421 Social and Ethical Issues in Business Units: 4 *
- PHIL 340 Ethics Units: 4
- REL 341 Technology, Culture, and Ethics Units: 4

Choose one of the following three capstone classes (4 units):

- ECON 332 Contracts, Organizations and Institutions Units: 4 *
- ECON 471 Economics of Labor Markets and Human Capital Units: 4 *
- MOR 471 Managing and Developing People Units: 4
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4

Note:

**Course has prerequisite or corequisite*

Total requirements: five courses, 20 units

Photography and Social Change Minor

This minor explores the potential of photography as an instrument of social change that allows individuals to document their circumstances, share their stories and change their lives. Students have the opportunity to examine the impact of images and the power of storytelling both in the classroom and in the field and study the issues raised by this kind of social exploration and commentary.

Students learn techniques of digital photography and theories of culture to help them understand diverse cultural phenomena and navigate their own cultural biases. In the field, students apply these techniques and theories by developing their own body of work. In addition, students can mentor individuals in the community to use photography and digital media to share their personal narratives, thus empowering community members to reflect critically upon their circumstances and to participate in their visual representation.

This interdisciplinary minor brings together students from schools and majors across the USC campus, allowing them to interact with one another and with scholars, artists and professionals associated with key organizations such as the Institute for Photographic Empowerment and Venice Arts.

Lower-Division Requirement

Select one course, based on prior preparation (4 units):

- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4

Upper-Division Requirements

Select two courses in each category below, from different departments (16 units):

Understanding Culture and Change

(8 units, in 2 courses — each from a different department)

- AMST 348m Race and Environmentalism Units: 4
- AMST 357m Latino Social Movements Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era Units: 4
- POSC 323 Applied Politics Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- REL 336w Re-Viewing Religion in Asian America Units: 4
- REL 366 Religion and Social Change Units: 4
- SOCI 360m Social Inequality: Class, Status and Power Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Media and Message

(8 units, in 2 courses — each from a different department)

- AHIS 373g History and Theory of Photography Units: 4
- AHIS 469 Critical Approaches to Photography Units: 4
- ANTH 472 Visual Techniques in Anthropology: Stills Units: 4
- COLT 487 Critical Image Units: 4
- COMM 366 Designing Media for Social Change Units: 4
- COMM 451 Visual Communication and Social Change Units: 4
- JOUR 422 Visual Journalism for Non-Majors Units: 4

Note:

Students in this program will also have opportunities for special access to USC Annenberg's Public Diplomacy classes.

Total requirements: 20 units

Sociology Minor

Five courses (20 units) are required to complete the minor in sociology.

All minors are required to take at least two of the core courses in sociology:

Core Courses

- SOCI 200gm Introduction to Sociology Units: 4

  or
- SOCI 270g Sociological Theory Units: 4
- SOCI 313L Sociological Research Methods Units: 4

  or
- SOCI 314Lg Analyzing Social Statistics Units: 4

Note:

The remaining three courses may be chosen from among the upper-division elective courses offered by the department, or as follows:

- AMST 357m Latino Social Movements Units: 4
- JS 379gm Mixing and Matching: Intermarriage in the 21st Century Units: 4
- JS 382 Judaism as an American Religion Units: 4
- REL 468 Sociology of Religion Units: 4
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 335 Society and Population Units: 4
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 345 Social Institutions Units: 4
- SOCI 350 Social Exclusion, Social Power and Deviance Units: 4
- SOCI 351 Public Policy and Juvenile Justice Units: 4
- SOCI 353 Public Policy and Criminal Justice Units: 4
- SOCI 355m Immigrants in the United States Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4
- SOCI 360m Social Inequality: Class, Status and Power Units: 4
- SOCI 362 Global and Transnational Sociology Units: 4
- SOCI 369 The Family in a Changing Society Units: 4
- SOCI 376m Contemporary Issues in Asian American Communities Units: 4
- SOCI 402 Human Trafficking Units: 4
- SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Politics Units: 4
- SOCI 410 The Sociology of Popular Culture Units: 4
- SOCI 425 Social Movements: Power, Resistance and Political Dynamics Units: 4
- SOCI 429 Immigration, Work and Labor Units: 4
- SOCI 430m Work and the Workplace Units: 4

- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4
- SOCI 435m Women in Society Units: 4
- SOCI 445 Political and Social Theory Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 464 Sociology of Gender and Work Units: 4
- SOCI 465 Visual Sociology of the City and Its Residents Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4
- SOCI 475 Medical Sociology Units: 4
- SOCI 480 The Sociology of Risk and Disaster Units: 4
- SWMS 385m Men and Masculinity Units: 4

Graduate Certificate

Science and Technology Studies Graduate Certificate

The graduate certificate in Science and Technology Studies (STS) provides a foundation for USC doctoral students who wish to gain expertise in the interdisciplinary field of STS and apply it in their research. STS provides tools for critical analysis of the forms of political, epistemological and cultural authority that underpin scientific knowledge and technological systems.

The graduate certificate is open to PhD students in any USC program. It requires doctoral students to take one core course, SOCI 653 Seminar in Science and Technology Studies, as well as three elective seminars focusing on special topics in the field. In addition, students may take electives approved for their particular program of research by the Program faculty. One of these courses may be a research workshop course geared toward doctoral prospectus development. Directed research may not be counted toward the award of the certificate.

In addition to the completion of these course requirements, students must demonstrate a focus on STS as a meaningful component of their doctoral dissertation. This will include working with faculty with expertise in STS on the doctoral committee (as a primary adviser or minor member). Faculty will be responsible for judging the adequacy of the STS component in the student's dissertation.

Completion of the certificate requires a minimum of 16 units.

Required Course (4 units)

- SOCI 653 Seminar in Science and Technology Studies Units: 4

Electives (12 units)

- AHIS 512 Seminar in Renaissance Art Units: 4
- AMST 700 Theories and Practices of Professional Development Units: 4
- COMM 573 Networked Publics: Theories and Encounters Units: 4
- COMM 574 Science and Technology Studies for Communication and Media Units: 4
- COMM 620 Studies in Communication Theory Units: 4
- COMM 630 Communication Technology and Social Change Units: 4
- COMM 647x Network Society Units: 4
- COMM 652 Ethnographic Field Research in Communication Units: 4
- CSCI 631 Privacy in the World of Big Data Units: 4
- CSCI 699 Special Topics Units: 2, 3, 4
- ENGL 536 Literatures and Cultures of the Victorian Period Units: 4
- ENGL 610 Theory and Criticism Units: 4
- ENGL 620 Literature and Interdisciplinary Studies Units: 4

Note:

- Computer Science electives require a significant background in Computer Science.
- Directed Research units may not be applied to the certificate.

Doctoral Degree

Sociology (PhD)

Course Requirements

A minimum of 60 graduate units is necessary for the PhD, among which are the following required courses: SOCI 500, SOCI 510, SOCI 520, SOCI 521, SOCI 511, and SOCI 621 or 620. In addition, each student must specialize in two subareas of sociology and must take at least 8 units in each area such as: urban sociology, complex organizations, stratification, ethnic relations, sociology of aging, medical sociology, communication and culture, deviance, sociology of gender, demography, and so on.

Screening Procedure

Normally, students must complete the screening procedure during the third semester of enrollment. Students will have completed two full semesters of work by this point and, hence, will have taken no fewer than 16 and no more than 32 units, including at least the following: SOCI 500, SOCI 510 and SOCI 511. Students are evaluated on subject matter competence and satisfactory progress. When the screening procedure is successfully completed, the student has one semester in which to form a qualifying exam committee.

Empirical Paper

Each student is required to complete an independent empirical research project that is approved by two members of his or her qualifying exam committee. In some instances, this requirement may be met by acceptance of a satisfactory master's thesis from some other university.

Foreign Language Requirement

The department does not generally require proficiency in a foreign language; however, as with other courses outside the department, a student's qualifying exam committee may in some cases require proficiency in a foreign language.

Qualifying Examinations

Following the completion of their empirical papers and most of their course work, students are required to take a written and oral examination in their two standard areas. If the written examination is passed, the oral part of the examination can be devoted to a preliminary discussion of dissertation plans. When these are completed successfully, the student is advanced to PhD candidacy.

Dissertation

After the dissertation is completed, the student and the dissertation committee, in conjunction with the department chair, may elect either a defense oral or a final oral examination in defense of the dissertation. The defense oral is normally chosen in sociology.

Sophomore Seminars

Sophomore Seminars focus on topics of current interest in research and scholarship. They are small classes that encourage close interaction between faculty and students.

During the fall and spring semesters, sophomores earn 2 units of credit through participation in these weekly seminars. During intensive special sessions, sophomores earn 1 unit of credit. These courses emphasize active exploration of the life of the mind through a variety of classroom activities and assignments.

To encourage a relaxed interchange of information and ideas, each seminar is graded credit/no credit and limited in enrollment to 18 students.

Sophomore Seminars will be offered for the fall and spring semesters in a variety of subjects. They will also be offered during intensive special sessions. Individual topics will be indicated in the *Schedule of Classes* under the SSEM designation.

Spatial Sciences Institute

Since its founding in 2010, the USC Spatial Sciences Institute has used the power of spatial thinking and literacy – the ability to connect place and space and to integrate geography into everything we do – to help address global challenges. Through its innovative academic programs and research enterprise, the Spatial Sciences Institute educates and cross-trains scholars at every higher-educational level to expand our ability to collect, analyze, model, visualize and share location-based data and information in support of policies and decisions that help sustain our planet, promote public health and ensure human security.

Spatial Sciences Institute students work in the field, studio and lab with an internationally recognized faculty who are contributing to the rapidly evolving body of geospatial knowledge. Student researchers in the Spatial Sciences Institute join its interdisciplinary faculty on their funded research with agencies, businesses, non-profits, NGOs and other entities to produce actionable impact. The Spatial Sciences Institute provides numerous opportunities for internships, conference paper and poster presentations and networking, so its students are poised for geospatial careers, which are among the fastest-growing in the United States and world today, and other endeavors.

The Spatial Sciences Institute is a founding member of the UNIGIS International Association, a network of universities around the world that lead and share in the development of online GIS education programs, and an Esri Education Development Center.

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(213) 740-5910
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Director: John P. Wilson, PhD*
Managing Director: Susan Kamei, JD

Faculty

Professors: Francois Bar, PhD *(Communication)*; Myles Cockburn, PhD *(Preventive Medicine)*; Maged Dessouky, PhD *(Industrial and Systems Engineering)*; William F. Deverell, PhD *(History)*; Philip Ethington, PhD *(History)*; Sofia Gruskin *(Preventive Medicine)*; Steven Lamy, PhD *(Political Science and International Relations)*; Rob McConnell, PhD *(Preventive Medicine)*; Jeffrey Sellers, PhD *(Political Science and International Relations)*; John P. Wilson, PhD* *(Sociology)*
Associate Professors: George Ban-Weiss, PhD *(Civil and Environmental Engineering)*; Lihua Liu, PhD *(Preventive Medicine)*; Nathan Perl-Rosenthal *(History)*; Paulina Oliva, PhD *(Economics)*; Alexander Robinson, PhD *(Architecture);* Emily Smith-Greenaway, PhD *(Sociology)*
Assistant Professors: Laura Ferguson, PhD *(Preventive Medicine)*; Daniel A. Hackman, PhD *(Social Work)*; Jessica Ho, PhD *(Geronotology)*; Jill Johnston, PhD *(Preventive Medicine)*; Stephen Sanko, PhD (*Clinical Emergency Medicine*)
Professors of the Practice: Steven D. Fleming, PhD; Gregory Treverton, PhD *(Political Science and International Relations)*
Professors (Research): Yolanda Gil, PhD *(Computer Science)*; Craig Knoblock, PhD *(Computer Science)*
Associate Professors of the Practice: Lynn Dodd, PhD *(Religion)*; Andrew Marx, PhD
Associate Professors (Teaching): Darren M. Ruddell, PhD; Jennifer N. Swift, PhD; Robert Vos, PhD
Associate Professors (Clinical): Meredith Franklin, PhD *(Preventive Medicine)*; Rima Habre, PhD *(Preventive Medicine)*
Associate Professors (Research): Yao-Yi Chiang, PhD; Michael Orosz, PhD
Assistant Professors (Teaching): Laura Loyola, PhD; Elisabeth Sedano, PhD; An-Min Wu, PhD
Lecturers: Jennifer Bernstein, PhD; Leilei Duan, PhD
Emeritus: Karen Kemp, PhD
**Recipient of university-wide or college teaching award.*

Degree Programs

The Spatial Sciences Institute offers a Bachelor of Science in Geodesign and a Bachelor of Science in Global Geodesign (both with the USC School of Architecture and USC Price School of Public Policy), a Bachelor of Science in Human Security and Geospatial Intelligence, and minors in GIS and Sustainability Science; Human Security and Geospatial Intelligence; and Spatial Studies. The Institute also features an online Master of Science and a Graduate Certificate in Geographic Information Science and Technology and an Master of Arts in Global Security Studies as well as online Graduate Certificates in Geospatial Intelligence, Geospatial Leadership, Remote Sensing for Earth Observation, and Spatial Analytics; an online Master of Science in Human Security and Geospatial Intelligence, a Master of Science in Spatial Data Science, a Master of Science in Spatial Economics and Data Analysis (with the Department of Economics), and a Mater of Science and a Doctor of Philosophy in Population, Health and Place (with the Departments of Preventive Medicine and Sociology).

All of the programs and courses offered by the Spatial Sciences Institute explore the various ways in which location is used to acquire, represent, organize, analyze, model and visualize information. They seek to engage students enrolled in a range of academic programs in the natural and social sciences, the humanities and the professional schools.

Undergraduate Degrees

The BS in Geodesign and BS in Global Geodesign are interdisciplinary majors that include curriculum from the Dornsife College of Letters, Arts and Sciences, the USC School of Architecture and the USC Price School of Public Policy. These two degrees treat planning as a globally relevant framework for collective action, the spatial sciences as a platform for supporting science-based decision-making, and design as a vehicle for solving the world's wicked problems. With a broad base of knowledge from these disciplines around a liberal arts core, Geodesign and Global Geodesign majors are poised for graduate studies and professional opportunities in the public, private and not-for-profits sectors, including urban planning, geographic information science and technology, real estate development, community health and preventive medicine. Geodesign and Global Geodesign majors may take advantage of USC's progressive degree path to obtain a BS in Geodesign or Global Geodesign with an MA in Environmental Studies, a Master of Planning, or an MS

in Geographic Information Science and Technology in as few as five years.

The BS in Human Security and Geospatial Intelligence provides students with a conceptual and technical grounding in human security, including how to evaluate security around the world, create and gather geospatial data, and design security solutions. The topics covered include international border conflicts, humanitarian response and relief, global human rights, the monitoring and prevention of genocide, and refugee migration and crisis management. This program connects collaborative and interrelated disciplines and as such, provides a framework for undergraduate-level analysis and planning in future human security and Geospatial Intelligence work within the U.S. Department of Defense, U.S. State Department, related U.S. support/non-governmental agencies, and within comparable city, county, state, and international organizations.

Honors Program

Candidates for the BS in Geodesign, the BS in Global Geodesign, and the BS in Human Security and Geospatial Intelligence can qualify for graduation with departmental honors by meeting these requirements: a 3.7 GPA in the courses counted toward the major at the time of graduation and completion of a research project or thesis under the guidance of a faculty member teaching the appropriate capstone course (SSCI 412 for Geodesign and Global Geodesign, and SSCI 420 for Human Security and Geospatial Intelligence). In addition, students must receive an A or A- in the appropriate capstone course. Departmental honors are noted on academic transcripts but not on the diploma.

Minors

The undergraduate minor in Spatial Studies can be combined with any major and provides the scientific understanding and technical skills in geographic information science, mapping, and the accompanying geospatial technologies (GIS, GPS, remote sensing). Graduates with competencies in spatial sciences are problem solvers and have competitive edges in sectors such as diplomacy, finance, healthcare, retail, logistics, communications, manufacturing and conservation.

The undergraduate minor in Human Security and Geospatial Intelligence educates future leaders in location-based analytics to gather, interpret and implement actionable intelligence to promote human security. In combination with any major, this minor helps position graduates for career paths and/or graduate education in areas such as humanitarian relief, law enforcement, national security and defense.

The undergraduate minor in GIS and Sustainability Science educates future leaders in location-based analytics to gather, interpret, and implement plans and policies to build healthy and sustainable communities. In combination with any other major, this minor helps position graduates for career paths and/or graduate education in areas such as urban and regional planning, economics, landscape architecture, urban design, public health, and international development.

Graduate Degrees

The online Graduate Certificate in Geographic Information Science and Technology provides the foundation for professional advancement utilizing geographic information science and the latest geospatial technologies. The online Graduate Certificate in Geospatial Intelligence is accredited by the U.S. Geospatial Intelligence Foundation, and develops career readiness for those interested in the human security applications of geographic information science and technology. The online Graduate Certificate in Remote Sensing for Earth Observation develops career readiness for those interested in using remote sensing to collect various kinds of spatial data about places on the Earth from a distant location. Our vision mirrors that of the Group on Earth Observations (GEO), an international, intergovernmental agency, working to improve the availability, access, and use of Earth observations for the benefit of society through major initiatives, such as the UN 2030 Agenda for Sustainable Development, the Paris Climate Agreement, and the Sendai Framework for Disaster Risk Reduction. The online Graduate Certificate in Geospatial Leadership is for individuals with some training and experience looking to increase their potential for advancement in the geospatial field. In addition, all three of these online graduate certificates may be taken by USC master's and doctoral students in other disciplines.

The online MS in Geographic Information Science and Technology provides state-of-the-art education in core geographic information science and accompanying applications. Students may choose among three tracks - Spatial Data Acquisition and Integration; Spatial Data Analysis and Visualization; Spatial Application Development – or select elective courses that better match their own needs and aspirations.

The online MS in Human Security and Geospatial Intelligence provides state-of-the-art knowledge of GIS techniques and data within the context of incident preparation and response. This program empowers graduates to build leadership skills and to pursue management roles within the geospatial intelligence and human security fields, and is ideal for individuals who thrive in highly dynamic, chaotic environments and who have a passion for risk mitigation, disaster planning and threat mitigation in military, disaster management, and humanitarian operations.

The courses in the online Graduate Programs in Geographic Information Science and Technology and Human Security and Geospatial Intelligence are offered year-round and students can start these programs in the fall, spring or summer semesters. Students in the online Master of Public Health program offered by the Keck School of Medicine of USC can complete a GeoHealth track by completing four spatial sciences courses offered by the Spatial Sciences Institute. Students interested in this GeoHealth track should contact the Master of Public Health program in the Department of Preventive Medicine.

The MS in Spatial Economics and Data Analysis provides state-of-the-art knowledge of the spatial and economic principles and methods that are used to support spatial econometrics and related forms of spatiotemporal analysis. This program, which draws on classes from the USC Dornsife Department of Economics and the Spatial Sciences Institute, seeks to empower graduates with the scientific knowledge and methods to identify new business opportunities and develop new policy solutions to help address some of the challenges in our increasingly interconnected and urban world.

The MS in Spatial Data Science is jointly offered with the Viterbi School of Engineering's Department of Computer Science and the Spatial Sciences Institute. The individual courses focus on modern computational tools and how these can be leveraged with new analysis methods, such as artificial intelligence and machine learning, to turn various forms of spatial "big" data into actionable information.

The MA in Global Security Studies is a two-year program designed for students who already have a substantial undergraduate background in social sciences or relevant professional experience in subjects such as international relations, political science, environmental studies and social sciences. Students in the program may concentrate in security, intelligence and military issues; human security and humanitarian crises issues; or environmental security issues.

Students in the MS in Transportation Systems Management offered by the Viterbi School of Engineering can complete a Geographic Information Systems track by completing three spatial sciences courses offered by the Spatial Sciences Institute. Students interested in this GIS track should contact the MS in Transportation Systems Management program in the Department of Civil and Environment Engineering.

The Graduate Certificate in Spatial Analytics provides USC doctoral students with customized opportunities to learn about the fundamental geographic information science principles and a series of rapidly evolving geospatial technologies that take

advantage of the Cloud and the Web along with advances in analytical techniques, modeling tools and online geographic data sources. The learning goals and outcomes in the courses that contribute to this certificate can be customized to match the student's disciplinary interests and research objectives.

In the interdisciplinary Population, Health and Place master of science and PhD programs, faculty from the USC Dornsife Department of Sociology, the Department of Preventive Medicine of the Keck School of Medicine of USC, and the USC Dornsife Spatial Sciences Institute provide training for careers in research, teaching and applied work with large data sets and varied modeling and computation approaches in public health, epidemiology, demography, biostatistics, sociology, medical geography, spatial sciences and other fields.

PhD Admission Requirements

The courses required for admission are an introductory geography or sociology course, a course in statistics, a course in research methods or experimental design and at least one course from each of the following lists: (1) one or more of social demography, society and population, medical sociology; (2) one or more of cartography, human geography, medical geography, spatial analysis.; and (3) one or more of climatology, hydrology, environment and health. Additional courses are desirable, as is work in the biological, physical and social sciences, in mathematics and in philosophy. Students with less background in public health, sociology or the spatial sciences, but outstanding undergraduate records in related fields are also encouraged to apply.

Students are selected on the basis of undergraduate records, scores on the Graduate Record Examinations General Test, course background, three letters of evaluation, personal statement of interests and goals, and evidence of research skills or interests (e.g., publications or participation in research projects).

Application for admission to the PhD Program in Population, Health and Place requires submission of two sets of material: special program forms and university application forms. Students are admitted only for study beginning in the fall semester; both sets of completed application forms must be submitted by December 1 for admission the following fall.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Geodesign (BS)

The Bachelor of Science in Geodesign is an interdisciplinary major offered by the Dornsife College of Letters, Arts and Sciences, the USC School of Architecture, and the USC Price School of Public Policy. This degree prepares students for professional careers and/or graduate study by engaging them in the acquisition, representation, analysis, modeling and visualization of spatial information set in the context of the built environment and policy. The underlying spatial principles, methods and tools can be used to support sustainable planning, facility and infrastructure management, the design of livable and healthy communities, and a series of regional planning applications to address pollution, water and energy needs, and the impact of population growth on the environment. The major electives provide students with opportunities to explore one or more facets of the built environment and a series of complementary analytical and visualization tools in more detail. Finally, the major is structured to provide students with sufficient elective credits to explore minors or other programs at USC so they can broaden their education to better prepare themselves for the next stage of their lives.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

Major Requirements

A minimum grade of C, 2.0 (A = 4.0) must be earned in each of the core courses and the capstone course. In addition, a minimum grade point average of C (2.0) or higher must be achieved in the major to earn the geodesign degree. No more than 16 units of core courses may be taken prior to the successful completion of the geodesign pre-major requirements.

Pre-major Requirements

Both pre-major requirements must be taken for a letter grade and a minimum grade of C, 2.0 (A = 4.0), must be earned in each of the pre-major courses.

Pre-Major Courses (8 Units)

- ECON 203g Principles of Microeconomics Units: 4
- MATH 114gx Foundations of Statistics Units: 4

Core Courses + Capstone Course (48 Units)

- ARCH 203 Visualizing and Experiencing the Built Environment Units: 4
- ARCH 303 Principles of Spatial Design I Units: 4
- ARCH 403 Principles of Spatial Design II Units: 4
- PPD 227 Urban Planning and Development Units: 4
- RED 417 History of Planning and Development Units: 4
- RED 425 Designing Livable Communities Units: 4
- SSCI 201 Principles of GeoDesign Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 381 Statistics for the Spatial Sciences Units: 4
- SSCI 382L Geographic Information Science: Spatial Analytics Units: 4
- SSCI 383L Geographic Information Science: Geospatial Modeling and Customization Units: 4 (capstone course)
- SSCI 412L GeoDesign Practicum Units: 4

Additional Requirements

Capstone Course

All students will take four units of a capstone experience during their senior year. This may be fulfilled by taking SSCI 412L GeoDesign Practicum (4 units) which may be offered by any of the three units cross-listed (SSCI, ARCH, PPD) and will require students to use their knowledge and skills on a real project with a real client.

Major Electives (24 Units)

A suite of courses that further the development of practical, theoretical, and field knowledge and skills, including computer graphics, drawing, policy analysis, public finance, and statistics. Choose additional electives from the two lists equal to at least six courses (24 units) in all. At least two courses must come from Group A and two courses from Group B.

Group A: Built Environment

- ARCH 306m Shelter Units: 4
- ARCH 447 Ecological Factors in Design Units: 3
- ENST 323 Politics of Global Environment Units: 4
- HIST 458 History of California Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4

- PPD 410 Comparative Urban Development Units: 4
- SOCI 335 Society and Population Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 214g Human Populations and Natural Hazards Units: 4
- SSCI 265Lg The Water Planet Units: 4
- SSCI 350 International GeoDesign Units: 4

Group B: Design, Analysis And Computation

- ANTH 481L GIS for Investigating the Past Units: 4
- ARCH 307 Digital Tools for Architecture Units: 3
- DES 102 Design Fundamentals Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- HIST 393g Quantitative Historical Analysis Units: 4
- IR 323 Politics of Global Environment Units: 4
- POSC 265gw Environmental Challenges Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- POSC 436 Environmental Politics Units: 4
- PPD 306 Visual Methods in Policy, Management, Planning and Development Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
- SSCI 135g Maps in the Digital World Units: 4
- SSCI 220L Spatial Data Collection Using Drones Units: 4

Additional Requirements

Honors

Candidates for the BS in Geodesign can receive an honors degree by meeting these requirements: a 3.7 GPA in department courses at the time of graduation; completion of an honors research project or thesis under the guidance of a faculty member (SSCI 412L). Admission to the program is granted by the departmental undergraduate adviser in the semester preceding enrollment in SSCI 412L; students should have a 3.7 GPA in the major at this time.

Global Geodesign (BS)

The USC Dornsife Spatial Sciences Institute offers a pioneering BS in Global Geodesign to prepare individuals with the integrative ability to analyze the role of place, space and time to address issues of environmental sustainability and human well-being on neighborhood, community, regional and global scales in multidisciplinary and multi-dimensional ways.

Throughout their program, USC Global Geodesign students engage with the faculty and students in the global geodesign programs at the Amsterdam University College/ Vrije University Amsterdam consortium in the Netherlands and Peking University in China, considered the leading academic institutions for geodesign on their respective continent. This global cohort undertakes course work, research-based field work, intensive studios and a rich extracurricular program in Los Angeles, Amsterdam and Beijing coordinated among the three university faculties. Through these immersive multicultural and interdisciplinary experiences in spatial sciences, architecture, landscape architecture and urban and regional planning, global geodesign graduates will have perspectives and backgrounds that will uniquely position them to contribute to improving the built and natural environments around the world.

Major Requirements

Courses should be taken in addition to core major requirements and general degree requirements.

- ECON 203g Principles of Microeconomics Units: 4
- MATH 114gx Foundations of Statistics Units: 4
- SSCI 381 Statistics for the Spatial Sciences Units: 4
- WRIT 450 Advanced Research Writing Units: 4

Global Geodesign Core Requirements

Major core requirements

- ARCH 203 Visualizing and Experiencing the Built Environment Units: 4
- ARCH 303 Principles of Spatial Design I Units: 4
- ARCH 403 Principles of Spatial Design II Units: 4
- ARCH 447 Ecological Factors in Design Units: 3
- PPD 227 Urban Planning and Development Units: 4
- RED 417 History of Planning and Development Units: 4
- RED 425 Designing Livable Communities Units: 4
- SSCI 201 Principles of GeoDesign Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 313 Global Geodesign and Stakeholder Engagement Units: 2
- SSCI 314 Comparative Sustainability Theory and Practice for Geodesign Units: 2
- SSCI 382L Geographic Information Science: Spatial Analytics Units: 4
- SSCI 383L Geographic Information Science: Geospatial Modeling and Customization Units: 4

Global Geodesign Intensive Studios

International geodesign courses taken during two separate summer sessions while students are abroad.

- SSCI 311 Global Geodesign Studio - Europe Units: 4
- SSCI 312 Global Geodesign Studio - Asia Units: 4

Global Geodesign Capstone

Culminating capstone class required for degree completion

- SSCI 412L GeoDesign Practicum Units: 4

Human Security and Geospatial Intelligence (BS)

The Bachelor of Science in Human Security and Geospatial Intelligence offered by the USC Dornsife College of Letters, Arts and Sciences prepares students for professional careers and/ or graduate study by engaging them in the framework for the analysis and planning in future human security and geospatial intelligence (GEOINT) work. The underlying spatial and GEOINT principles and expertise can be used to support within the U.S. Department of Defense, U.S. State Department, related U.S. support/non-governmental agencies and within comparable international organizations. The course work, and in particular the capstone course, provides students with opportunities to develop the skills and expertise to lead innovative ventures in areas such as international border conflicts, humanitarian response and relief, global human rights, the monitoring and prevention of genocide and refugee migration and crisis management. Finally, the major is structured to provide students with sufficient elective credits to explore minors or other programs at USC so that they can broaden their education to better prepare themselves for future stages in their lives.

The program encompasses a 128-units course structure comprised of five core courses, three additional management and leadership courses and a capstone experience course. The BS in HSGI degree can be completed in the planned 4-year undergraduate experience (8 semesters) for full-time registrants.

Pre-Major Requirement (4)

Course to be completed within first two semesters of enrolling in the major.

- MATH 114gx Foundations of Statistics Units: 4

Major Requirements (60)

- IR 210gw International Relations: Introductory Analysis Units: 4
- IR 304 National Intelligence and the Shaping of Policy Units: 4
- IR 319 Human Security and Humanitarian Intervention Units: 4
- IR 381 Introduction to International Security Units: 4
- POSC 110g Ideology and Political Conflict Units: 4
- PPD 225 Public Policy and Management Units: 4
- PPD 402 Management of Public and Nonprofit Organizations Units: 4
- SSCI 214g Human Populations and Natural Hazards Units: 4
- SSCI 220L Spatial Data Collection Using Drones Units: 4

- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 381 Statistics for the Spatial Sciences Units: 4
- SSCI 382L Geographic Information Science: Spatial Analytics Units: 4
- SSCI 383L Geographic Information Science: Geospatial Modeling and Customization Units: 4
- SSCI 401L Geospatial Intelligence Units: 4

Practicum

Course to be completed as culminating requirement.

- SSCI 420 Human Security and Geospatial Intelligence Practicum Units: 4

Minor

GIS and Sustainability Science Minor

The innovative Minor in GIS and Sustainability Science provides an interdisciplinary foundation for individuals to address environmental sustainability, among the most pressing challenges of our time. With an understanding of concepts of spatial sciences, including geographic information science, cartographic principles, spatial data acquisition and analysis, and techniques of programming and customization, students will be capable of analyzing and utilizing geospatial information linked with human and natural systems to understand how humans create stress on ecosystems and make informed decisions about how to alleviate stress or restore damaged ecosystems.

In the capstone course, students have the opportunity to explore their specific interests in greater depth as they design a geospatial technology project that contributes to one or more sustainable development goals at various scales and in locations around the globe.

Geospatial careers are among the fastest-growing in the U.S. and world today, and geospatial jobs are currently available in every industry and discipline in consulting firms, non-profit organizations, government agencies, and private-sector companies.

Lower Division Elective

Choose one of the following courses:

- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 265Lg The Water Planet Units: 4

Core Requirements

Complete all of the following courses:

- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 382L Geographic Information Science: Spatial Analytics Units: 4
- SSCI 383L Geographic Information Science: Geospatial Modeling and Customization Units: 4

Capstone Course

Complete the following course after finishing core requirements:

- SSCI 402 Geospatial Technology Management for Sustainability Science Units: 4

Human Security and Geospatial Intelligence Minor

The interdisciplinary minor in Human Security and Geospatial Intelligence aims to educate future leaders in location-based analytics to gather, interpret, and implement actionable intelligence to promote human security and serves to connect many collaborative and interrelated disciplines to provide a framework for students interested in learning how to develop and deliver analytical and spatial solutions.

Lower-Division Elective (4 units)

- ENST 100g Introduction to Environmental Studies Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- IR 100gx The United States and World Affairs Units: 4
- IR 101gxw International Relations Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- POSC 110g Ideology and Political Conflict Units: 4
- POSC 120 Comparative Politics Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 255g Cultures, Civilizations and Ethnicities in World Politics Units: 4
- POSC 260 Global Ethnic Politics Units: 4
- SSCI 135g Maps in the Digital World Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 214g Human Populations and Natural Hazards Units: 4
- SSCI 220L Spatial Data Collection Using Drones Units: 4
- SSCI 265Lg The Water Planet Units: 4

Required Core (12 units)

- IR 304 National Intelligence and the Shaping of Policy Units: 4 or
- IR 319 Human Security and Humanitarian Intervention Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 401L Geospatial Intelligence Units: 4

Upper-Division Elective (4 units)

- AEST 400a Aerospace Studies IV: National Security Forces in Contemporary American Society Units: 3
- AEST 400b Aerospace Studies IV: National Security Forces in Contemporary American Society Units: 3
- IR 304 National Intelligence and the Shaping of Policy Units: 4
- IR 381 Introduction to International Security Units: 4
- IR 386 Terrorism and Counterterrorism Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MS 401 Leadership and Management I Units: 3
- MS 402 Leadership and Management II Units: 3
- NSC 453 Leadership and Management I Units: 3
- NSC 454 Leadership and Management II Units: 3
- POSC 351 Middle East Politics Units: 4
- SSCI 382L Geographic Information Science: Spatial Analytics Units: 4

Note:

ROTC courses (AEST, MS, NSC) are not open to non-ROTC students.
IR 304 cannot be counted as both a core and an elective course.

Spatial Studies Minor

The spatial studies minor requires a minimum of 20 units, consisting of one lower-division elective, three required courses and an upper-division elective. The minor offers students an opportunity to examine some of the major challenges of the 21st century (climate change, human health and sustainability, urbanization and cultural homogenization, among others) through a spatial lens.

Required Courses (12 Units)

- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 382L Geographic Information Science: Spatial Analytics Units: 4
- SSCI 383L Geographic Information Science: Geospatial Modeling and Customization Units: 4

Lower-Division Electives (4 Units)

- ANTH 201g Introduction to Sociocultural Anthropology Units: 4
- ANTH 202g Archaeology: Our Human Past Units: 4
- ARCH 105L Fundamentals of Design Communication Units: 2
- ARCH 114 Architecture: Culture and Community Units: 2
- ARCH 220 The Architect's Sketchbook Units: 2
- BISC 102Lgx Humans and Their Environment Units: 4
- BISC 140g Our Blue Planet in a Changing Climate Units: 4
- CLAS 212 Archaeology: Interpreting the Past Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 150Lg Climate Change Units: 4
- HIST 240gp The History of California Units: 4

- POSC 265gw Environmental Challenges Units: 4
- PPD 245g The Urban Context Units: 4
- SOCI 100gm Los Angeles and the American Dream Units: 4
- SOCI 200gm Introduction to Sociology Units: 4
- SSCI 135g Maps in the Digital World Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 214g Human Populations and Natural Hazards Units: 4
- SSCI 220L Spatial Data Collection Using Drones Units: 4
- SSCI 265Lg The Water Planet Units: 4

Upper-Division Electives (4 Units)

- ANTH 481L GIS for Investigating the Past Units: 4
- ARCH 432 People, Places and Culture: Architecture of the Public Realm Units: 4
- IR 319 Human Security and Humanitarian Intervention Units: 4
- JOUR 422 Visual Journalism for Non-Majors Units: 4
- PPD 306 Visual Methods in Policy, Management, Planning and Development Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SSCI 397 Spatial Sciences Internship Units: 2, 3, 4

Master's Degree

Geographic Information Science and Technology (MS)

AHF B55B
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The online MS in Geographic Information Science and Technology requires 28 units of graduate work and provides state-of-the-art training in the core geographic information technologies (geographic information systems, global positioning systems and remote sensing, among others) and the underlying scientific principles and concepts that guide their design and use. The individual courses incorporate multiple curricular pathways tailored to the increasingly diverse backgrounds, occupations and applications that rely on geospatial data, analysis and visualization.

Course Requirements

Twenty-eight units of graduate work are required.

Core Courses (12 units)

All students complete the following courses:

- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4
- SSCI 594a Master's Thesis Units: 2
- SSCI 594b Master's Thesis Units: 2

Course Tracks

Students must choose one of the following tracks:

Spatial Data Management (12 units)

Students in the Spatial Data Management track must take the following courses:

- SSCI 582 Spatial Databases Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4

Electives (4 units)

Students in the Spatial Data Management track must choose one of the following electives:

- SSCI 575 Spatial Data Science Units: 4
- SSCI 576 Remote Sensing Applications and Emerging Technologies Units: 4
- SSCI 591 Web and Mobile GIS Units: 4

Spatial Computing (12 units)

Students in the Spatial Computing track must take the following courses:

- SSCI 582 Spatial Databases Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 591 Web and Mobile GIS Units: 4

Electives (4 units)

Students in the Spatial Computing track must choose one of the following electives;

- SSCI 576 Remote Sensing Applications and Emerging Technologies Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4

Spatial Analytics (12 units)

Students in the Spatial Analytics track must take the following courses:

- SSCI 574 Spatial Econometrics Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4
- SSCI 589 Cartography and Visualization Units: 4

Electives (4 units)

Students in the Spatial Analytics track must choose one of the following electives:

- SSCI 575 Spatial Data Science Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4

Additional Requirements

All electives are chosen in direct consultation with the student's academic adviser based on background, academic interests, etc.

The courses in this program are open to students living and/or working anywhere, including students at USC's Los Angeles, Orange County, Sacramento and Washington, D.C. centers. The master's program can be completed in two to three years as long as students take one or two courses in each of the fall, spring and summer semesters. Continuous enrollment in the fall, spring and summer terms is required in this program, including SSCI 594a, SSCI 594b and SSCI 594z summer registration.

Admission Requirements

Four groups of students are served by this program:

1. New students who wish to apply directly to the geographic information science and technology master's program.
2. Students currently enrolled in the geographic information science and technology graduate certificate program since this certificate program may serve as a possible "stepping stone" toward the master's program.
3. Students currently matriculated in a USC master's or doctoral degree program.
4. USC undergraduate students who want to stay for a fifth year and earn both bachelor's and master's degrees.

Candidates for admission among the first two groups of students must have: (1) a BA or BS degree or its international equivalent; (2) a minimum 3.0 GPA (A = 4.0). All course work taken at the undergraduate level is used to calculate the GPA. Exceptions will be made in cases of very high GRE scores or some other compelling evidence of potential to excel in graduate studies (e.g., outstanding letters of recommendation). Preference will be given to candidates with significant professional experience working with geographic information systems and related geospatial technologies.

Application Procedures

Applicants are required to submit the following documents: (1) completed application for admission, which can be found online at usc.edu/admission/graduate; (2) statement of purpose; (3) a writing sample; (4) official transcripts from all schools previously attended; and (5) two letters of recommendation. International students must submit TOEFL scores with a minimum score of 100 on the Internetbased examination, or an IELTS score of 7.

The statement of purpose should be uploaded into the online application. This statement should: (1) describe the student's motivation, field of interest and career goals; and (2) identify potential projects that the student might pursue for the master's thesis project.

The master's program utilizes rolling admissions and enrollment based on the standard academic calendar. This means that students may start the program in either the fall, spring or summer semesters.

Those interested in learning more about this program should contact Ken Watson, University of Southern California, 3616 Trousdale Parkway, AHF B55B, Los Angeles, CA 90089-0374.

Global Security Studies (MA)

The Master of Arts in Global Security Studies is a two-year program designed for students who already have a substantial undergraduate background in social sciences or relevant professional experience in subjects such as international relations, political science, environmental studies and social sciences. Students in the program may concentrate in one of three issue areas: security, intelligence and military issues; human security and humanitarian crises issues; or environmental security issues. These concentrations lead to a career in public service, the corporate world or in a nongovernmental organization (NGO) working in the ever-expanding global civil society. Students may opt to study one semester in USC's Washington DC Semester Program or at Vrije Universiteit's Institute for European Studies in Brussels, Belgium.

Requirements for the completion of this degree program are 48 units, including 8 units of credit for internship, a first year policy exercise, and a required final policy project related to a major global issue addressed in the program.

The program requirements are as follows:

Required Core Courses (12 Units)

Select three courses.

- GSEC 501 Foundations of Global Security Units: 4
- GSEC 502 Global Governance and Globalization Units: 4
- GSEC 503 Economic Analysis and Global Policy Issues Units: 4
- GSEC 504 Research Design for Policy Evaluation Units: 4

Concentrations (24 units)

Selected in consultation with an adviser, students are required to take two courses in two different concentrations (16 units) and up to two additional courses in their area of specialization (8 units).

- Security, Intelligence and Military Issues
- Human Security and Humanitarian Crises Issues
- Environmental Security Issues

Internship (8 units)

Internships for credit must be selected in consultation with a GSEC Program adviser.

Additional Requirements

First Year Policy Exercise

In the last two weeks of the second semester, those students in residence will participate in a problem-based learning policy exercise. Students will apply policy skills mastered in their first-year courses to develop a policy response to a timely real-world issue.

Final Policy Project (4 units)

The final requirement for the Master of Arts in Global Security Studies is the completion of a comprehensive policy project related to the security concentration or concentrations selected by the student. Students will explore the nature of a problem, provide a comprehensive review of related existing literature and current research, and offer possible policy prescriptions aimed at mitigating the impact of the problem explored.

The course(s) taken to complete this requirement will be selected in consultation with an adviser. Two faculty members selected by the student will supervise and evaluate the project. A student may add an external expert as a third member of the committee with the permission of the two supervising faculty members. This external member may be a faculty member at another university or a staff member in a government agency or nongovernmental organization.

Students must earn a grade of B or higher to pass this requirement. A list of selected topics and an archive of completed projects will be available for review.

Minimum Units Required: 48

Human Security and Geospatial Intelligence (MS)

The online MS in Human Security and Geospatial Intelligence requires 34 units of graduate work and provides a set of viable tools for graduate-level planning and leadership on future human security and GEOINT work within the United States Department of Defense, State Department, related U.S. support and non-governmental agencies, and within comparable international organizations. The program provides workforce-focused leadership, management, and technical knowledge that gives graduates the skills and expertise to lead and manage new initiatives in the rapidly shifting landscape of GEOINT applications, data collection systems, analytic methods, and mission support.

Core Courses (28 units)

Students must take the following courses.

- SSCI 577 Human Security and Disaster Management Units: 4
- SSCI 578 The Practice of Geospatial Leadership Units: 4
- SSCI 579 Geospatial Intelligence Tradecraft Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4

Elective (4 units)

Select one of the following.

- SSCI 576 Remote Sensing Applications and Emerging Technologies Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 589 Cartography and Visualization Units: 4

Capstone (2 units)

Students must take the following course in their final semester.

- SSCI 595 Applied Geospatial Intelligence Problem Solving Units: 2

Population, Health and Place (MS)

The Master of Science in Population, Health and Place trains students for applied professional research in geospatial public health, led by faculty from the USC Dornsife Department of Sociology, the Department of Preventive Medicine of the Keck School of Medicine of USC and the USC Dornsife Spatial Sciences Institute. Students do not complete a thesis but take courses in various modeling and computation approaches in demography, biostatics, epidemiology and spatial sciences.

Required Course Work (10 units)

- SSCI 600 The Geography of Life and Death Units: 4
- SSCI 601a Population, Health and Place Research Practicum Units: 2
- SSCI 681 Advanced Quantitative Methods for Population, Health and Place Units: 4

Electives (20 units)

Students must complete five of the following courses.

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4

- SOCI 625 Demographic Methods Units: 4
- SOCI 656 Social Demography Units: 4
- SOCI 658 Sociology of Health and Medicine Units: 4
- SSCI 680 Advanced Spatial Computing Units: 4
- SSCI 683 Principles of Spatial Data Analysis Units: 4
- SSCI 684 Spatial Modeling with GIS Units: 4

Total Units: 30

Spatial Data Science (MS)

Dornsife College of Letters, Arts and Sciences, Spatial Sciences Institute
Viterbi School of Engineering, Computer Science/Data Science
spatial.usc.edu
datascience.usc.edu
Program Director (Spatial Science): John P. Wilson, PhD
Program Associate Director: Susan H. Kamei, PhD
Program Co-Director (Data Science): Yolanda Gil, PhD

The Master of Science in Spatial Data Science is a cross-disciplinary joint degree program offered by the Viterbi School of Engineering and the Dornsife College of Letters, Arts and Sciences. Students must be admitted by both the Viterbi School of Engineering and the Dornsife College of Letters, Arts and Sciences.

Geospatial data accessibility, spatial decision support systems and geospatial problem solving environments are revolutionizing most industries and disciplines, including health care, marketing, social services, human security, education, environmental sustainability and transportation. Spatial data science professionals draw upon engineering, computer science and spatial sciences principles to solve data-intensive, large-scale, location-based problems.

The USC Master of Science in Spatial Data Science provides students with the knowledge and skills to:

- Understand and contribute toward the significant technical and societal challenges created by large location-based data environments, including their architecture, security, integrity, management and scalability.
- Understand how spatial data can be acquired and used to support various forms of analysis, modeling and geo-visualization in large data environments.
- Understand how artificial intelligence, machine learning and data mining can be used to augment the typical geographic information science (GIS) concepts and workflows to intelligently mine data to provide enterprise-centric solutions for a variety of societal challenges and issues spanning the public, private and not-for-profit sectors.

Students complete a core set of courses to provide a foundation in information engineering, spatial analysis and thinking with their choice of electives to optimize preparation for their preferred career path and unique professional opportunities.

Students will understand the overall field of data science, the role of the analyst and/or data scientist and the domains where spatial data science skills can be applied to critical organization missions. They will understand how data management, data visualization and artificial intelligence techniques (specifically data mining and machine learning) are critical to the spatial analysis process and how these can be applied to real world challenges. Throughout their course work, students will assemble a digital portfolio of work product that is intended to help them demonstrate their capabilities and skills for the job market.

The curriculum is designed to be accessible to students with any background, including students with a geography background and no computer science knowledge as well as students with a computer science background and no geography knowledge. Students with undergraduate degrees in computer science, engineering, science or mathematics will acquire the necessary knowledge to analyze spatial data with diverse sources and purposes, and can request to replace introductory data science courses with more advanced ones. Students with undergraduate degrees in geography, geographic information science (GIS) and related disciplines will acquire formal and practical data science skills, and can request to substitute introductory courses in the spatial core with more advanced ones. There is no requirement of prior knowledge of programming or computer science, as the curriculum is designed with special introductory courses that are accessible to students with diverse backgrounds.

For information refer to the Spatial Sciences Institute.

Degree Requirements

A minimum of 32 units with an overall cumulative GPA of at least 3.0 is required for the MS in Spatial Data Science. Students should consult with an academic adviser prior to registering for any classes.

Required Courses (6 courses/24 units)

Foundation (take both courses):

- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Spatial core (take both courses):

- SSCI 575 Spatial Data Science Units: 4
- SSCI 586 GIS Programming and Customization Units: 4

Data Science core (take both courses):

- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Spatial and Data Science Elective Courses (8 units)

Spatial elective (4 units)

- SSCI 582 Spatial Databases Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4
- SSCI 591 Web and Mobile GIS Units: 4

Data Science elective (4 units)

- CSCI 587 Geospatial Information Management Units: 4 *
- DSCI 551 Foundations of Data Management Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 555 Interaction Design and Usability Testing Units: 4
- DSCI 560 Data Science Professional Practicum Units: 4

Note:

*SSCI 582 meets the CSCI 585 prerequisite for CSCI 587 and must be taken before it.

Spatial Economics and Data Analysis (MS)

The widespread diffusion of smartphones, grid sensors and Internet technology has created vast new spatial data sets. One example is residential electricity consumption for each house in California for each 15 minutes. Another example is the universe of all UBER rides in San Francisco in a given month. To analyze these data in order to spot patterns and test hypotheses requires three skills. First, the analyst must be able to manipulate these huge data bases in order to create spatial databases plus maps and other geovisualizations. Second, the analyst must have a sophisticated understanding of spatial economics in order to have a framework for understanding potential causal relationships that can be inferred from the data. Third, the analyst must be trained in spatial analytics and statistics to be able to generate interesting new facts that form the basis for testing the spatial and economic theories and producing new actionable knowledge.

This degree trains students in spatial economics and spatial sciences. By combining the insights from these two different fields, there are significant synergies. The geospatial curriculum teaches best practices in spatial data creation, mapping and data manipulation while simultaneously also teaching students how the economist's perspective informs one's understanding about "why" such patterns are observed.

Trained students will gain new insights about emerging business opportunities, environmental trends, and urban crime and congestion trends. Such spatial patterns are directly tied to real estate valuation and to identifying emerging opportunities and challenges for companies operating in cities around the world. Given the large (and growing) number of Big Data startups in the Los Angeles area, we will use our network of contacts to place our students as interns in these firms.

The program is 32 units in length.

Requirements for Completion

To complete the program and receive a degree, specific courses must be completed.

Students should note the following USC degree requirements:

- A minimum of 32 units must be taken in residence at USC. The units applied toward this requirement must be taken for a letter grade and cannot be taken on a P/NP or CR/NC basis.

Required Courses (24 Units)

Students must complete all of the following required courses:

- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4
- ECON 570 Big Data Econometrics Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 574 Spatial Econometrics Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4

Elective Options (8 Units)

Students must complete one course from SSCI (4 units) and one course from ECON (4 units):

- ECON 506 Field Experiments Units: 4
- ECON 515 Time Series Analysis Units: 4
- ECON 584 Economic Consulting and Applied Econometrics Units: 4
- SSCI 575 Spatial Data Science Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 589 Cartography and Visualization Units: 4

Graduate Certificate

Geographic Information Science and Technology Graduate Certificate

AHF B55B
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The online Graduate Certificate in Geographic Information Science and Technology requires 16 units of graduate work and provides state-of-the-art training in some of the core geographic information science technologies and the underlying scientific principles and concepts that guide their design and use.

Course Requirements

Sixteen units of graduate work are required.

Core Courses (8 Units)

Students must take both of the following courses:

- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4

Electives (8 Units)

Students must choose two of the following courses:

- SSCI 574 Spatial Econometrics Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4
- SSCI 591 Web and Mobile GIS Units: 4

Note:

The courses in this program are open to students living and/or working anywhere, including students at USC's Los Angeles, Orange County, Sacramento and Washington, D.C. centers. The certificate program can be completed in one to two years as long as students take one or two courses in each of the fall, spring and summer semesters. The graduate certificate program can serve as a possible "stepping stone" toward the geographic information science and technology master's degree program. Continuous enrollment in the fall, spring and summer terms is required in this program.

Geospatial Intelligence Graduate Certificate

AHF B55B
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The online Graduate Certificate in Geospatial Intelligence requires 16 units of graduate work and provides state-of-the-art training in some of the core geospatial technologies and the underlying scientific concepts and analytical methods that guide their design and use to solve a variety of human security problems and challenges.

Course Requirements

Sixteen units of graduate work are required.

Core Courses (12 Units)

- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 577 Human Security and Disaster Management Units: 4
- SSCI 579 Geospatial Intelligence Tradecraft Units: 4

Electives (4 Units)

Students choose one of the following:

- SSCI 576 Remote Sensing Applications and Emerging Technologies Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4

Note:

The courses in this program are open to students living and/or working anywhere, including students at USC's Los Angeles, Orange County, Sacramento and Washington, D.C. centers. The certificate program can be completed in as few as two and no more than four semesters depending on the numbers of courses taken in each of the fall, spring and summer semesters. The graduate certificate program can serve as a possible "stepping stone" toward the geographic information science and technology master's degree program. Continuous enrollment, including summer, is required.

Geospatial Leadership Graduate Certificate

AHF B55B
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The online Graduate Certificate in Geospatial Leadership requires 16 units of graduate work. The capstone course focuses on the cultivation of leadership skills and practices, and the electives afford students the opportunity to strengthen their knowledge of selected geospatial technologies, the underlying scientific concepts and analytical methods, and the ways they can be used in decision-making.

Course Requirements

Sixteen units of graduate work are required.

Core Courses (8 Units)

- SSCI 578 The Practice of Geospatial Leadership Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4

Electives (8 Units)

Students must choose two of the following:

- SSCI 574 Spatial Econometrics Units: 4
- SSCI 575 Spatial Data Science Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 591 Web and Mobile GIS Units: 4

Additional Requirements

The courses in this program are open to students living and/or working anywhere, including students at USC's Los Angeles, Orange County, Sacramento and Washington, D.C. centers. The certificate program can be completed in as few as two and no more than four semesters depending on the numbers of courses taken in each of the fall, spring and summer semesters. Continuous enrollment, including summer, is required.

Admission Requirements

Two groups of students are served by this program:

1. New students who wish to apply directly to one of the spatial sciences graduate certificate program.
2. Students currently matriculated in a USC master's or doctoral degree program (other than the MS in geographic information science and technology).

Candidates for admission among the first group of students must have: (1) a BA or BS degree or its international equivalent; (2) a minimum 3.0 GPA (A = 4.0) undergraduate GPA. All course work taken at the undergraduate level is used to calculate the GPA. Exceptions will be made in cases of very high GRE scores or some other compelling evidence of potential to excel in graduate studies (e.g., outstanding letters of recommendation). Preference will be given to candidates with significant professional experience working with geographic information systems and related geospatial technologies.

Application Procedures

Applicants are required to submit the following documents: (1) completed application for admission, which can be found online at usc.edu/admission/graduate; (2) statement of purpose; (3) official transcripts from all schools previously attended. International students must submit TOEFL scores with a minimum score of 100 on the Internet-based examination, or an IELTS score of 7.

The graduate certificate program utilizes rolling admissions and enrollment based on the standard academic calendar. This means that students may start the program in either the fall, spring or summer semesters.

Those interested in learning more about this program should contact Ken Watson, University of Southern California, 3616 Trousdale Parkway, AHF B55B, Los Angeles, CA 90089-0374.

Remote Sensing for Earth Observation Certificate

The online graduate certificate in Remote Sensing for Earth Observation requires 16 units of graduate course work in the rapidly evolving and expanding area of remote sensing and geographic information science (GIS) as it is applied to Earth observation, spatial data collection and the integration and management of Big Data, including human-generated geo-referenced information.

Required Courses

Students must take both of the following courses:

- SSCI 576 Remote Sensing Applications and Emerging Technologies Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Elective Options

Students must take two of the following:

- SSCI 575 Spatial Data Science Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- Additional SSCI course selected in consultation with an adviser

Spatial Analytics Graduate Certificate

AHF B56C
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The Graduate Certificate in Spatial Analytics requires 12 units of graduate work and provides doctoral students with an opportunity to learn about the fundamental guiding principles (i.e. spatial cognition, positioning, spatial representations and data models, map projections and datums, modifiable unit area problems, remote sensing, spatial analysis and modeling techniques and cartographic principles) and a series of rapidly evolving geospatial technologies that take advantage of the Cloud and the Web as well as advances in analytical techniques, modeling tools and online data sources.

Course Requirements

Twelve units of graduate work are required.

Courses (12 Units)

- SSCI 680 Advanced Spatial Computing Units: 4
- SSCI 683 Principles of Spatial Data Analysis Units: 4
- SSCI 684 Spatial Modeling with GIS Units: 4

Note:

The courses in this program are open to students enrolled in any one of USC's doctoral programs. The three courses that make up this graduate certificate provide a vibrant and evolving series of learning opportunities for doctoral students wishing to look at their own disciplines and potential research topics through a spatial lens.

Doctoral Degree

Population, Health and Place (PhD)

Course Requirements

Each student must take at least 44 substantive units in preventive medicine (health), sociology (population) and the spatial sciences (place) at USC during the first three years. Students must complete two laboratory rotations (4 units total) as well as a set of core courses that cover topics in biostatistics, demography, epidemiology and spatial sciences, the specifics of which are provided in the Spatial Sciences Institute's handbook for graduate students. Additional course requirements vary according to specialty area and/or dissertation topic.

Research Requirement

During the first and second year, students work on either a refereed journal article, book chapter or a research report of comparable scope and quality. A research project done at USC is required of all students (by the conclusion of the summer following the student's second year), regardless of prior graduate work.

Screening Procedure

The student's ability to master graduate-level course material is first evaluated after completion of no more than 24 units, and not later than the third semester of graduate work at USC. The final screening procedure is the successful completion of a second-year project requirement. This evaluation is based on the student's performance in courses taken and on an evaluation of the student's research competence as reflected in the first- and second-year research projects. The projects are evaluated by a committee of three faculty, including the student's primary adviser.

Additionally, students are evaluated each year based on adviser input, course work and research progress.

Guidance Committee

In preparation for the qualifying examination, each student assembles a five-person guidance committee to direct the student's program of studies and evaluate research competence. The committee must include at least one member from the lists of eligible faculty in Demography, Preventive Medicine and Spatial Sciences listed in the each of the contributing fields specified in

the Spatial Sciences Institute's handbook for graduate students. The committee continues to serve until after the qualifying examination has been passed, the dissertation topic approved, and the student admitted to candidacy for the PhD. At that time the student assembles a dissertation committee of four or more members (usually consisting of members of the guidance committee, one of whom must be a faculty member from outside the three contributing departments), who advise on and evaluate the dissertation.

Qualifying Examination

The qualifying examination evaluates the student's ability to conduct independent scholarship and research. The student is evaluated based on oral and written presentation of two elements: a written review paper or written exam and the dissertation proposal. The qualifying examination is planned, administered and evaluated by the student's guidance committee. It should be taken no later than during the sixth semester.

Doctoral Dissertation

A student is expected to engage in research activity throughout his or her graduate career, leading up to and culminating in the Ph.D. dissertation. The dissertation is based on an original investigation, usually involving empirical data.

Defense of the Dissertation

The student's doctoral dissertation is defended at either a defense oral, based on an approved preliminary copy of the dissertation, or a final oral, based on the final version of the dissertation.

Advisement

Each student has a major adviser who is usually in the specialty area. The guidance committee should be formed at least one semester before the student takes the qualifying examination. Advisement concerning graduate school requirements may also be sought from the Spatial Sciences staff student adviser and the faculty member serving as director of graduate studies.

Residency Requirement

A minimum of 24 graduate units at USC is required for the doctoral degree.

Courses

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- SOCI 625 Demographic Methods Units: 4
- SOCI 656 Social Demography Units: 4
- SSCI 600 The Geography of Life and Death Units: 4
- SSCI 601a Population, Health and Place Research Practicum Units: 2
- SSCI 601b Population, Health and Place Research Practicum Units: 2
- SSCI 680 Advanced Spatial Computing Units: 4
- SSCI 681 Advanced Quantitative Methods for Population, Health and Place Units: 4
- SSCI 683 Principles of Spatial Data Analysis Units: 4
- SSCI 684 Spatial Modeling with GIS Units: 4
- SSCI 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- SSCI 794a Doctoral Dissertation Units: 2
- SSCI 794b Doctoral Dissertation Units: 2
- SSCI 794c Doctoral Dissertation Units: 2
- SSCI 794d Doctoral Dissertation Units: 2
- SSCI 794z Doctoral Dissertation Units: 0

Thematic Option

Thematic Option, the university's general education core honors program, is an alternative to regular core general education requirements. This rigorous, interdisciplinary program provides a strong, tight-knit, intellectual community for undergraduate students and requires extensive reading and writing.

The program teaches students to formulate ethical questions, to analyze and understand the reasoning behind views that differ from their own, to recognize the roles that historical, political and social forces play in matters of personal choice, and to express their views coherently in writing.

To maintain small classes and allow for extensive discussion, Thematic Option is limited to just under 200 students each year. To apply, students must be highly motivated, have a record of academic achievement, and, most importantly, love learning.

Allen Hancock Foundation Building 410
(213) 740-2955
Email: thematicoption@dornsife.usc.edu
dornsife.usc.edu/thematic-option
Executive Director: Richard Edinger, PhD
Faculty
Associate Professor (Teaching) of Writing: Trisha Tucker, PhD
Assistant Professors (Teaching) of Writing: Amy Cannon, MFA; Michael Petitti, PhD
Lecturer: Patience Moll, PhD

Program Requirements

The Thematic Option honors curriculum consists of four interdisciplinary core classes taught around distinct themes: CORE 101g Symbols and Conceptual Systems: Thematic Option Honors Program ; CORE 102gp Culture and Values: Thematic Option Honors Program ; CORE 103g The Process of Change in Science: Thematic Option Honors Program; and CORE 104gw Change and the Future: Thematic Option Honors Program .

CORE 111 Writing Seminar I: Thematic Option Honors Program and CORE 112 Writing Seminar II: Thematic Option Honors Program make up the 8 units of writing to meet the university requirement. The classes are accompanied by individual, bi-weekly tutorials. CORE 111, which requires concurrent enrollment with an affiliated CORE 102, focuses on critical thinking and analysis, and academic argument and reasoning through close reading of primary texts. CORE 112 introduces research methodology as it teaches students to convey complex ideas, to advance sophistication of essay structure, grounded argument, and to identify and address specific audiences persuasively in academic discourse.

The core Thematic Option curriculum is supplemented by four additional courses taken from the General Education Program: one in Quantitative Reasoning, one in The Arts, one in Social Analysis, and one in the Physical Sciences. Completion of CORE 102 and CORE 111 with a passing grade satisfies the university's General Education Seminar requirement.

Minor

Thematic Approaches to Humanities and Society Minor

The interdisciplinary minor in Thematic Approaches to Humanities and Society allows students to examine a range of thematic and theoretical approaches to understanding culture and society from multiple standpoints in the humanities. The minor is rich in course and schedule options, enabling students with an interest in the humanities to continue their studies. It also includes co-curricular events and advisement from Thematic Option staff. Thematic approaches to humanities and society builds on the intellectual community developed in the Thematic Option honors program and is open to all interested students.

The minor focuses on themes such as interdisciplinary perspectives and modes of inquiry; approaches to criticism and history; reification, ideology, contextualization; and knowledge, human diversity and social relations. Students choose six 4-unit

classes, including one lower-division elective, one upper-division Thematic Option class (CORE 301 Modes of Inquiry), and four upper-division electives. Students also complete a 2-unit reading salon (CORE 200 Liberal Arts Reading Salon).

Requirements, Lower-Division (Choose One, 4 Units)

- CLAS 150gp The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- HIST 102gm The Worlds of Medieval Europe Units: 4
- PHIL 115g Ancient Greek Culture and Society Units: 4
- REL 132g Origins of Western Religions Units: 4

Course Requirements (6 Units)

- CORE 200 Liberal Arts Reading Salon Units: 2
- CORE 301 Modes of Inquiry Units: 4

Requirements, Upper-Division (16 Units)

Enroll in four of the following, at least one from List A, one from List B and not more than one from List C. Not more than two may come from any one department. Courses must be chosen in consultation with a Thematic Option adviser.

List A

Early:

- CLAS 310 Pagans and Christians Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 333 Cult and City in Ancient Greece Units: 4
- CLAS 470 Democracies Ancient and Modern Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 345 Korean Civilization Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 355 Studies in Chinese Thought Units: 4
- EALC 365 Studies in Japanese Thought Units: 4
- REL 311g The Bible in Western Literature Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4

Modern:

- COLT 426 Utopias Units: 4
- COLT 445 Europe and the Writing of Others Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 335m Korean American Literature Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 352g Chinese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- FREN 446 Contemporary French Thought Units: 4
- GERM 370 Literature and Culture in Vienna at the Turn of the Century Units: 4
- GERM 372g Literature and Culture in Berlin in the 1920s Units: 4
- PHIL 337 Political Philosophy Units: 4
- PHIL 355 Existentialism Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- REL 340 Introduction to Indian Philosophy Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4
- SLL 344g Tolstoy: Writer and Moralist Units: 4

List B

Humanities and Society:

- COLT 448 Multilingual Encounters Units: 4
- COLT 475 Politics and the Novel Units: 4
- ENGL 373g Literature and Society Units: 4
- ENGL 374m Literature, Nationality and Otherness Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- REL 366 Religion and Social Change Units: 4
- REL 462 Religion and Violence Units: 4
- SLL 345g Literature and Philosophy: Dostoevsky Units: 4
- SLL 348g The Novels of Vladimir Nabokov Units: 4

Critical Approaches:

- CLAS 380 Approaches to Myth Units: 4
- COLT 391 Literary Criticism from Plato to Postmodernism Units: 4
- COLT 454 Aesthetic Philosophy and Theory Units: 4
- ENGL 372 Literature and Related Arts Units: 4
- ENGL 379 History of Literary Criticism Units: 4
- ENGL 380 Modern Literary Criticism: Theory and Practice Units: 4
- LING 466 Word and Phrase Origins Units: 4
- PHIL 361 Philosophy of Religion Units: 4
- PHIL 445 Philosophy of the Arts Units: 4

List C

Social Science Approaches:

- ANTH 372 Interpretation of Myth and Narrative Units: 4
- HIST 201 Approaches to History Units: 4
- HIST 329 Madness and Society in the Modern Age Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- POSC 381 Sex, Power, and Politics Units: 4
- POSC 476 Contemporary Political Thought Units: 4
- SOCI 350 Social Exclusion, Social Power and Deviance Units: 4
- SOCI 360m Social Inequality: Class, Status and Power Units: 4

The Writing Program

Writing Program courses are designed to help students develop practices of reading, writing and critical reasoning that are necessary for success in academic and professional discourse. Writing Program pedagogy emphasizes small classes and frequent conferences in order to provide the highly individuated instruction and careful feedback necessary to extend the writing process and enhance the rhetorical judgment of each student. To meet the university's writing requirement, students must complete WRIT 150 (or its equivalent) and an advanced writing course, WRIT 340.

Jefferson Building 150 (JEF 150, mc 1293)
(213) 740-1980
FAX: (213) 740-4100
Email: writprog@usc.edu
dornsife.usc.edu/writing-program
Director: Norah Ashe-McNalley, PhD
Associate Directors: Jeffrey Chisum, PhD; Mariko Dawson Zare, PhD

Faculty
Professor (Teaching): Mark Marino, PhD
Associate Professors (Teaching): Norah Ashe, PhD; Jennifer S. Bankard, PhD; Stephanie Bower, PhD; Michael Bunn, PhD; Jessica Cantiello, PhD; LauraAnne Carroll-Adler, PhD; Jeffrey Chisum, PhD; James Condon VII, PhD; Andrew De Silva, MPW; Elizabeth Durst, PhD; William Feuer, PhD; Farida Habeeb, PhD; Nathalie Joseph, PhD; Stephen Mack, PhD; Matthew Manson, PhD; Amy Meyereson, MPW; Indra Mukhopadhyay, PhD; John Murray, EdD; Daniel Pecchenino, PhD; Shefali Rajamannar, PhD; Eric Rawson, PhD; Sandra Ross, MA; Deborah Sims, PhD; Scott Smith, PhD; David Tomkins, PhD; Robert Waller Jr., MPW; Ellen Wayland-Smith, PhD; William Wyatt, MPW
Assistant Professors (Teaching): Emily Artiano, PhD; Justin Bibler, PhD; Tamara Black, PhD; Amanda Bloom, PhD; Ryan Boyd, PhD; Brent Chappelow, PhD; James Clements, PhD; Nicholas De Dominic, MFA; Carlos Delgado, MFA; Daniel Dissinger, PhD;

Antonio Elefano, JD; Amber Foster, PhD; Rochelle Gold, PhD; Amanda Hobmeier, PhD; Ashley Karlin, PhD; Meridith Kruse, PhD; Rory Lukins, PhD; P.T. McNiff, MPW; Sarah Mesle, PhD; Cory Nelson, PhD; Vanessa Osborne, PhD; Benjamin Pack, MPW; Leah Pate, PhD; Daniel Pecchenino, PhD; Steve Posner, MPW; DeAnna Rivera, JD; Alisa Sanchez, PhD; Atia Sattar, PhD; Anne Schindel, PhD; Mary Traester, PhD
Lecturers: Christ Belcher, MFA; William Gorski, PhD; Taiyaba Husain, MFA; Jessi Johnson, MPW; Shana Kraynak, PhD; Kate Levin, MFA; Dana Milstein, PhD; Chris Muniz, PhD; Tanvi Patel, PhD; Stephanie Payne, MFA; Jessica Piazza, PhD; Michelle Rosado, PhD; Isabel Sobral Campos, PhD; Patti Taylor, PhD

Lower-Division Requirement

WRIT 150 Writing and Critical Reasoning–Thematic Approaches focuses on the rhetorical principles and techniques necessary for successful college-level writing. Special attention is paid to critical thinking and reading, sentence-level fluency, research techniques, and the elements of academic argument and reasoning. WRIT 150 will not satisfy the lower-division writing requirement if taken on a Pass/No Pass basis.

Advanced Writing Requirement

All students at USC, except those who satisfy their general education requirements through the Thematic Option Program, must complete WRIT 340 Advanced Writing, an upper-division course designed to help students write on topics related to their disciplinary or professional interests. Students usually enroll in WRIT 340 in their junior year, and may not take the course earlier than their sophomore year. Different schools within the university offer sections of this course. Students should consult their major departments to determine which version of WRIT 340 best complements their program of study. WRIT 340 will not satisfy the university's advanced writing requirement if taken on a Pass/No Pass basis.

All classes that meet the university's advanced writing requirement teach students to write clear, grammatical, well-structured prose; to discover and convey complex ideas critically; and to appreciate the nuances of effective argumentation. The principal aim of the requirement is to develop a student's capacity to formulate thoughtful and compelling writing for specific academic, professional and public audiences.

Preparatory Course Work

Some students are better served by taking a preparatory course before they enroll in WRIT 150. Entering freshmen who score below a specified level on the verbal portion of the SAT take the University Writing Examination. Based on the results of this examination, certain students enroll in WRIT 120 Introduction to College Writing or WRIT 121 Introduction to College Writing in a Second Language during their first semester at USC.

International students take the University Writing Examination after having completed any course work required by the American Language Institute.

Transfer Credit

Students may complete the lower-division requirement by completing an equivalent second-semester composition course that is taken for a letter grade option (not Pass/No Pass) at another institution after high school graduation and prior to enrolling at USC. Equivalent transfer credit is determined by the university's articulation officer. The advanced writing requirement must be completed at USC.

Time Limits

Students should complete the lower-division writing course requirement by the end of their first year at USC and must complete it before they enroll in their 65th unit. Transfer students who have not completed the lower-division requirement prior to entering USC should enroll in WRIT 150 during their first semester at USC, and must enroll in WRIT 150 no later than their 19th unit (second semester) at USC.

USC Annenberg School for Communication and Journalism

The USC Annenberg School for Communication and Journalism is an international leader in education and scholarship in the fields of communication, journalism, public diplomacy and public relations. The school offers a comprehensive curriculum emphasizing the core skills of leadership, innovation, service and entrepreneurship while drawing upon the resources of a networked university located in the media capital of the world. USC Annenberg's commitment to the converged practice of communication and journalism, interdisciplinary studies, and collaboration makes it unique among peer institutions. Students learn from theory and practice, and the school's programs put it at the crossroads of media, technology and culture.

USC Annenberg's nationally accredited School of Journalism provides experience for students in all media platforms, with a digital newsroom, state-of-the-art editing equipment for radio and television news production, and the opportunity to work at on-campus media outlets. The school's public relations program prepares students to thrive in advocacy communication, learning to write and communicate targeted messages across media platforms. The School of Communication's multidisciplinary curriculum explores how human interaction and technology affect communities, businesses, nations and the world, preparing students for careers in communication, persuasion and leadership. USC Annenberg's active internship program and study abroad opportunities give students the broad, global perspective required to be successful professionals.

USC Annenberg alumni fill top posts in the communication and media industries, and remain an invaluable resource to students and faculty. USC Annenberg's more than 200 faculty members have been recognized in diverse fields, and their expertise challenges students to become communication leaders.

Administration

Willow Bay, MBA, *Dean, Walter H. Annenberg Chair in Communication, Professor of Journalism*
Debra Lawler, MA, *Senior Associate Dean, Administration*
Hector Amaya, PhD, *Director, School of Communication, Professor of Communication, Associate Dean for Diversity, Inclusion and Access*
Gordon Stables, PhD, *Director, School of Journalism, Clinical Professor of Communication*
François Bar, PhD, *Associate Dean for Faculty Affairs, Professor of Communication*
Emily Cavalcanti, MA, *Associate Dean, Communication and Marketing*
Vince Gonzales, MA, *Associate Dean, Student Services, Professor of Professional Practice of Journalism*
Allyson Hill, MA, *Associate Dean, Admissions*
Tracy Mendoza, MBA, *Associate Dean, Development and External Relations*
Lynn Carol Miller, PhD, *Associate Dean, Research, Professor of Communication*
Dave Racewicz, BA, *Associate Dean, Finance*
James Vasquez, MBA, *Associate Dean, Operations*
Hernan Galperin, PhD, *Assistant Dean, Excellence in Teaching, Associate Professor of Communication*

School of Communication

Annenberg School for Communication and Journalism (ASC) 305
(213) 740-0900 (academic inquiries)
(213) 740-3951 (administrative)
(213) 821-0770 (admission inquiries)
FAX: (213) 740-3913
annenberg.usc.edu
Director: Hector Amaya, PhD

Faculty

Walter H. Annenberg Chair in Communication: Willow Bay, MBA
University Professor and Annenberg Family Chair in Communication Leadership: Geoffrey Cowan, LLB
University Professor and Wallis Annenberg Chair in Communication Technology and Society: Manuel Castells, PhD
Chair in Cross-Cultural Communication: Josh Kun, PhD
Provost Professor of Communication, Journalism and Cinematic Arts: Henry Jenkins, PhD
Professors: Hector Amaya, PhD *(Associate Dean, Diversity, Inclusion, Equity and Access)*; Jonathan D. Aronson, PhD; Sarah Banet-Weiser, PhD; François Bar, PhD *(Associate Dean, Faculty Affairs)*; Manuel Castells, PhD; Geoffrey Cowan, LLB*; Nicholas Cull, PhD; G. Thomas Goodnight, PhD; Larry Gross, PhD; Thomas A. Hollihan, PhD; Andrea Hollingshead, PhD; Henry Jenkins, PhD (*Journalism)*; Robert Kozinets, PhD *(Journalism)*; Josh Kun, PhD *(Journalism)*; Lynn C. Miller, PhD *(Associate Dean, Research)*; Sheila T. Murphy, PhD; Philip Seib, JD *(Journalism)*; Ernest J. Wilson III, PhD
Associate Professors: Michael Ananny, PhD *(Journalism)*; Ben Carrington, PhD *(Journalism)*; Christina Dunbar-Hester, PhD; Emilio Ferrara, PhD *(Computer Science)*; Robeson Taj Frazier, PhD (*Director, Doctoral Program)*; Hernan Galperin, PhD *(Assistant Dean, Excellence in Teaching)*; Randall Lake, PhD; Jennifer Petersen, PhD; Patricia Riley, PhD *(Director, Global Communication Master's Program)*; Stacy Smith, PhD; Robin Stevens, PhD; Douglas Thomas, PhD; Jay Wang, PhD *(Journalism, Co-Director, Public Diplomacy Master's Program)*; Dmitri Williams, PhD; Diane Winston, PhD *(Journalism)*
Assistant Professors: Allissa Richardson, PhD *(Journalism)*; Marlon Twyman II, PhD; Cristina Mejia Visperas, PhD; Lindsay Young, PhD
Clinical Professors: Daniela Baroffio, PhD *(Director, Digital Social Media Master's Program)*; David Craig, PhD *(Co-Director, Global Communication Master's Program)*; Mathew Curtis, PhD; Daniel Durbin, PhD; Colleen M. Keough, PhD; Ben Lee, PhD (*Associate Director, Communication Management Master's Program)*; Mark Lloyd, JD; Karen North, PhD; Jillian Pierson, PhD; Robert Scheer, BA; Paolo Sigismondi, PhD; Christopher H. Smith, PhD; Gordon Stables, PhD (*Director, School of Journalism*); Alison Trope, PhD *(Director, Undergraduate Studies)*
Clinical Associate Professors: Robert Banks, PhD (*Co-Director, Public Diplomacy Master's Program)*; Carmen Lee, PhD; Brad Shipley, PhD
Clinical Assistant Professors: Carlos Godoy, JD, PhD; Hye Jin Lee, PhD; Nithya Muthuswamy, PhD; Jessica Neff, PhD *(Co-Director, Communication Data Science Master's Program)*; Courtney Pade, PhD (*Assistant Director, Communication Management Master's Program)*
Lecturers: Rook Campbell, PhD; Kiranjeet Dhillon, PhD; Sean Kennedy, PhD (*Director, Trojan Debate Squad*)
Research Professors: Jeffrey Cole, PhD *(Director, Center for the Digital Future)*; Kate Crawford, PhD; Jerrold D. Green, PhD; Colin Maclay, PhD *(Director, Annenberg Innovation Lab)*
Adjunct Faculty: Stylés Akira, PhD; Kasia Anderson, PhD; Angela Barrick, MA; Morten Bay, PhD; William Blum, JD; Yomna Elsayed, PhD; Laurel Felt, PhD; Mayanna Framroze, PhD; Chelsea Graham, PhD; Jeffrey Hirsch, MS; James Hubbard, MA, MDiv; Tom Kemper, PhD; Julianna Kirschner, PhD; Caroline Leach, MA; Christie Ly, BA; Cynthia Martinez, PhD; Julia Matthews, PhD; Frederick Nager, MBA; Ariela Nerubay Turndorf, MBA; Michael Overing, JD; Paula Patnoe Woodley, MA; Kelton Rhoads, PhD; Konrad Ribeiro, MBA; Catie Saralegui; Andrew Schrock, PhD;

Aaron Settipane, MA; Allison Soeller, PhD; Simon Uwins, MA; Michael Wissot, MBA, MIM
Emeritus Professors: Sandra Ball-Rokeach, PhD; Peter Clarke, PhD; Walter R. Fisher, PhD; Janet Fulk, PhD; Margaret McLaughlin, PhD; Peter Monge, PhD*; A. Michael Noll, PhD; Rebecca Weintraub, PhD
**Recipient of university-wide or school teaching award.*

Degree Programs

The School of Communication offers programs of study leading to a BA in Communication as well as eight minors and five interdisciplinary minors. The school offers progressive degrees in Master of Science in Communication Data Science, Master of Communication Management, Master of Digital Social Media, and Master of Public Diplomacy; a Master of Science in Communication Data Science (joint program with the Viterbi School of Engineering); a Master of Communication Management; a Master of Science in Digital Social Media; a Master of Science in Digital Media Management; a Master of Arts in Global Communication (in conjunction with the London School of Economics); two Master of Public Diplomacy programs; and an MA and PhD in Communication. The Communication Management Program has established dual degree programs with the USC Gould School of Law and Hebrew Union College.

Undergraduate Degrees

The School of Communication offers programs of study leading to a BA in Communication and minors in Communication Policy and Law; Communication Technology Practices and Platforms; Cultural Diplomacy; Culture, Media and Entertainment; Justice, Voice and Advocacy; Media Economics and Entrepreneurship; Professional and Managerial Communication; and Sports Media Studies. It also offers interdisciplinary minors in Cultural Studies; Global Communication; Health Communication; Law and Society; and Photography and Social Change. Many communication majors pursue, with the school's encouragement, a double major with another discipline or a minor to complement the major. Through careful planning, students can complete these options within four years.

Students must consult with an undergraduate academic adviser at least once each semester to explore course selections within the major, the minor, general education offerings, and electives.

Admission

Admission is competitive. Fall 2020 first-year admitted students had an average GPA of 3.82 unweighted with an SAT score of 1370-1500 (middle 50%). Transfer admitted students had an average college GPA of 3.88. For admission information and deadlines, refer to the USC Admission website. All transfer applicants must review the transfer admission application guidelines on the Annenberg Admissions website; contact the Annenberg Admissions Office for more information. USC exclusively uses the Common Application for freshman and transfer admission. Applicants must submit the Common Application and the USC Writing Supplement, both of which can be accessed at commonapp.org. For transfer applicants, in addition to the university writing samples, a 250-word statement of intent is required; instructions are included with the USC Writing Supplement.

Students currently enrolled at USC who wish to change their major to communication must file a formal application with all supporting documents through the Annenberg Student Services Office. Students who entered USC as freshmen or transfers must have 16 units completed at USC with a minimum cumulative GPA of 3.0. The 3.0 GPA is a minimum standard and does not guarantee admission.

For current USC students, the application period is the first week of classes each fall, spring and summer terms. No applications will be accepted after the first week of classes.

Students who have not been admitted to the communication major or one of the minors may complete a maximum of 20 communication (COMM) units at USC. No further communication course work may be taken until the student is admitted. Students who complete the maximum number of units without gaining admission to the school will be advised to select another major. Students are encouraged to contact the Annenberg Student Services Office, ASC 140, (213) 740-0900, for advisement on change of major criteria and major requirements. In certain cases, students may be referred to Academic Counseling Services, STU 300, (213) 740-1741, to consult with an adviser to select another major.

Academic Integrity Policy

The School of Communication maintains a commitment to the highest standards of ethical conduct and academic excellence. Any student found responsible for plagiarism, fabrication, cheating on examinations, or purchasing papers or other assignments will be reported to the Office of Student Judicial Affairs and Community Standards and may be dismissed from the School of Communication. There are no exceptions to the school's policy.

Curriculum Areas of Study

By design, the courses in the curriculum tend to cluster into different areas of study. These areas represent important foci in the communication discipline and are areas in which the school's faculty possess special expertise. Four such areas of study are described below. They are not mutually exclusive, nor do they exhaust the curriculum; rather, they represent partially overlapping areas of unusual depth. Students may specialize in one of these areas or may design individual programs of study by choosing other combinations of electives that best meet their needs and career objectives.

Communication and Culture Option: This option will be attractive to a broad range of students whose careers have an international or multicultural dimension, from those interested in foreign service, travel and consulting to those seeking careers in the arts. In addition, students taking this option will be well prepared for advanced graduate study. Courses emphasize: communication as an essential component of culture and cultural production; cultural forces that shape communication practices; cultural barriers to communication; gender and diversity issues in human and mass communication and cultural production; media representations of race, ethnicity and gender; the production of meaning in diverse modes such as art, religion, popular culture and technology; and cultural criticism.

Entertainment, Communication and Society Option: This option is for students who wish to pursue careers in the entertainment industry, as well as students interested in the relationship of communication and entertainment to popular culture, globalization, cultural studies, marketing, advertising and ethics. Students taking this option will be well prepared for graduate study; they will also be able to enter the entertainment industry with a grounding in the theory, roles, issues and effects of entertainment. Courses emphasize: the theoretical underpinnings of entertainment studies; the historical context of entertainment; the roles and effects of entertainment concepts in "high art" and popular culture; the impact of entertainment on politics; advertising in an entertainment society; the blurring of marketing and entertainment and the effects of this on culture; the effects of entertainment in general and specifically on constructions of race and childhood; issues in the blurring of fact and fiction; ethical dilemmas; and the globalization of entertainment industries.

Media, Law and Politics Option: This option is designed for students who are interested in careers in government and public service, the law, and political and legal consulting, as well as advanced graduate study. Students examine communication processes in the public sphere and learn how to participate competently in these practices. Courses emphasize: the role of persuasion in the political and legal processes; the techniques used by individuals, institutions and social movements to influence public affairs; the history, design, implementation and evaluation of political campaigns; the role of public opinion; ethical issues

in public communication, including the influence of media in the political and justice systems, the role of the First Amendment and the changing nature of freedom of expression in a mass-mediated environment, and problems of public participation.

Organizational and Interpersonal Communication Option: This option is most relevant to students interested in careers in business, management, human resources and development, corporate communication, and consulting, as well as advanced graduate study. Courses emphasize: interpersonal communication processes that affect and reflect personality, motives, beliefs, attitudes and values; communication's role in the development, maintenance and disintegration of social, family and intimate relationships; managing interpersonal conflict; communication between superiors and subordinates and in teams; communication's role in determining organizational culture; managing information in organizations; and the role of information technology in processes of globalization.

Progressive Degree Program

This progressive degree program allows USC students to complete a bachelor's degree and a master's degree in as little as five years. Students with a 3.0 overall GPA or higher in all classes taken at the university level are eligible to apply for admission to the degree program during their junior year, if a minimum of 24 semester hours will be completed in the final year of undergraduate enrollment. However, a 3.0 GPA does not guarantee acceptance.

Current students must attend a mandatory information session conducted by Annenberg Admissions and a member of the faculty before initiating the application process. Students admitted into the progressive degree program begin taking master's level courses in their senior year and may complete the master's degree in year five. For information on the application process, refer to the Annenberg website. For further details on progressive degree programs, see the Requirements for Graduation page.

Other Programs

Debate Squad

The Trojan Debate Squad provides an opportunity for outstanding students (3.0 GPA or better), both communication majors and non-majors, to compete in an intensive intercollegiate laboratory setting. Whatever the student's intended career, the skills he or she develops in research, critical thinking and oral advocacy will be invaluable. The team has an excellent record in team policy debate and is now also offering British parliamentary (worlds format) debating. The team competes at both regional and national competitions.

Honors Program

The School of Communication offers an 8-unit honors program for exceptional students. To qualify, students must have a 3.5 GPA both overall and in the COMM major after completing the core courses (COMM 200 or COMM 313, COMM 206 or COMM 311, COMM 209 or COMM 309, COMM 204 or COMM 322, COMM 301 or COMM 305, ASCJ 200 or ASCJ 210). To graduate with School of Communication honors, a student must maintain a 3.5 overall and COMM major GPA and receive at least a B+ or higher in the two honors courses. Students take COMM 495 Honors Seminar (4 units) and COMM 497x Honors Thesis (4 units). Contact an undergraduate adviser for further information and application forms.

Honor Society

Lambda Pi Eta is a national communication/journalism honor society that is open to students in graduate and undergraduate Annenberg programs. To be eligible, students must have a USC cumulative GPA and an Annenberg major GPA of 3.5 or higher. In addition, undergraduate students must have a declared communication, journalism or public relations major, and have completed (or currently be registered for) at least 60 units, at least 12 of which are in the major. Graduate students must have completed at least 12 units in the fields of communication, journalism or public relations.

Annenberg Career Development

The USC Annenberg Career Development Office has listings for paid and unpaid internships from around the country. Career advisers conduct mandatory advisement appointments for all sophomores and offer career workshops, guest speakers and mentoring opportunities. Students are advised to participate in internships before graduation.

Annenberg International Programs

Annenberg International Programs follows health and safety directives provided by the University and programs may be subject to suspension due to COVID-19 complications.

Spring Semester in Australia

This semester program offers students the chance to study at one of Australia's premier universities, in one of the country's most exciting cities. Students take communication courses that count for major credit at USC at the University of New South Wales (UNSW) and can choose from a wide variety of elective courses. UNSW is located in Kensington, just south of the center of Sydney and its commercial hub. The program gives students the chance to explore mass media and communication in a challenging environment with a distinct worldview, very different from that of the United States. Students may earn a maximum of 12 USC units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

Fall and Spring Semester in Hong Kong

The semester program offers students the opportunity to learn about Chinese culture at the Chinese University in Hong Kong, a bilingual institution. The program also gives students the experience of living in Hong Kong where they can witness the "one country, two systems" experiment. Courses in English are offered in fine arts, literature, history, Japanese studies, intercultural studies, music, philosophy, computer science, anthropology, economics, international relations, as well as journalism and communication. For students interested in Chinese language, courses are offered in Putonghua (Mandarin) or Cantonese. Extracurricular activities include the opportunity to teach English in rural China, monthly dinner talks with Asian studies specialists and excursions to local areas of interest. Students may earn a maximum of 12 USC units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

Fall and Spring Semester in London

The semester program offers students the opportunity to study communication in London, the most important center of media in Europe. Many of the communication courses offered include British media guest lecturers and site visits. The program includes one-day visits to such places as Oxford, Cambridge and Liverpool. Planned activities within London include theatre and museum visits. Students may earn 16 units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program. Please visit the Annenberg International Programs website for more information on additional program requirements.

Spring Semester in New Zealand

Annenberg's New Zealand program offers students the opportunity to travel to the Southern Hemisphere. Each spring, students can study at the Auckland University of Technology (AUT), a world-class institution that offers students the chance to take communication courses that count toward major credit at USC, all the while exploring the beautiful city of Auckland and the surrounding countryside. The AUT program offers communication students an exciting way to broaden their understanding of media and mass communication in a challenging environment with an outlook distinctly different from that of the United States and Southern California. Students may earn 12 units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Semester in Rome, Italy

Undergraduate students may spend a spring semester exploring how media, culture, history and politics are embedded within this iconic city and drive innovation there. Taking courses at a dedicated study center located in the heart of the historic city center in Rome, students meet communication executives and government policy-makers and gain exposure to Italian media, culture and civilization. The program also includes guided visits to museums and historical districts, as well as an overnight group excursion to Bologna. Students may earn 16 units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program. Please visit the Annenberg International Programs website for more information on additional program requirements.

Summer International Communication Studies — London, Paris, Madrid, Berlin and Budapest

The International Communication Studies program (ICS) allows undergraduate students to study a range of approaches to public communication media across Europe.

Students divide the five-week course into stays in Los Angeles, London, Paris, Madrid, Berlin and Budapest. In addition to regular class meetings, students discuss the interplay of current world issues and international media practices with communication practitioners from international news and public relations media, government institutions, private industry and global organizations.

Students enroll in JOUR 482 Comparative Media in Europe (4 units), which will count as 4 units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

Alternative Spring Break Program – Bangkok and Chiang Mai, Thailand

Students spend spring break in two of the country's most iconic cities, Bangkok and Chiang Mai, where they visit with companies, NGOs and foundations focusing on corporate social responsibility and communication advocacy. Explore the fields of communication and public relations through a lens of social change and advocacy, while developing a global perspective and first-hand insight into the challenges and effectiveness of organizations operating in Southeast Asia. This program offers students the unique opportunity to evaluate the areas of community development, sustainability and social responsibility in an emerging area of the world. A minimum USC cumulative GPA of 3.0 is required for this program. Please visit the Annenberg International Programs website for more information on additional program requirements.

Graduate Internship Program – Berlin, Cape Town, Hong Kong or São Paulo

The Annenberg International Programs Graduate Internship Program allows graduate students the opportunity to explore the communication and journalism fields from a distinctively global perspective. Students have the opportunity to intern in one of the following four global cities: Berlin, Germany; Cape Town, South Africa; Hong Kong SAR, China; or São Paulo, Brazil. The program takes place over the course of eight weeks during the summer semester. Students enroll in CMGT 591 and earn 1 unit of academic credit. Program dates and fees vary based on program city.

For further information, contact Annenberg International Programs at (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

Graduate Degrees

Degree Programs

The School of Communication offers programs of study leading to a professional Master of Communication Management, an MA/MSc in Global Communication in collaboration with the London School of Economics, a Master of Science in Digital Social Media, a Master of Science in Digital Media Management, two Master of Public Diplomacy programs, and research-oriented Master of Arts and Doctor of Philosophy degrees in Communication. The School of Communication also collaborates with the USC Viterbi School of Engineering to offer a Communication Data Science (MS), which gives students the opportunity to innovate at the intersection of communication and engineering. In addition, special programs enable students to earn dual degrees in Communication Management and Law (USC Gould School of Law) and in Communication Management and Jewish Nonprofit Management (Hebrew Union College).

The degree programs are designed to ensure that students are educated in substantive studies that constitute the discipline of communication and provide a basis for competing effectively in the job market.

All students seeking the degrees in Communication Management and Global Communication will take a range of courses that prepare them for successful professional management careers in communication-related businesses, organizations and fields.

All students pursuing the research-oriented degree (PhD in Communication) are required to take two theory courses that introduce them to inquiry in human communication and two research methods courses that acquaint them with the historical/critical and social scientific techniques available to conduct scholarly research. These requirements strengthen the student's appreciation of the intellectual bases of human communication study and further the concept of a community of scholars and practitioners in the profession. Students specialize in one of seven available tracks: Groups, Organizations and Networks; Health Communication and Social Dynamics; Information, Political Economy and Entertainment; Media, Culture and Community; New Media and Technology; Political Economy of Global Communication; Rhetoric, Politics and Publics. In addition, students are encouraged to sample courses in the remaining tracks, thus obtaining an education of unparalleled breadth and depth.

Honor Society

Lambda Pi Eta is a national communication/journalism honor society that is open to students in graduate and undergraduate Annenberg programs. To be eligible, students must have a USC cumulative GPA and an Annenberg major GPA of 3.5 or higher. In addition, undergraduate students must have a declared communication, journalism or public relations major, and have completed (or currently be registered for) at least 60 units, at least 12 of which are in the major. Graduate students must have completed at least 12 units in the fields of communication, journalism or public relations.

Admission Requirements

Master of Communication Management, Master of Science in Digital Social Media, Master of Arts in Global Communication, Master of Public Diplomacy and Master of Public Diplomacy (Practitioner and Mid-Career Professional)

The school accepts students from a broad range of academic backgrounds in social sciences, humanities, physical sciences or professional schools. Some are employed or have work experience in communication-related fields. Others apply immediately after completing baccalaureate degrees.

Criteria: All applicants must submit the online USC Graduate Admission Application. The faculty admission committees consider many criteria in the admission selection process: the academic record and professional and work-related accomplishments are taken into account. The minimum criteria are the equivalent of a U.S. bachelor's degree and a 3.0 GPA for all undergraduate and graduate work completed. The Master of Arts in Global Communication requires a minimum 3.5 (on a 4.0 scale) cumulative GPA or international equivalent for admission. Refer to the Annenberg graduate application guidelines on the School website for complete details about graduate application requirements. Scores on the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Pearson's Test of English (PTE) are required

for applicants whose undergraduate degree was not completed in a country where English is the only official language. Letters of recommendation from those persons familiar with the applicant's work — preferably academically — are also required. In addition, applicants must submit a statement of purpose, transcripts of all previous college and university work attempted, résumé and writing samples.

Applicants to the Global Communication degree program must apply to USC and the London School of Economics (LSE). Participation in this degree program requires that students simultaneously gain admission to LSE and USC. GRE or GMAT scores are not required for admission. Scores on the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Pearson's Test of English (PTE) are required for applicants whose undergraduate degree was not completed in a country where English is the only official language. All students will begin their studies in London at the LSE.

Procedure: Refer to the Annenberg Admissions website for degree program admission application guidelines and deadlines.

Doctor of Philosophy

Students may enter from a variety of academic fields and majors. Applicants whose undergraduate work was in fields other than communication may be admitted on the condition that adequate preparation in directly relevant areas is evident. Completion of a master's degree in communication is not required for admission to the Doctor of Philosophy.

Criteria: All applicants must submit the online USC Graduate Admission Application. The faculty admission committee reviews each application comprehensively. Three letters of recommendation from faculty qualified to comment on an applicant's capacities for a rigorous program of study are required. Completion of a basic descriptive statistics course is recommended. In addition, a personal statement, transcripts of all previous college and university work attempted, a résumé and a sample of scholarly writing are required. The MA in Communication is earned as part of the PhD program.

Procedure: Admission is granted for the fall semester only. Refer to the Annenberg graduate application guidelines on the School website for complete details about graduate application requirements.

Degree Requirements

The Master of Arts in Global Communication, Master of Arts in Communication and Doctor of Philosophy in Communication are awarded under the jurisdiction of the Graduate School. Refer to The Graduate School section of this catalogue and the Requirements for Graduation section for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Communication (BA)*

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education Program for more information.

Course Requirements

Required Courses

Theoretical and Foundational Classes (12 units total)

These courses introduce students to theories and subject matter that provide foundational understanding for the Communication major. Each area below broadly explores the way messages and meanings are socially and culturally produced, received by individuals and society, and transformed through technological and industrial shifts.

Communication Interaction, Influence and Impact (4 units)

- COMM 200 Communication and Social Science Units: 4

  or
- COMM 313 Communication and Mass Media Units: 4

Communication, Civic Life and Culture (4 units)

- COMM 206 Communication and Culture Units: 4

  or
- COMM 311 Communication and Publics Units: 4

Economics and Technologies of Communication (4 units)

- COMM 209 Communication and Media Economics Units: 4

  or
- COMM 309 Communication and Technology Units: 4

Methods of Communication Practice (8 units total)

The courses in this area help to provide students with the critical thinking, tools, and methods of inquiry necessary for the interpretation, development, and expression of messages, systematic arguments, and empirical evidence.

Four units that center on the design and execution of arguments

- COMM 204 Public Speaking Units: 4

  or
- COMM 322 Argumentation and Advocacy Units: 4

Four units that center on the design, execution and interpretation of empirical evidence

- COMM 301Lg Empirical Research in Communication Units: 4

  or
- COMM 305 Understanding Social Science Research Units: 4

Annenberg Experience (4 units)

Students are required to take one 4-unit course that prepares Annenberg students to enhance their digital literacy and contextualize modern communication controversies, contemplating changes in the way we process and produce information.

- ASCJ 200 Navigating Media and News in the Digital Age Units: 4

  or
- ASCJ 210 Contours of Change in Media and Communication Units: 4

Electives (24 units total)

- Upper-division COMM courses: 16 units
- Lower- or upper-division COMM or ASCJ courses: 4 units
- One 400-level non-cross-listed COMM course (excluding COMM 490, COMM 494 and COMM 499): 4 units

Additional Requirements

Students must maintain a minimum 2.0 overall GPA in upper-division course work applied toward the major. No more than 4 units of COMM 380 may be counted toward the department major. The School of Communication is committed to ensuring that all declared communication majors follow the necessary requirements. Mandatory advisement is required of all communication majors each semester prior to registration. All students taking communication classes are held to the highest academic integrity standards and may be denied admission or have admission revoked as a result of conduct violations.

Qualified non-majors (generally, students with junior/senior status, a minimum 3.0 GPA and a declared major elsewhere at the university) with appropriate academic preparation may be permitted to enroll in communication electives without fulfilling prerequisite requirements. Application for a waiver should be made to an undergraduate adviser.

Minor

Communication Policy and Law Minor

Information and communication practices and technologies have an increasingly powerful impact on nearly every aspect of our lives. From the level of privacy in our personal lives to the way

we govern our communities or manage our businesses, the legal and policy issues in the communication field are ever-changing and increasingly complex. To prepare students to navigate this dynamic and complicated world, the minor in communication policy and law combines courses in communication, law, ethics, and the business of communication taught at both the School of Communication and the School of Journalism at USC Annenberg. Students can choose to focus on policy or legal issues that affect communication technologies, strategies, and uses. This minor will not only enable students to understand the revolution in media and telecommunications technology and practice, it will ground them in the fundamentals of free speech, intellectual property and the local, state and federal role in the regulation of communication platforms ranging from emerging social media to the legacy media of broadcasting and newspapers. This is an ideal minor for students interested in law or advanced communication scholarship. Admission requirements are a minimum 3.0 grade point average and completion of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Courses (8 units)

- ASCJ 210 Contours of Change in Media and Communication Units: 4
- COMM 322 Argumentation and Advocacy Units: 4

Choose three electives (12 units)

- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 371 Media Censorship and the Law Units: 4
- COMM 402 Public Communication Campaigns Units: 4
- COMM 412 Communication and Social Movements Units: 4
- COMM 421 Legal Communication Units: 4
- COMM 422 Legal Issues and New Media Units: 4
- COMM 427 Topics in Media Economics, Law and Policy Units: 4
- COMM 489 Campaign Communication Units: 4
- JOUR 462 Law of Mass Communication Units: 4

Communication Technology Practices and Platforms Minor

Students in this minor trace the roots and dynamics of contemporary networked technologies and learn how to participate and excel within media cultures, online networks and organizational workplaces. The minor focuses on three areas: cultures (connecting communication technologies to histories, values, and ethics of social relationships and civic communities); networks (developing qualitative and quantitative skills to model, explain and influence relationships among media and people at local and global scales); institutions (tracing the legal, organizational, economic and interpersonal contexts that produce and transform communication technologies). The field of communication technology requires individuals who can critique, cultivate, build and influence new relationships among people, platforms and practices. Whether starting careers in strategic consulting, medical informatics, non-profit management, social media design, public sector service or new media entrepreneurship, students are encouraged to utilize skills and foundational concepts underlying 21st century communication technologies.

Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Communication Courses

- COMM 309 Communication and Technology Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- COMM 340 The Cultures of New Media Units: 4

Electives-Choose Two From The Following

- COMM 310 Media and Society Units: 4
- COMM 321 Communication and Social Media Units: 4
- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 350 Video Games: Content, Industry, and Policy Units: 4
- COMM 422 Legal Issues and New Media Units: 4
- COMM 431 Global Strategy for the Communications Industry Units: 4
- COMM 449 Perspectives on the Networked Press Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- COMM 486 Human and Technological Systems in Organizations Units: 4
- COMM 498 Ethical Issues in Entertainment and Communication Units: 4
- CTIN 462 Critical Theory and Analysis of Games Units: 4
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 488 Game Design Workshop Units: 4

Total units: 20

Cultural Diplomacy Minor

This 20-unit minor focuses on cultural diplomacy and the ways in which consideration of cultural issues and engagement in the cultural sphere can enhance foreign affairs and international interactions. It links existing classes and faculty expertise to expose students to a range of international issues while introducing culturally focused approaches to addressing and rectifying such issues. This minor builds a coherent picture of the power of culture as an essential dimension of foreign policy either as a barrier or a medium for engagement and a common ground. Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Course (4 units)

- PUBD 369w Public Diplomacy and Global Citizenship Units: 4

Required Course (4 units)

Choose one of the following courses:

- PUBD 417 Global Engagement: Designing Public Diplomacy Strategies Units: 4
- PUBD 418 International Exchanges and Public Diplomacy Units: 4
- PUBD 419 Public Diplomacy in Los Angeles Units: 4
- PUBD 420 Regional Studies in Public Diplomacy Units: 4

Electives (12 units)

Choose 12 units from the following:

- AHIS 486 Introduction to Museums: Past, Present, and Future Units: 4
- ANTH 205g Introduction to Global Studies and Cross-cultural Research Units: 4
- COMM 206 Communication and Culture Units: 4
- COMM 308 Communication and Conflict Units: 4
- COMM 310 Media and Society Units: 4
- COMM 324mw Intercultural Communication Units: 4
- COMM 366 Designing Media for Social Change Units: 4
- COMM 392 Media and Migration in Times of European Crisis Units: 4
- COMM 405 From the Ground Up: Communicating About Food Units: 4
- COMM 412 Communication and Social Movements Units: 4
- COMM 413 Propaganda, Ideology and Public Controversy Units: 4
- COMM 430 Global Entertainment Units: 4
- COMM 445 Global Networks of Sport Units: 4
- COMM 475 Environmental Communication Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
- CTCS 367 Global Media Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4

- IR 101gxw International Relations Units: 4
- JOUR 484 American Religion, Foreign Policy and the News Media Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- PUBD 418 International Exchanges and Public Diplomacy Units: 4
- PUBD 419 Public Diplomacy in Los Angeles Units: 4
- PUBD 420 Regional Studies in Public Diplomacy Units: 4

Culture, Media and Entertainment Minor

This 20-unit minor offers courses that examine the theory, content, social impact and economics of a range of creative, media, culture and entertainment industries. Through the lens of music, film, television, advertising, digital media, games, comics and fashion, students will learn strategies for analyzing popular culture and entertainment texts, mechanisms and platforms of content distribution, as well as the historical, social, cultural and political issues shaping these entertainment fields. Taking into account shifts and disruptions in contemporary media and entertainment, students will further examine consumption, audience engagement and participation that necessarily shape our individual and collective identities. These courses will highlight the production, consumption and meanings inscribed in entertainment media industries and products. Depending on the courses selected, the minor will prepare students for a variety of careers in and/or further critical scholarship about media and entertainment industries.

Admission requirements are a minimum 3.0 grade point average and completion of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Courses (8 Units)

- COMM 300 Entertainment, Communication and Society Units: 4
- COMM 384 Interpreting Popular Culture Units: 4

Choose Three Electives (12 units)

- COMM 306 Innovation, Entertainment, and the Arts Units: 4
- COMM 307 Sound Clash: Popular Music and American Culture Units: 4
- COMM 310 Media and Society Units: 4
- COMM 312 The Business and Culture of Celebrity Units: 4
- COMM 326 Latinx Media Studies Units: 4
- COMM 350 Video Games: Content, Industry, and Policy Units: 4
- COMM 355 Advertising and Communication Units: 4
- COMM 360 Los Angeles: Communication and Culture Units: 4
- COMM 363 Media Consumption Units: 4
- COMM 395m Gender, Media and Communication Units: 4
- COMM 396g Fashion, Media and Culture Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- COMM 430 Global Entertainment Units: 4
- COMM 432 American Media and Entertainment Industries Units: 4
- COMM 433 Home Entertainment: From Networks to Streaming Units: 4
- COMM 440 Music as Communication Units: 4
- COMM 456 Entertainment, Marketing and Culture Units: 4
- COMM 457 Youth and Media Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- COMM 498 Ethical Issues in Entertainment and Communication Units: 4
- CTCS 482 Transmedia Entertainment Units: 4
- JOUR 381 Entertainment, Business and Media in Today's Society Units: 4
- JOUR 493 Comics and Graphic Storytelling Units: 4

Total units: 20

Justice, Voice, and Advocacy Minor

The 20-unit minor offers courses that prompt students to explore the central role communication, media, news and public relations play in a multicultural society. As a cross-school minor, students will examine questions and perspectives on identity and community through an interdisciplinary lens that centers on theory and praxis, impact and change. The courses in this minor are grouped in order to give students a foundational understanding of the cultural roots and representations of identity, the practice of storytelling in the context of local and disenfranchised communities, as well as various institutional structures and policies that create barriers or avenues of social justice. Familiarity with these important issues serves students on a practical level by improving their ability to understand, anticipate and appreciate diverse viewpoints and audiences. The minor also helps students develop as more engaged, informed and empathetic citizens who are empowered to bring resolution and shared understanding to areas of conflict and difference in their own lives, the broader community and the workplace. Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Courses (8 units)

- ASCJ 210 Contours of Change in Media and Communication Units: 4
- COMM 366 Designing Media for Social Change Units: 4

Culture and Identity (4 units)

Choose 4 units from the following:

- COMM 307 Sound Clash: Popular Music and American Culture Units: 4
- COMM 322 Argumentation and Advocacy Units: 4
- COMM 324mw Intercultural Communication Units: 4
- COMM 326 Latinx Media Studies Units: 4
- COMM 360 Los Angeles: Communication and Culture Units: 4
- COMM 392 Media and Migration in Times of European Crisis Units: 4
- COMM 395m Gender, Media and Communication Units: 4
- COMM 412 Communication and Social Movements Units: 4
- COMM 414 Communication and Social Change in China Units: 4
- COMM 415m African American Rhetoric and Image Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- COMM 450 Visual Culture and Communication Units: 4
- COMM 451 Visual Communication and Social Change Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- COMM 479 Trauma and Communication Units: 4
- JOUR 465m Latino News Media in the United States Units: 4
- JOUR 466m People of Color and the News Media Units: 4
- JOUR 467 Gender and the News Media Units: 4
- JOUR 468m The American Press and Issues of Sexual Diversity Units: 4
- JOUR 484 American Religion, Foreign Policy and the News Media Units: 4

Community Storytelling and Engagement (4 units)

Choose 4 units from the following:

- COMM 367 Community Engagement and Service Learning Units: 2
- JOUR 372 Engaging Diverse Communities Units: 2
- JOUR 406 Social Media Storytelling for Latinx Audiences Units: 2
- JOUR 470 Community Journalism Units: 2
- PR 455 Public Relations for Non-Profit Organizations Units: 4

Institutions and Policy (4 units)

Choose 4 units from the following:

- COMM 308 Communication and Conflict Units: 4
- COMM 310 Media and Society Units: 4
- COMM 385 Organizational Communication Units: 4
- COMM 421 Legal Communication Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- JOUR 460 Social Responsibility of the News Media Units: 4
- JOUR 469 Money, Markets and Media Units: 4
- LAW 320p Law, Slavery, and Race Units: 4
- SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Politics Units: 4
- SOCI 445 Political and Social Theory Units: 4

Media Economics and Entrepreneurship Minor

This 24-unit minor equips students with the skills and critical framework to navigate the ongoing transformation sweeping the media industry. The interdisciplinary curriculum, which includes courses from Communication, Journalism and Entrepreneurship, promotes an understanding of the key economic forces that are reshaping television, film, music and news. The program emphasizes innovation and problem solving. Above all, it prepares students to embrace the exciting changes that are reshaping the media landscape. Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Courses (8 Units)

- BAEP 450 Fundamentals of Entrepreneurship Units: 4 or
- BAEP 451 The Management of New Enterprises Units: 4

- COMM 209 Communication and Media Economics Units: 4

Elective Courses (16 Units)

4 units must be in BAEP:

- BAEP 452 Feasibility Analysis Units: 4 *
- BAEP 454 Venture Initiation: Launching and Scaling Your Startup Units: 4 **
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 475 Entertainment Entrepreneurship Units: 2

Note:

**Prerequisite: BAEP 450 or BAEP 451*
***Prerequisite: BAEP 452*

4-8 units must be in COMM:

- COMM 306 Innovation, Entertainment, and the Arts Units: 4
- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 427 Topics in Media Economics, Law and Policy Units: 4
- COMM 429 The Internet, Economy, and Society Units: 4
- COMM 430 Global Entertainment Units: 4
- COMM 431 Global Strategy for the Communications Industry Units: 4
- COMM 454 Media, Money, and Society Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4

4-8 units must be in JOUR or PR:

- JOUR 380 Sports, Business and Media in Today's Society Units: 4
- JOUR 381 Entertainment, Business and Media in Today's Society Units: 4
- JOUR 469 Money, Markets and Media Units: 4
- JOUR 472 Strategies for Monetizing New Media Units: 4
- PR 428 Social, Legal and Ethical Foundations of Public Relations Units: 4 *
- PR 429 Business and Economic Foundations of Public Relations Units: 4 **
- PR 450 Advanced Strategic Public Relations Units: 4 ***
- PR 491 Fan Relations Units: 4
- PR 492 Personal Branding Units: 4

Note:

**Prerequisite: PR 250*
***Prerequisite: PR 351a*
****Prerequisite: PR 351b and PR 463*

Total units: 24

Professional and Managerial Communication Minor

The ability to succeed in today's workplace necessitates a growing number of communication skills. As today's increasingly global and highly competitive marketplace grows in complexity, the need to understand intercultural differences, the power of structure in the workplace and other issues such as dealing with interpersonal conflicts continues to increase. This minor will provide students interested in the management of people, resources or products with these necessary tools. Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Communication Courses

- COMM 320 Small Group and Team Communication Units: 4
- COMM 375 Business and Professional Communication Units: 4
- COMM 385 Organizational Communication Units: 4

Electives-Choose Three From The Following:

- COMM 302 Persuasion Units: 4
- COMM 304 Interpersonal Communication Units: 4
- COMM 308 Communication and Conflict Units: 4
- COMM 315 Health Communication Units: 4
- COMM 321 Communication and Social Media Units: 4
- COMM 322 Argumentation and Advocacy Units: 4
- COMM 324mw Intercultural Communication Units: 4
- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 388 Ethics in Human Communication Units: 4
- COMM 431 Global Strategy for the Communications Industry Units: 4
- COMM 486 Human and Technological Systems in Organizations Units: 4
- COMM 487 Communication and Global Organizations Units: 4

Total units: 24

Sports Media Studies Minor

USC has a unique historical relationship to sports and sports media, and is near the center of the current sports media capital of Los Angeles. The courses examine the role of sports and sports media in culture, how the presentation of sports in media has evolved, has been shaped by cultural issues and, itself, impacted culture. This minor will enhance students' skills in working and interacting with, sports media.

Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Communication Courses

- COMM 381 Issues in Contemporary Sport Units: 4
- COMM 383m Sports, Communication and Culture Units: 4

Electives

Choose four classes from the following:

- COMM 300 Entertainment, Communication and Society Units: 4

- COMM 310 Media and Society Units: 4
- COMM 363 Media Consumption Units: 4
- COMM 387 Sports and Social Change Units: 4
- COMM 444 Critical Theories of Sport Units: 4
- JOUR 380 Sports, Business and Media in Today's Society Units: 4
- JOUR 432 Sports Commentary Units: 4
- MOR 479 The Business of Sports Units: 4
- OT 333 Sports Ethics Units: 4

Total units: 24

Master's Degree

Communication (MA)

Individuals seeking the Master of Arts in Communication are expected to acquire and demonstrate a general knowledge of human communication, including humanistic and social scientific approaches.

Students must apply to the PhD program in Communication and complete all application requirements. The faculty admission committee determines candidates appropriate for the MA.

The program, arranged in consultation with the school's director of doctoral studies, provides two options: degree with comprehensive examination requires a total of 32 units (normally eight courses), including core courses COMM 525, COMM 526, COMM 550 and COMM 552 and four electives; or degree with thesis requires successful completion of core courses, three electives and 4 units of COMM 594a Master's Thesis, COMM 594b Master's Thesis.

Not more than two approved 400-level courses may be applied to a student's program and a maximum of 4 semester units with grades of B or better may be accepted by transfer from another institution of higher learning. The minimum acceptable GPA for successful completion of this program is 3.0.

The majority of students choose the comprehensive examination option. The examination consists of six hours of writing, taken on two different days. Permission to take an MA degree with thesis can be obtained only by application to the school screening committee.

Communication Management (MCG)

Each student builds a program of study with faculty academic advisors, drawing on earlier academic and work experience in order to achieve desired professional goals.

Residence

Students may pursue the Master of Communication Management on either a full- or part-time basis. Full time, the degree can be finished in one year and four months (across four terms, including the summer session); parttime, all course work can be finished in two to three years. With permission from a School of Communication committee, a maximum of 4 graduate units may be transferred from another accredited institution.

Foreign Language Requirement

There are no foreign language requirements for this degree.

Course Requirements

Thirty-two units in approved graduate-level course work are required.

Students will take a required 4-unit research methods course in their first semester. In their second semester, students will take a required 4-unit core conceptual foundation course. During their course of study, students take 4 units from a list of approved theory-practice integration courses.

A maximum of two courses may be taken in the first semester. In the second and subsequent semesters, with approval from the director of the Master of Communication Management program, students may take up to three courses.

Among the remaining courses, at least 12 units must be from Communication Management elective areas of focus. Up to 8 may be taken at USC outside the Communication Management program; these courses must be approved by the director of the Master of Communication Management program, and may be selected from a variety of disciplines, depending upon academic and career interests.

Any given course may be taken at most three times, after which the student is no longer eligible to take the course.

Digital Media Management (MS)

The acceleration of worldwide mobile internet access has made digital media indispensable to commerce, culture, and human connection. Digital media platforms and content are driving growth across industries, with sectors such as streaming video, music, games and online publishing experiencing an unprecedented increase in global revenues. Envisioning and deploying the digital media products of the future will involve collaboration between culturally diverse and geographically dispersed teams. The Master of Science in Digital Media Management (MSDMM) program is designed to prepare managers to better understand the evolving media landscape, to make data-driven and ethical decisions, and to build a more equitable future by leading diverse teams with the technical, artistic, analytical and production skills needed to create engaging content and technologies for the global marketplace.

Meeting the demands of diverse markets starts with digital media managers who can effectively advance an inclusive and equitable culture within their own organizations. MSDMM students will learn professional practices needed for the strategic management of their teams, including: recruiting and onboarding an optimal mix of talent, promoting anti-racist and non-discriminatory policies, and cultivating a work environment where each person thrives. Additionally, by analyzing how organizations use digital platforms to aggregate and empower users, students will explore how to support diverse perspectives in storytelling and content-creation, delivering a user experience that balances organizational needs with the ethical imperatives to foster inclusivity, equity and access.

Through an examination of the intersecting relationships between digital media practices, consumer culture and society, students will also acquire a holistic understanding of digital media culture and business practices, and develop a critically-oriented foundation that prepares them for their roles as future leaders. Students will use real-world case studies as a springboard to ideate, create and evaluate the cutting-edge techniques, data collection methodologies and creative guidelines that can be used to implement long-range strategies for ethical media management. The program encourages immediate application of key concepts to industry challenges and opportunities with consideration of emerging technologies. Strategies for effectively communicating complex ideas to a variety of audiences and stakeholders are incorporated throughout the program.

A Master of Science degree in Digital Media Management requires 24 units of coursework offered in the fall, spring and summer semesters. The program may be completed on a full-time or part-time basis. Students attending the program on a full-time basis can earn a degree within 12 months, and those on a part-time basis can complete the program in two years or less.

Required Courses

- DMM 500 Principles and Theories of Digital Media Management Units: 2
- DMM 505 Digital Audience Research and Analysis Units: 2
- DMM 510 Digital Media Buying, Measurement and Analytics Units: 2
- DMM 515 Digital Content, Production and Distribution Units: 2
- DMM 520 Strategic Digital Media Marketing Units: 2
- DMM 525 Digital Media Leadership Units: 2
- DMM 530 Managing Digital Media Teams and Projects Units: 2
- DMM 535 Digital Content Direction Units: 2
- DMM 540 Developing Effective User Engagement Strategies Units: 2
- DMM 545 Digital Platforms: Disruptions and Directions Units: 2

- DMM 550 Digital Media Innovation and Entrepreneurship Units: 2
- DMM 555 Digital Media Management Capstone Units: 2

Digital Social Media (MS)

A STEM-designated degree program, the Master of Science in Digital Social Media (DSM) aims to equip students with the practical skills, critical knowledge and state-of-the-art strategies to succeed in a cutting-edge career in the digital and social media sectors. Beyond learning the fundamentals of digital and social media industries theories and methods, students pursue a customized curriculum toward the design, incubation, and execution of a rigorous, portfolio-building capstone project.

The 32-unit degree program may be completed in three consecutive semesters (fall/spring/summer) or over two academic years (fall/spring/fall/spring).

Students must maintain a 3.0 GPA in the program to graduate.

More information about STEM designation can be found here.

Graduate admissions requirements for the Annenberg School of Communication can be found here.

Course Requirements

Mandatory Courses:

- DSM 510 Introduction to Digital Social Media Units: 4
- DSM 520 Managing Technologies for Digital Media Units: 4
- DSM 550 Analytics and Research Methodology Units: 4
- DSM 596 Final Project Capstone Units: 4

Electives:

Among the remaining courses, at least 8 units must be from a list of approved electives across the Annenberg School for Communication and Journalism. Up to 8 units may be taken at USC outside the Annenberg School; these courses must be approved by the DSM program director and may be selected from a variety of disciplines.

Global Communication (MA)

The USC Annenberg School for Communication and Journalism collaborates with the London School of Economics and Political Science (LSE) to provide the course work necessary for students to become fully engaged with the phenomenon of global communication through this dual master's degree program. Upon satisfaction of all program requirements, students will be awarded a Master of Arts (MA) in Global Communication by USC as well as a Master of Science (MSc) in Global Media and Communications by the LSE.

Residence

This is a two-year program during which students spend their first year at the LSE and their second year at USC.

Foreign Language/Research Tool Requirements

There are no foreign language requirements. Students take a one-term research methods course as part of their course work at the LSE.

Course Requirements

The Master of Arts in Global Communication requires 42 units; the equivalent of 18 units earned at the LSE and 24 units earned at USC.

Year One at LSE: The LSE academic year has three terms. Students will complete classes approved by faculty at the LSE. Students must earn at least 3 units at the LSE, which articulates as 18 units at USC.

Year Two at USC: Students must complete COMM 598 as well as 20 elective units (5 courses) from the School of Communication graduate curriculum, excluding COMM 525, COMM 526, COMM 550 and COMM 552. All students are required to complete an internship/practicum during their year at Annenberg.

Students may choose one of their elective courses from a department outside Annenberg with the approval of their advisers.

Students will produce a final research project on global communication that will be the product of work done both at the LSE and Annenberg. Students complete a research project during the summer after their year at the LSE for which grades are awarded by LSE faculty. A passing grade is required. They will continue to develop this project during the year at Annenberg in COMM 598 and must earn a grade of B minus or higher.

Public Diplomacy (MPD)

The Master of Public Diplomacy is designed for students who already have a substantial undergraduate background in social sciences or relevant professional experience in subjects such as communications, film and media studies, journalism, political science, public relations and international relations. Students in the program may decide to emphasize public diplomacy training most appropriate for a career in public service, the corporate world or in a nongovernmental organization (NGO) working in the ever-expanding global civil society. USC is a member of the Association of Professional Schools of International Affairs (APSIA).

For admission requirements, refer to the Admission Requirements section in the School of Communication.

Requirements for the completion of this degree program are 32 units, including the required substantive paper or alternative project. The course requirements are as follows:

Required Courses (16 Units)

Master of Public Diplomacy is a 32-unit degree program, typically requiring two to three courses per semester.

- PUBD 502 Historical and Comparative Approaches to Public Diplomacy Units: 4
- PUBD 504 Global Issues and Public Diplomacy Units: 4
- PUBD 526 Public Diplomacy Evaluation Units: 4
- PUBD 596 Practicum in Public Diplomacy Research Units: 4

Electives (16 Units)

Students must choose at least 8 elective units of PUBD or other Annenberg School graduate courses. A maximum of 8 units may be taken at USC outside the Annenberg School; these courses must be approved by the program director and may be selected from a variety of disciplines.

Public Diplomacy (Practitioner and Mid-Career Professional) (MPD)

This program is designed for students who already have at least five years of experience working in public diplomacy (engaged in international advocacy, international publicity/public relations, international broadcasting, cultural and/or exchange work or other work which the admissions committee deems to fall within their definition of public diplomacy). The program is taught over a single calendar year beginning with a summer course introducing the advanced study of public diplomacy and ending in the middle of the following summer with the submission of a piece of research work. USC is a member of the Association of Professional Schools of International Affairs (APSIA).

For admission requirements, refer to the Admission Requirements section in the School of Communication.

Requirements for the completion of this degree program are 32 units, including a substantive paper or alternative project. The course requirements are as follows:

Required Courses (16 Units)

Master of Public Diplomacy is a 32-unit degree program, typically requiring three courses per semester in fall and spring to be completed over a single calendar year.

- PUBD 500 Introduction to the Advanced Study of Public Diplomacy Units: 4
- PUBD 502 Historical and Comparative Approaches to Public Diplomacy Units: 4
- PUBD 526 Public Diplomacy Evaluation Units: 4
- PUBD 596 Practicum in Public Diplomacy Research Units: 4

Electives (16 Units)

Students must choose at least 8 elective units of PUBD or other Annenberg School graduate courses. A maximum of 8 units may be taken at USC outside the Annenberg School; these courses

must be approved by the program director and may be selected from a variety of disciplines.

Dual Degree

Master of Communication Management/Juris Doctor (MCG/JD)

Academic training in law and in communication management provides a powerful background for careers in business, entertainment or government life. The USC Gould School of Law and the USC Annenberg School of Communication collaborate in a program that enables these educational opportunities. Students complete both the JD and the Master of Communication Management in three years, the time normally required for the law degree alone.

Students must complete 20 units (five courses) of communication courses at the School of Communication: one required research methods course; one required core conceptual foundation course; one approved theory-practice integration course; and two courses from approved CMGT elective areas of focus.

Students are required to complete 76 units from the law school. To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC after the first year. The associate dean of the USC Gould School of Law may make exceptions to this rule for students enrolled in law school honors programs.

First Year: Required law school courses.

Second and Third Years: 20 units of communication courses, including the 4-unit required research methods course in the first semester of the second year, and the 4-unit required core conceptual foundation course in the second semester of the second year, and an approved 4-unit theory-practice integration course; 46 units of law courses, of which 8 units must be approved as appropriate for acceptance by the School of Communication toward its degree.

Application to pursue the dual degree should be made before completion of 15 units of work in law or 8 units toward the Master of Communication Management degree. Admission by the law school to its JD degree will be evaluated as a substitute for GRE scores.

Master of Communication Management/ Master of Arts, Jewish Nonprofit Management (MCG/MA)

The dual degree program, Communication Management/ Jewish Nonprofit Management, offers students the opportunity for advanced study of sophisticated communication processes and technologies in the context of the nonprofit arena. The program has been developed by the USC Annenberg School for Communication and Journalism and the Zelikow School of Jewish Nonprofit Management at Hebrew Union College-Jewish Institute of Religion (HUC-JIR) to combine the study of communication theory, processes and technologies with postgraduate education in Jewish nonprofit management and leadership. The goal of this program is for graduates to perform more effectively in the nonprofit sector, having received specific training in areas such as organizational communication, media impacts and policy.

Students of this program are admitted separately to each school. Students are required to complete a minimum of 34 credits in Jewish nonprofit management. Four of the 34 required credits of graduate course work at the Zelikow School are used to fulfill the School of Communication's cognate option.

In addition, students are required to take 24 units (six courses) at the School of Communication, including one required research methods course in the first semester; one required core conceptual foundation course in the second semester; one approved theory-practice integration course; and three courses from approved CMGT elective areas of focus.

Those interested in this program should contact Melissa Garai at the Zelikow School at (213) 765-2173 or visit the Website at zsjnm.huc.edu for more information about its requirements.

Graduate Certificate

Health Communication Management Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in health communication. Students will study the most recent theoretical and practical developments in the area of health communication and how this information can be used to improve public health as well as individual behavior.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses. One course must be from a preventive medicine, public health, pharmacology or other health science program that focuses on "what is communicated" in health communication.

A partial list of courses includes:

- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 511 Health Communication Units: 4
- CMGT 520 Social Roles of Communication Media Units: 4
- CMGT 541 Integrated Communication Strategies Units: 4
- CMGT 578 Non-profit Advocacy Units: 4
- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4

International and Intercultural Communication Management Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in international and intercultural communication management. Students will study the latest developments in information and communication technologies, markets and cultures, and industry practices within cross-nation, cross-cultural contexts.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 531 Communication and the International Economy Units: 4
- CMGT 545 Communication and Global Competition Units: 4
- CMGT 556 Global Marketing Communication Units: 4
- CMGT 558 The International Entertainment Marketplace Units: 4
- CMGT 559 Global Hollywood Units: 4
- CMGT 580 Chinese Media and Society Units: 4
- CMGT 582 International Communication: National Development Units: 4
- CMGT 584 Communication and the Multicultural Marketplace Units: 4
- COMM 559 Globalization, Communication and Society Units: 4
- COMM 561 Leading and Communicating Change in Global Organizations Units: 4

Marketing Communication Management Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in marketing communication. Students will study the latest developments in marketing communication research and theory and the application to marketing communication issues.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 541 Integrated Communication Strategies Units: 4
- CMGT 544 Creating Organizational Identity: Meaning Through Messages Units: 4

- CMGT 554 Copywriting and Creativity Units: 4
- CMGT 555 Online Marketing Communication Development and Analysis Units: 4
- CMGT 556 Global Marketing Communication Units: 4
- CMGT 578 Non-profit Advocacy Units: 4
- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4
- CMGT 584 Communication and the Multicultural Marketplace Units: 4
- CMGT 587 Audience Analysis Units: 4

Media and Entertainment Management Graduate Certificate

This certificate program is for students who have already earned master's degrees and who wish to pursue or expand careers in the entertainment industry. Students will study the latest areas of entertainment-related research, theory and application. They will have a strong grounding in the theory, roles, issues and effects of entertainment as well as the impact of entertainment and new entertainment technologies on society, behavior and the entertainment industry.

Students take 16 units of graduate course work that may not be used or have been used for any other degree or certificate program, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 537 The Industry, Science and Culture of Video Games Units: 4
- CMGT 542 Business Strategies of Communication Firms Units: 4
- CMGT 543 Managing Communication in the Entertainment Industry Units: 4
- CMGT 546 Sports Media and Society Units: 4
- CMGT 547 Distribution of Recordings: Media, Retail and Online Channels Units: 4
- CMGT 549 Case Studies in Digital Entertainment Units: 4
- CMGT 550 Hollywood 3.0 — Entertainment Industry in the Convergence Age Units: 4
- CMGT 551 Communicating Entertainment Media Identities Units: 4
- CMGT 558 The International Entertainment Marketplace Units: 4
- CMGT 559 Global Hollywood Units: 4
- CMGT 574 Tele-Media: Strategic and Critical Analysis Units: 4
- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4
- CMGT 586 Entertainment Media: Content, Theory, and Industry Practices Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 579 Entrepreneurship in the New Media Units: 4

New Communication Technologies Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in communication technologies. Students will study the latest developments in new communication and media technologies and their application in a variety of organizational and social contexts.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 515 Innovation and the Information Economy Units: 4
- CMGT 530 Social Dynamics of Communication Technologies Units: 4
- CMGT 533 Emerging Communication Technologies Units: 4
- CMGT 547 Distribution of Recordings: Media, Retail and Online Channels Units: 4
- CMGT 571 Communications Technologies Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 579 Entrepreneurship in the New Media Units: 4

Strategic Corporate and Organizational Communication Management Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in corporate communication and communication consulting. Students will study the latest developments in organizational communication research and theory and the application to business communication issues.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 500 Managing Communication Units: 4
- CMGT 502 Strategic Corporate Communication Units: 4
- CMGT 503 Strategic Communication Consulting Units: 4
- CMGT 504 Writing for Strategic Communication Units: 4
- CMGT 505 Communication in Work Settings Units: 4
- CMGT 508 Communicating Strategy and Change Units: 4
- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 536 Team Communication and Leadership Units: 4
- CMGT 573 Evaluating Communication Needs Units: 4
- CMGT 576 Communication Strategies for Conflict Management Units: 4
- CMGT 577 Communicating Corporate Social Responsibility Units: 4
- COMM 561 Leading and Communicating Change in Global Organizations Units: 4

Doctoral Degree

Communication (PhD)

Students in the doctoral program learn theories that guide research into communication processes and effects and into institutions and technologies that lend pattern to communication. Applicants for the PhD are expected to acquire and demonstrate humanistic and behavioral knowledge of communication while acquiring skills requisite to scholarly research in the discipline.

Screening Procedures

Student progress is carefully monitored by the School of Communication faculty. Students are normally screened at the end of their first year of graduate study. At that time they must have completed no fewer than 16 and no more than 24 units, including COMM 525, COMM 526, COMM 550 and COMM 552. Students are evaluated on subject matter competence, teaching potential and their ability to conduct independent research. Upon successful passage of the screening procedure, the student has 30 days in which to form a qualifying exam committee.

Course Requirements

The student is required to take a minimum of 76 units and write an approved dissertation.

Four core courses

- COMM 525x Humanistic and Social Scientific Approaches to Human Communication I Units: 4
- COMM 526x Humanistic and Social Scientific Approaches to Human Communication II Units: 4
- COMM 550 Quantitative Research Methods in Communication Units: 4
- COMM 552 Qualitative Research Methods in Communication Units: 4

And Doctoral Dissertation

- COMM 794a Doctoral Dissertation Units: 2 are required for all students

- COMM 794b Doctoral Dissertation Units: 2 are required for all students

Students specialize in one of seven tracks by completing a minimum of three courses (12 units) in one of the following:

(1) Rhetoric, Politics and Publics:

- COMM 509x Classical Rhetorical Theory Units: 4
- COMM 511x Contemporary Rhetorical Theory Units: 4
- COMM 512x Rhetorical Criticism Units: 4
- COMM 513x Neoclassical Rhetorical Theory Units: 4
- COMM 514x Social Movements as Rhetorical Form Units: 4
- COMM 515x Postmodern Rhetorical Theory Units: 4
- COMM 517x Rhetorical Theory and Culture Units: 4
- COMM 518x American Public Address Units: 4
- COMM 520 The Rhetoric of the Presidential Campaign Trail Units: 4
- COMM 521x Argumentation Units: 4
- COMM 522x Kenneth Burke's Dramatistic Theory Units: 4
- COMM 573 Networked Publics: Theories and Encounters Units: 4
- COMM 576 Civic Media and Participatory Politics Units: 4
- COMM 580 Media and Politics Units: 4

(2) Media, Culture and Community:

- CMGT 587 Audience Analysis Units: 4
- COMM 516x Feminist Theory and Communication Units: 4
- COMM 517x Rhetorical Theory and Culture Units: 4
- COMM 519x Cultural Studies in Communication Units: 4
- COMM 564 Communication, Culture and Capitalism Units: 4
- COMM 573 Networked Publics: Theories and Encounters Units: 4
- COMM 575 Advocacy and Social Change in Entertainment and the Media Units: 4
- COMM 580 Media and Politics Units: 4
- COMM 605 Advanced Macro Theories of Communication Units: 4
- COMM 618 Mass Media Effects Units: 4
- COMM 629 Global Culture Units: 4
- COMM 653 Research, Practice and Social Change Units: 4
- COMM 654 Art, Artists and Society Units: 4
- COMM 655 Studies in Sound, Music and Communication Units: 4
- COMM 656 Theorizing Race, Culture, Cross-Cultural Exchange Units: 4
- COMM 662 Video Games Research Units: 4
- COMM 672 Experiments in Critical Writing Units: 4

(3) Health Communication and Social Dynamics:

- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4
- CMGT 587 Audience Analysis Units: 4
- CMGT 588 Global Storytelling: The Power of Narrative Units: 4
- COMM 554 Regression and Multivariate Communication Research Units: 4
- COMM 602 Seminar in Persuasion Units: 4
- COMM 611 Communication Technology and Healthcare Units: 4
- COMM 612 Designing Health Communication Interventions Units: 4
- COMM 613 Grant Writing in Communication Units: 4
- COMM 614 Computational Approaches in Health Communication Units: 4
- COMM 615 Health Communication Units: 4
- COMM 616 Health Communication for Prevention Units: 4
- COMM 650 Survey Construction and Validation Units: 4
- COMM 651 Experimental and Quasi-Experimental Designs Units: 4

(4) Groups, Organizations and Networks:

- COMM 508x Power, Politics and Conflict in Communication Units: 4
- COMM 524x Small Group Process Units: 4
- COMM 585x Organizational Communication Units: 4
- COMM 635 Economics of Information Units: 4
- COMM 636 Interpretive and Cultural Approaches in Organizational Communication Units: 4
- COMM 637 Current Readings in Organizational Communication Units: 4
- COMM 638 Global, International and Intercultural Communication in Organizations Units: 4
- COMM 640 Communication and Organizational Change Units: 4
- COMM 641 Organizations and Communication Technologies Units: 4
- COMM 645 Communication Networks Units: 4
- COMM 648 Online Communities and Networks Units: 4
- COMM 652 Ethnographic Field Research in Communication Units: 4

(5) Political Economy of Global Communication:

- COMM 546 The Political Economy of Innovation Units: 4
- COMM 553 Global Internet Governance Units: 4
- COMM 559 Globalization, Communication and Society Units: 4
- COMM 560 Global Media and Communication in China and Asia Units: 4
- COMM 561 Leading and Communicating Change in Global Organizations Units: 4
- COMM 567 The Political Economy of Privacy and Cybersecurity Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 582 Information and Communication Technology for Development Units: 4
- COMM 629 Global Culture Units: 4
- COMM 630 Communication Technology and Social Change Units: 4
- COMM 635 Economics of Information Units: 4
- COMM 645 Communication Networks Units: 4
- COMM 647x Network Society Units: 4
- PUBD 504 Global Issues and Public Diplomacy Units: 4
- PUBD 510 Technologies and Public Diplomacy Units: 4
- PUBD 515 Transnational Diplomacy and Global Security Units: 4
- PUBD 516 International Broadcasting Units: 4
- PUBD 522 Hard Power, Soft Power and Smart Power Units: 4

(6) Information, Political Economy and Entertainment:

- CMGT 582 International Communication: National Development Units: 4
- COMM 516x Feminist Theory and Communication Units: 4
- COMM 559 Globalization, Communication and Society Units: 4
- COMM 560 Global Media and Communication in China and Asia Units: 4
- COMM 563 Black Popular Culture: Theory and Central Debates Units: 4
- COMM 564 Communication, Culture and Capitalism Units: 4
- COMM 566 Using Theory to Craft Policies to Affect Change Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 630 Communication Technology and Social Change Units: 4
- COMM 647x Network Society Units: 4
- COMM 654 Art, Artists and Society Units: 4
- COMM 660 Entertainment and Games Units: 4
- COMM 662 Video Games Research Units: 4
- COMM 670 Economic Cultures Units: 4

(7) New Media and Technology:

- CMGT 530 Social Dynamics of Communication Technologies Units: 4
- CMGT 531 Communication and the International Economy Units: 4
- CMGT 537 The Industry, Science and Culture of Video Games Units: 4
- COMM 524x Small Group Process Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 572 Theories of Computer-Mediated Communication Units: 4
- COMM 573 Networked Publics: Theories and Encounters Units: 4
- COMM 576 Civic Media and Participatory Politics Units: 4
- COMM 577 Fandom, Participatory Culture and Web 2.0 Units: 4
- COMM 578 New Media Literacies Units: 4
- COMM 611 Communication Technology and Healthcare Units: 4
- COMM 641 Organizations and Communication Technologies Units: 4
- COMM 647x Network Society Units: 4

Additional Requirements

In addition, students must take at least two courses in one other track outside their specialization (8 units total). Students also pursue an approved cognate elective program of study in which at least two courses (normally 8 units) are taken in a related field outside USC Annenberg School. Students entering the School of Communication with a master's degree may, with permission, apply part of their previous graduate course work to the cognate requirement. Students in the organizational communication track are required to take at least two methods classes in addition to the core courses, COMM 550 and COMM 552. If taken in a department or unit other than the School of Communication, these courses cannot also be counted toward the student's cognate requirement.

Research Tool Requirement

Doctoral students are expected to demonstrate methodological competence in an area of specialization prior to taking the qualifying examination. Such competence is usually demonstrated through course work (the successful completion, with grade B or better, of selected course work in addition to their content courses that is approved by the PhD qualifying exam committee taken in the school and/or related departments), and by completion of a preliminary research project. Under special circumstances, students with an exceptional prior background in research methods may demonstrate their competence by successfully passing a research tool examination designed and administered by the PhD qualifying exam committee.

Qualifying Exam Committee

This committee is composed of five USC faculty members, at least three of whom are from the School of Communication. Students are expected to work closely with the members of their qualifying exam committee, especially their committee chair, in selecting advanced course work and shaping areas of interest and research. In addition to helping the student plan a program, the committee administers the oral portion of the qualifying examination and approves the dissertation committee.

Qualifying Examination

Qualifying examinations for the PhD usually are taken in the third year of study following completion of all required courses and a preliminary research paper. The examination includes both written and oral portions. The written portion is composed by committees of faculty in the relevant areas of study; the oral portion is administered by the student's qualifying exam committee. Students must pass both portions to be advanced to candidacy. Students must confer with their qualifying exam committee chair, not later than the second week of the semester during which the examinations are to be taken, regarding distribution of written examination hours among subject matter areas.

Doctoral Dissertation

The dissertation is an original research project contributing to knowledge about human communication and should demonstrate a high level of competence in methodologies of scholarly inquiry.

Defense of Dissertation

Dissertations are defended in a formal meeting with the three-member dissertation committee. The school prefers that the defense oral be taken prior to final typing so that recommended changes can be made in the final manuscript.

School of Journalism

USC Annenberg School for Communication and Journalism
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Administration

Director: Gordon Stables, PhD

Faculty

Wallis Annenberg Chair in Communication and Journalism: Afua Hirsch, MA (Oxon), BL
Walter H. Annenberg Chair in Communication: Willow Bay, MBA
University Professor and Annenberg Family Chair in Communication Leadership: Geoffrey Cowan, LLB
Jayne and Hans Hufschmid Chair in Strategic Public Relations and Business Communication: Robert Kozinets, PhD
Knight Chair in Media and Religion: Diane Winston, PhD
Norman Lear Chair in Entertainment, Media and Society: Martin H. Kaplan, PhD
Provost Professor of Communication, Journalism and Cinematic Arts: Henry Jenkins, PhD
Professors: Willow Bay, MBA; Geoffrey Cowan, LLB*; Henry Jenkins, PhD; Robert Kozinets, PhD; Josh Kun, PhD *(Communication)*; Joe Saltzman, MS*; Roberto Suro, MS; Sandy Tolan, BFA
Associate Professors: Mike Ananny, PhD *(Communication)*; Ben Carrington, PhD; William Celis, MS*; Jonathan Kotler, JD*; Jian Wang, PhD; Diane Winston, PhD; Aimei Yang, PhD
Assistant Professors: Eunjin Kim, PhD; Su Jung Kim, PhD; Allissa Richardson, PhD
Visiting Professor: Mark Schoofs
Professors of Professional Practice: Christina Bellantoni, BA; Clarissa Beyah, MBA; Daniel Birman, MA; Laura Castañeda, EdD; Fred Cook, BA; Jennifer Floto, MA*; Vince Gonzales, MA; Robert Hernandez, BA; Gabriel Kahn, BA; Matthew Le Veque, BA; Lisa Pecot-Hébert, PhD; Stacy Scholder, BA; Willa Seidenberg, BA; Burghardt Tenderich, PhD
Associate Professors of Professional Practice: Alan Abrahamson, JD; Amara Aguilar, MA; Peggy Bustamante, MA; Laura Davis, BA; Jeff Fellenzer, MA; Rebecca Haggerty, EdD; Alan Mittelstaedt, BA; Mary Murphy, BA; Miki Turner, BA
Assistant Professor of Professional Practice: Keith Plocek, MPhil
Research Professor of Communication and Journalism: Martin H. Kaplan, PhD

Lecturer: Dana Chinn, MBA
Emeritus Professors: K.C. Cole, BA; Felix Gutierrez, PhD; Judy Muller, BA; Bryce Nelson, MPhil; Michael Parks, BA; Philip Seib, JD
Emeritus Professors of Professional Practice: Sasha Anawalt, BA; Gerald Swerling, MS
Emeritus Associate Professor: Larry Pryor, MS
**Recipient of university-wide or college teaching award.*

Degree Programs

The School of Journalism offers Bachelor of Arts degrees in Journalism and Public Relations. It also offers minors in Advertising, News Media and Society, Podcasting, Public Relations and Sports Media Industries and an interdisciplinary minor in Nonprofits, Philanthropy and Volunteerism. The School of Journalism offers a News and Information Innovation minor in collaboration with the Iovine and Young Academy in which students develop novel solutions to problems facing modern newsrooms. The school stresses a broad-based liberal arts education to enhance writing and reporting and encourages undergraduate students to pursue double majors or minors in disciplines outside the school.

At the graduate level, a Master of Science degree is offered in Journalism and Master of Arts degrees are offered in Specialized Journalism, Specialized Journalism (The Arts) and Public Relations and Advertising. The MS in Journalism degree teaches students to write, report, produce, code, publish and promote cross-platform stories in a converged news environment. Cutting-edge digital courses cater to students interested in careers in social media, data journalism, data visualization, emerging technology and coding. The Specialized Journalism degree is designed for experienced professionals and recent journalism graduates interested in developing specialized reporting expertise. The Specialized Journalism (The Arts) degree is designed for experienced professionals, art practitioners and recent journalism graduates interested in arts, food and culture criticism and reporting. The Public Relations and Advertising degree emphasizes the requisite skills of that discipline, with an emphasis on strategic problem solving, critical thinking, research-based planning and analysis, writing, digital multiplatform content development, and the application of the discipline to specific industry categories.

Student Services

Students must meet with an adviser each semester to receive academic advisement covering university degree requirements and major course selection. The school also offers several international study programs to students. The USC Annenberg Career Development Office has listings for paid and unpaid internships from around the country. Career advisers conduct mandatory advisement appointments for all sophomores and offer career workshops, guest speakers and mentoring opportunities. Students are advised to participate in at least two internships before graduation.

Honor Society

Lambda Pi Eta is a national communication/journalism honor society that is open to students in graduate and undergraduate Annenberg programs. To be eligible, students must have a USC cumulative GPA and an Annenberg major GPA of 3.5 or higher. In addition, undergraduate students must have a declared communication, journalism or public relations major, and have completed (or currently be registered for) at least 60 units, at least 12 of which are in the major. Graduate students must have completed at least 12 units in the fields of communication, journalism or public relations.

Undergraduate Degrees

The School of Journalism offers Bachelor of Arts degrees in Journalism and Public Relations. The school also offers minors in Advertising, News Media and Society, Podcasting, Public Relations and Sports Media Industries and an interdisciplinary minor in Nonprofits, Philanthropy and Volunteerism. Journalism students are encouraged to pursue double majors or minors in other areas of study.

To meet accrediting guidelines, a minimum of 72 units must be completed outside the major area of journalism. A maximum of 16 units of course work taken prior to high school graduation and a combined 32 units of AP, IB and pre-high school graduation course work will count toward this requirement. Journalism and public relations majors can take up to a maximum of 48 journalism units; however, the major unit total (44 units) cannot be exceeded, unless the student has fulfilled the accreditation requirement.

A grade point average of at least C (2.0) on all baccalaureate units attempted at USC, as well as on the combined USC-transfer GPA, is required for undergraduate degrees. A minimum cumulative grade point average of 2.0 in all upper-division courses applied toward the major is also required. Students must complete each journalism and public relations class with at least a grade of C- in order to count the course toward a major requirement. Journalism and public relations courses with a grade of D+ or below must be repeated; courses may only be retaken once. If students do not pass a required major course the second time, then the School of Journalism will drop them from the journalism or public relations major and have their major changed to undeclared. It will be the students' responsibility to declare another major. If students do not pass a major elective course the second time, they can choose to take a different journalism or public relations course for their major elective requirement.

Students interested in taking JOUR 489 Hands-on Disruption: Experimenting with Emerging Technology must contact the instructor for permission to enroll. The instructor will need to assess the technical skill sets of the students to ensure that everyone who enrolls meets the class requirements.

Undergraduate students who are interested in enrolling in JOUR 585 Specialized Reporting: Religion must be a senior, have at least a 3.7 cumulative GPA, and must contact the instructor for permission to enroll.

Non-majors who are interested in enrolling in PR 209 Effective Writing for Strategic Public Relations and/or PR 250 Strategic Public Relations: An Introduction must have at least a 2.5 GPA.

Admission Requirements

Admission is competitive. Fall 2020 first-year students had an average GPA of 3.82 unweighted with an SAT score of 1370-1500 (middle 50%). Transfer students had an average college GPA of 3.88. For admission information and deadlines, refer to the USC Admission website. All transfer applicants must review the transfer admission application guidelines on the Annenberg Admissions website; contact the Annenberg Admissions Office for more information. USC exclusively uses the Common Application for freshman and transfer admission. Applicants must submit the Common Application and the USC Writing Supplement, both of which can be accessed at commonapp.org. For transfer applicants, in addition to the university writing samples, a 250-word statement of intent is required; instructions are included with the USC Writing Supplement.

Students currently enrolled at USC who wish to apply to the School of Journalism must complete the online application with all supporting documents. Students must have 16 units completed at USC with a minimum USC cumulative GPA of 3.0 in order to be eligible to apply to the journalism or public relations major. The 3.0 GPA is a minimum standard and does not guarantee admission. In order to be eligible to apply for the Advertising or New Media and Society minors, students must have a minimum USC cumulative GPA of 2.0 and a declared major. To apply to the Public Relations or Sports Media Industries minors, students must have a minimum USC cumulative GPA of 2.5 and a declared major. For further information on the application process, current USC students are encouraged to attend an information session conducted by Annenberg Advisement and Academic Services.

General Education Requirements

The university's general education program provides coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see the General Education Program.

Annenberg International Programs

Fall and Spring Semester in London, England (Journalism and Public Relations)

Undergraduate journalism and public relations students may spend the fall or spring semester of their junior year at a dedicated study center, where they enroll in 16 units of upper-division Annenberg course work, eight of which are for major credit. In addition to their studies, students tour publishing and broadcasting companies, meet communication executives and government policy-makers and gain exposure to British media, culture and civilization. The program also includes group excursions to such places as Bath, Oxford, Liverpool and Hampton Court. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Semester in Auckland, New Zealand (Journalism and Public Relations)

This undergraduate semester program offers students the opportunity to study at the Auckland University of Technology in New Zealand, a leading southern hemisphere school of journalism and media studies. Fully integrated into the university and its vibrant urban surroundings with strong connections to the nation's indigenous heritage, the program allows students to earn 8 units that fulfill journalism/public relations electives and 8 units of general electives. A minimum USC cumulative GPA of 3.0 is required for this program.

Fall and Spring Semester in Hong Kong, SAR China (Journalism and Public Relations)

The Annenberg Hong Kong program offers students the exciting opportunity to live and study in the cosmopolitan city of Hong Kong. Students study alongside local and international students in a variety of disciplines at the highly regarded, global research institution the Chinese University of Hong Kong (CUHK). The program allows students to directly enroll in the university and earn 6-9 units that fulfill journalism/public relations electives and 6-9 units of general electives. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Semester in Sydney, Australia (Journalism and Public Relations)

This undergraduate semester program offers students the opportunity to study at the University of New South Wales (UNSW) in Australia, one of the top universities in Oceania and highly ranked globally. Conveniently located in the center of Sydney with strong connections to a vibrant media scene, the program allows students to fully integrate into the university and earn 8 units that fulfill journalism/public relations electives and 8 units of general electives. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Semester in Rome, Italy (Journalism and Public Relations)

Undergraduate journalism and public relations students may spend a spring semester at a dedicated study center, where they enroll in 16 units of upper-division Annenberg course work, eight of which are for major credit. In addition to their studies, students tour publishing and broadcasting companies, meet communication executives and government policy-makers and gain exposure to Italian media, culture and civilization. The program also includes guided visits to museums and historical districts, as well as an overnight group excursion to Tuscany. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Break Career Immersions in Thailand and Mexico City

Undergraduate and graduate students may spend spring break immersed in two dynamic regions of the world, Southeast Asia or Central America. Students develop first-hand insights into social impact, development, and non-profits in Thailand. In Mexico City, students engage with the most influential media hub in Latin America by visiting industry leaders and various media companies. These programs offer students the unique opportunity to evaluate the Annenberg disciplines of practice in different emerging areas of the world. A minimum USC cumulative GPA of 3.0 is required for these programs. Please visit the Annenberg International Programs website for more information on additional program requirements.

Summer International Communication Studies — London, Paris, Madrid, Berlin and Prague

The International Communication Studies Program (ICS) allows undergraduate students to study a range of approaches to public communication media across Europe during the summer semester. Students divide the five-week course into stays in Los Angeles, London, Paris, Madrid, Berlin and Prague. In addition to regular class meetings, students discuss the interplay of current world issues and international media practices with communication practitioners from international news and public relations media, government institutions, private industry and global organizations. Students enroll in JOUR 482 Comparative Media in Europe (4 units). A minimum USC cumulative GPA of 3.0 is required for this program.

For further information, contact Annenberg International Programs at (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

Departmental Honors

Undergraduate students who are nominated by journalism faculty to participate in JOUR 498 – Honors Seminar (2 units) or PR 498 – Public Relations Honor Seminar (2 units) their senior year are eligible for departmental honors. Nominations are based on academic achievement, performance in the classroom, leadership and involvement in the school. Students who successfully complete JOUR 498 or PR 498 with a B+ or higher and achieve no less than a USC cumulative GPA of 3.0 and a journalism or public relations major GPA of 3.5 at the time of graduation will receive departmental honors.

Academic Integrity Policy

Since its founding, the School of Journalism has maintained a commitment to the highest standards of ethical conduct and academic excellence. Any student found plagiarizing, fabricating, cheating on examinations, and/or purchasing papers or other assignments faces sanctions ranging from an "F" on the assignment to dismissal from the School of Journalism.

Progressive Degree Program

The School of Journalism offers progressive degree options for the Master of Science in Journalism, Master of Arts in Specialized Journalism and Master of Arts in Public Relations and Advertising. The progressive degree program allows USC students to complete a bachelor's degree and master's degree in as little as five years.

Students with a USC cumulative GPA of 3.0 or higher in all classes taken at the university level are eligible to apply for admission to the degree program during their junior year. The 3.0 GPA is a minimum standard and does not guarantee acceptance. Current students must attend a mandatory information session conducted by Annenberg Admissions and a faculty member before initiating the application process. Students admitted into the progressive degree program begin taking master's level courses in their senior year and then enroll exclusively in graduate courses until the master's degree is completed.

For further information on the application process, current

USC students must attend a mandatory information session. Contact Annenberg Admissions for session dates. Application materials must be downloaded from undergrad.usc.edu/programs/progressive/.

Graduate Degrees

The School of Journalism offers one Master of Science degree program in Journalism, three Master of Arts degree programs in Specialized Journalism, Specialized Journalism (The Arts) and Public Relations and Advertising, and two certificates in Journalism and Public Policy Advocacy.

The 11-month, 36-unit MS in Journalism is an intense, deadline-driven program in which students learn to write, report, produce, code, publish and promote cross-platform stories in a converged news environment. Students also choose a specialty area that prepares them for careers across a broad spectrum, including but not limited to broadcast television and radio news, long-form audio and video documentaries, investigative, sports and entertainment reporting and writing and/or multimedia news production. The MS program accepts applicants with little to no journalism experience as well as seasoned journalists who wish to learn cross platform/multimedia reporting and producing skills.

The 11-month, 34-unit MA in Specialized Journalism is a program geared toward experienced journalists seeking subject-matter expertise and toward experienced professionals in other fields seeking journalism skills to advance their expertise. The program is also open to recent journalism school graduates with records of excellence and a demonstrated aptitude and commitment to developing an expertise in a specialized field of reporting.

The 11-month, 34-unit MA in Specialized Journalism (The Arts) is geared toward experienced arts and food journalists, as well as recent graduates with a demonstrated commitment to specializing in arts and/or food journalism. The program is also open to people who have no background in journalism, but who are deeply experienced in at least one art form as a practice or profession, or in the world of food as a practice or profession; the acquisition of journalism skills toward a future specializing in the coverage of arts and culture, or food and culture, is the objective.

The 16- to 21-month professionally oriented MA in Public Relations and Advertising degree is designed to train both recent graduates interested in public relations, advertising and related fields, and young professionals considering transitions into that field or seeking to advance their careers, for eventual management-level positions in all types of organizations. In their first two semesters, students take a core group of courses focusing on strategic problem-solving, research-based actionable insight, business acumen, persuasive writing, multiplatform content production and leadership skills. In their third and fourth semester students choose from a wide variety of electives and have the opportunity to specialize in one of six specific tracks.

Admission to the Journalism certificate is by permission only. Only current graduate students may apply to the Public Policy Advocacy certificate.

Admission Requirements

Prerequisites

An applicant must have the equivalent of a four-year bachelor's degree from an accredited college or university for the MS or MA degree. Applicants with a three-year bachelor's will be considered for admission to the graduate journalism certificate.

Criteria

Refer to the Annenberg graduate application guidelines on the School website for complete details about graduate application requirements. Scores on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) are required for applicants whose undergraduate degree was not completed in a country where English is the only official language.

Procedure

Applicants must complete and submit the online USC Graduate Admission Application. Before initiating the application, refer to the Annenberg graduate application guidelines on the Annenberg Admissions Website for deadlines and details about specific materials that must be uploaded to the application and documents that must be submitted directly to USC Graduate Admission.

New students are admitted to the MS in Journalism, the MA in Specialized Journalism, the MA in Specialized Journalism (The Arts) and the Journalism Certificate for the summer session only.

New students are admitted to the MA in Public Relations and Advertising degree program for the fall semester only.

Annenberg International Programs

Graduate Internship Program (Journalism and Public Relations) – Berlin, Cape Town, Hong Kong and Sao Paulo

The Annenberg International Programs Graduate Internship Program allows graduate students the opportunity to explore the communication and journalism fields from a distinctively global perspective. Students have the opportunity to intern in one of the following four global cities: Berlin, Germany; Cape Town, South Africa; Hong Kong SAR, China; or Sao Paulo, Brazil. The program takes place over the course of eight weeks during the summer semester. Students enroll in JOUR 545 and earn 1 unit of academic credit. Program dates and fees vary based on program city. For further information, contact Annenberg International Programs at (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

Spring Break Career Immersions in Thailand and Mexico City

Undergraduate and graduate students may spend spring break immersed in two dynamic regions of the world, Southeast Asia or Central America. Students develop first-hand insights into social impact, development, and non-profits in Thailand. In Mexico City, students engage with the most influential media hub in Latin America by visiting industry leaders and various media companies. These programs offer students the unique opportunity to evaluate the Annenberg disciplines of practice in different emerging areas of the world. A minimum USC cumulative GPA of 3.0 is required for these programs. Please visit the Annenberg International Programs Website for more information on additional program requirements.

Degree Requirements

All course work applied toward a degree must be approved by the School of Journalism and the Graduate School.

Academic Integrity Policy

Since its founding, the School of Journalism has maintained a commitment to the highest standards of ethical conduct and academic excellence. Any student found plagiarizing, fabricating, cheating on examinations and/or purchasing papers or other assignments faces sanctions ranging from an "F" on the assignment to dismissal from the School of Journalism.

Bachelor's Degree

Journalism (BA)*

Building upon Annenberg's record of innovation in journalism education, the BA in Journalism offers a forward-thinking curriculum that encourages students to embrace technology, assess it critically, and employ it in the service of powerful and effective journalism. Team-taught courses leverage faculty expertise in video, audio, text and digital journalism to help students establish their reporting and writing expertise across multiple platforms. Through a newly integrated Media Center experience, students will acquire the editing, production and digital storytelling skills to produce journalism across a range of media. At the conclusion of the degree program, students will complete an advanced reporting project that showcases their abilities.

Students are required to complete 44 units for the major, including 30 units required core courses.

Required Courses, Lower Division

- JOUR 201 Culture of Journalism: Past, Present and Future Units: 4
- JOUR 206 Reporting and Writing Practicum Units: 1 (2 units required)
- JOUR 207 Reporting and Writing I Units: 3

Required Courses, Upper Division

- JOUR 307 Reporting and Writing II Units: 3
- JOUR 320 Introduction to Coding for Storytelling Units: 2
- JOUR 321 Visual Journalism Units: 2
- JOUR 322 Introduction to Investigative and Data Journalism Units: 2
- JOUR 372 Engaging Diverse Communities Units: 2
- JOUR 414 Advanced Digital Media Storytelling Units: 2
- JOUR 462 Law of Mass Communication Units: 4

Annenberg Experience

Choose one of the following required core courses (4 units total):

- ASCJ 200 Navigating Media and News in the Digital Age Units: 4
- JOUR 300 Journalism and Society Units: 4

Advanced Reporting Elective

Choose one course:

- JOUR 402 Advanced Video Reporting Units: 6
- JOUR 403 Television News and Sports Production Units: 6
- JOUR 405 Non-Fiction Television Units: 4
- JOUR 409 Radio Storytelling and Podcasts Units: 4
- JOUR 448 Government and Public Affairs Reporting Units: 4

Upper-Division Electives

Complete 8-10 upper division journalism or public relations elective units chosen in consultation with your adviser. Note: Students who choose a 4-unit Advanced Reporting course will need 10 units of upper division electives; students who choose a 6-unit Advanced Reporting course will need 8 units of upper division electives.

Public Relations (BA)*

Public Relations — sometimes called Strategic Communication — is a dynamic, fast-growing discipline found in organizations of all types, including non-profits, entertainment firms, sports teams, social action groups, universities and Fortune 500 companies. Its purpose is to help those organizations achieve their goals by maintaining healthy relationships with their most important audiences. Practitioners use a wide variety of creative strategies and tactics, including both digital/social media and traditional mass media, as their most important tools. Every day thousands of PR professionals rely on the training they received at USC Annenberg to analyze trends, develop and implement sophisticated programs, and counsel senior management. Internships with leading PR agencies, non-profit organizations, entertainment companies and government agencies provide real-world experience that prepares students for successful careers.

Total units: 44

Required Courses, Lower Division

- PR 209 Effective Writing for Strategic Public Relations Units: 4
- PR 250 Strategic Public Relations: An Introduction Units: 4

Required Courses, Upper Division

- PR 351a Strategic Public Relations Media and Content Units: 4
- PR 351b Strategic Public Relations Media and Content Units: 4
- PR 429 Business and Economic Foundations of Public Relations Units: 4
- PR 450 Advanced Strategic Public Relations Units: 4
- PR 463 Strategic Public Relations Research, Analysis and Insights Units: 4

  Plus 16 upper-division PR and/or JOUR elective units chosen in consultation with an adviser

Minor

Advertising Minor

The advertising minor is designed for students interested in building a career in, or developing a better understanding of, the field of advertising. It explores the key role played by advertising in today's global economy. At no time has advertising been more successful or more controversial than it is today, and this program will explore both the positives and the negatives. Emphasis is placed throughout the program on both the practical skills required to meet the demands of the marketplace and the theoretical underpinnings of those practices. Program content includes: the history of advertising; creation of written and visual advertising elements; the measurement, selection and analysis of media; the concept of "branding;" the role of advertising in creating and maintaining successful brands; the analysis of advertising campaign case studies; and the creation of integrated marketing communications campaigns.

Required Courses

- MKT 406 Practicum in Advertising and Promotion Design Units: 4.0
- PR 340 Introduction to Advertising Units: 4
- PR 341 Advertising Copywriting Units: 4
- PR 342 Advertising Media and Analysis Units: 4
- PR 343 Advertising Design and Production Units: 4

Select one additional course from the following:

- MKT 402 Introduction to Marketing Analytics Units: 4
- MKT 405 Advertising and Promotion Management Units: 4
- MKT 425 Marketing in a Digital World Units: 4

Total units: 24

News Media and Society Minor

News media and society is a journalism minor that explores the responsibilities, the influence, the ethics and the diversity of the news media. It explores the myths about news media in the United States and explains what the news media are, how they work, what they do wrong and what they do right, and why they are important to a society whose citizens depend on the free and unfettered flow of information. This minor will help all students in all majors to understand one of the most important and misunderstood forces in American society: the news media.

News media and society benefits every student at the university because it gives students a new appreciation and understanding of the news media that so much influence their lives on a daily basis.

Required Core Courses

- JOUR 200w The Power and Responsibility of the Press Units: 4
- JOUR 201 Culture of Journalism: Past, Present and Future Units: 4

Electives

Choose 12 units from the following:

- COMM 371 Media Censorship and the Law Units: 4
- JOUR 373 Journalism Ethics Goes to the Movies Units: 4
- JOUR 375 The Image of the Journalist in Popular Culture Units: 4
- JOUR 460 Social Responsibility of the News Media Units: 4
- JOUR 466m People of Color and the News Media Units: 4
- JOUR 467 Gender and the News Media Units: 4
- JOUR 484 American Religion, Foreign Policy and the News Media Units: 4

Total units: 20

Nonprofits, Philanthropy and Volunteerism Interdisciplinary Minor

This four-course minor enables students to learn about the nonprofit sector — its organizations, philanthropy and voluntary action. See complete description in the USC Price School of Public Policy section.

Podcasting Minor

The minor is designed to give students a grounding in the history, theory, production and business of podcasting. Students will develop a discerning ear for quality audio content and the best practices for effective oral communication. Students will learn practical skills required for the production of a variety of podcast formats, from narrative storytelling to interview/conversational to fictional podcasts. In addition, the coursework will expose students to non-production aspects of podcasting such as branding, marketing, distribution, analytics, monetization and legal issues. The minor will equip students to start a podcast or seek employment for podcast production jobs.

Required Courses

- CTPR 404 Practicum in Podcast Production Units: 2
- CTWR 403 Writing the Narrative Podcast Series Units: 2
- JOUR 407 The World of Podcasting Units: 4
- JOUR 412 Podcasting: Origin Stories Units: 2
- THTR 318 Creating the Hit Podcast Units: 2

Electives

Choose at least 4 units from the following:

- COMM 383m Sports, Communication and Culture Units: 4
- COMM 422 Legal Issues and New Media Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- IML 328 Sonic Media Art Units: 2
- IML 428 Exploring and Creating Sonic Environments Units: 4
- JOUR 411 Broadcast and Digital Writing for Video and Audio for Non-Majors Units: 2
- JOUR 472 Strategies for Monetizing New Media Units: 4
- PR 486 Multimedia PR Content: Introduction to Digital Design Tools Units: 2
- THTR 306 Audio-Drama Units: 2.0
- THTR 489 Theatre Internship Units: 2, 3, 4, 5, 6

Units Required: 16

Public Relations Minor

The public relations minor is designed for students interested in building a career in, or developing a better understanding of, the field of public relations. At no time has public relations been more successful or more visible than it is today. Emphasis is placed throughout the program on both the practical skills required to meet the demands of the marketplace and the critical thinking required to be a successful entry-level public relations practitioner.

Required Courses

- PR 209 Effective Writing for Strategic Public Relations Units: 4
- PR 250 Strategic Public Relations: An Introduction Units: 4
- PR 352 Public Relations Media and Content for Non-Majors Units: 4

Elective Courses

Choose 12 units of PR and/or JOUR 300-499 level electives.

Sports Media Industries Minor

Organized sports are one of the most popular forms of live and participatory entertainment, and produce vast quantities of mediated content. Virtually all professional sport, and increasingly much of amateur competition, is influenced by the importance of having the competitions shared with a wide range of audiences and utilizing diverse platforms to engage these fans. This content rich environment highlights how leagues, teams, players and coaches are each independent and interdependent brands, as well as creators and distributors of multimedia content. This volume of sports content creates new challenges for journalistic norms and storytelling techniques as well as new opportunities for the business of sports media management. The Sports Media Industries minor introduces students to a range of professional settings, activities and challenges related to the growth of sports media.

This 20-unit minor requires that students be introduced both to sports journalism as content production and also to the notion of sports media as a unique setting for publicity, advertising, and public relations. Students will develop the skills required to create sports media content, and increase their ability to critically examine sports media's influence on contemporary culture, particularly issues related to race, gender, class and sexual orientation. The minor will also establish an introductory knowledge of the business of sports and sports media. Elective courses allow students greater opportunity to explore these fields as well as take courses dedicated to specific aspects of sports media.

Required Core Course

- JOUR 350 Introduction to Sports Media Units: 4

Electives

Choose at least 16 units from the following:

- COMM 387 Sports and Social Change Units: 4
- JOUR 380 Sports, Business and Media in Today's Society Units: 4
- JOUR 404 Produce and Host Sports Content in Studio A Units: 2
- JOUR 432 Sports Commentary Units: 4
- JOUR 441 Sports Reporting Units: 2
- JOUR 478 Politics of Sports Writing Units: 4
- JOUR 479 Storytelling for Action Sports Units: 4
- JOUR 480 Sports and Media Technology Units: 4
- JOUR 481 The Athlete, Sports Media and Popular Culture Units: 4
- JOUR 485 Sports Investigative Reporting Units: 4
- PR 453 Public Relations Strategies for Working with Athletes Units: 4
- PR 454 Sports Public Relations Units: 2

Total units: 20

Master's Degree

Journalism (MS)

Studies toward the Master of Science in Journalism require 36 units of prescribed courses and approved electives in the student's field of study. No more than 12 units of 400-level course work may be applied toward the Master of Science in Journalism.

Students who earn a GPA of below 3.0 will be placed on academic probation and must improve according to established terms if they are to remain in the school. In the case of courses offered on Credit/No Credit (CR/NC) basis, faculty review of competence will be substituted for grades.

Residence

Students in the Master of Science in Journalism can complete the program in eleven months by enrolling in the seven-week summer immersion course and enrolling in 14 units in the fall and spring semesters. The School of Journalism will accept only 4 units of approved transferred graduate credit.

Foreign Language/Research Tool Requirements

There is no foreign language or research tool requirement for the master's degree, but fluency in the English language is needed for success in the program.

Grammar, Spelling and Punctuation (GSP)

Journalism students are required to complete an online tutorial about Grammar, Spelling and Punctuation (GSP) and pass the GSP test before the end of the spring semester. Students who fail to complete the GSP tutorial and pass the test will not receive a degree from the School of Journalism.

Note: Students with disabilities may register with the Disability Services and Programs office (DSP) so the DSP staff can assess the nature of the students' disabilities and recommend the appropriate accommodations to be provided for each student.

Capstone Project

MS in Journalism students must enroll in JOUR 598 (4 units) in order to graduate. Completed projects are judged by a committee

appointed by the director of the School of Journalism and degrees are conferred based on the committee's review.

Course Requirements (36 units)

- JOUR 505 The Practice: Journalism's Evolution as a Profession Units: 1
- JOUR 510 Special Assignment Reporting Units: 2
- JOUR 528 Summer Digital Journalism Immersion Units: 3
- JOUR 531 Fall Digital Journalism Immersion Units: 3
- JOUR 539 Introduction to Investigative Reporting Units: 2
- JOUR 546 News, Numbers and Introduction to Data Journalism Units: 2
- JOUR 547 Navigating the Media Marketplace Units: 1
- JOUR 553 Coding and Programming for Storytelling Units: 2
- JOUR 560 Seminar in Mass Communication Law Units: 2
- JOUR 598 Journalism Capstone Project Units: 4

Plus 14 approved elective units (400-level courses and above).

Emphases

Students interested in specific journalistic platforms are encouraged to select an emphasis and complete the recommended courses for that emphasis:

Long-Form Video

- JOUR 521 Documentary Pre-Production Units: 2
- JOUR 522 Video Documentary Production Units: 4
- JOUR 575 Converged Media Center Units: 2, 4

News Video

- JOUR 403 Television News and Sports Production Units: 6
- JOUR 524 Advanced Broadcast Reporting Units: 4
- JOUR 552 Television Reporting and Production Units: 2
- JOUR 575 Converged Media Center Units: 2, 4

Audio

- JOUR 409 Radio Storytelling and Podcasts Units: 4
- JOUR 523 Public Radio Reporting Units: 2
- JOUR 525 This California Life: Storytelling for Radio and Podcasting Units: 4
- JOUR 575 Converged Media Center Units: 2, 4

Text

- JOUR 517 Advanced Investigative Reporting Units: 4
- JOUR 519 Advanced Writing and Reporting for Magazine and the Web Units: 4
- JOUR 542 Foreign Affairs Reporting Units: 3
- JOUR 575 Converged Media Center Units: 2, 4
- JOUR 577 Monetization and the New Media Units: 3
- JOUR 585 Specialized Reporting: Religion Units: 4

Digital

- JOUR 475 Print and Digital Design for 21st Century Storytelling Units: 4
- JOUR 479 Storytelling for Action Sports Units: 4
- JOUR 489 Hands-on Disruption: Experimenting with Emerging Technology Units: 2
- JOUR 494 Python Coding for Data Journalism Units: 2
- JOUR 496 Interactive Media Design for Publishing Units: 4
- JOUR 497 Data Visualization and Interactive Tools Units: 2
- JOUR 533 Web Journalism and Editorial Site Management Units: 2
- JOUR 555 Advanced Coding for Creative Storytelling Units: 2
- JOUR 561 Fundamentals of Data Journalism Reporting Units: 2
- JOUR 575 Converged Media Center Units: 2, 4

Public Relations and Advertising (MA)

Few industries have been as radically transformed by new technologies in the past 20 years as the public relations and advertising professions. Now increasingly converged fields of practice and study, they remain central to the success of organizations of all types, whether business or purpose-driven. The Master of Arts in Public Relations and Advertising offers students a broad perspective across a changing global communication landscape and a deep grounding in foundational courses across disciplines such as persuasive writing, strategy, business fundamentals, advocacy, digital content creation, improvisational leadership and storytelling backed by data intelligence. Through a combination of conceptual courses, research and content creation labs plus electives, specializations and study abroad opportunities, this highly applied program prepares students to become a leader in one of the most dynamic global industries.

Upon completion of the program, graduates will be able to utilize strategic and critical thinking principles, quantitative and qualitative analyses, multi-platform content creation methods and ethical reasoning models to conceptualize and execute effective communication campaigns across all forms of media. In addition to the core competencies of public relations and advertising, graduates will work in other digital communication fields that include social media management, influencer relations, digital brand activation, etc.

Studies toward the Master of Arts in Public Relations and Advertising require 36 units in total, 27 of which are required, foundational courses. The remaining 9 units may be taken as PR and Advertising specializations, Annenberg electives or at other USC schools. No more than 9 units of 400-level course work may be applied toward the MA in Public Relations and Advertising.

Students who earn a GPA of below 3.0 will be placed on academic probation and must improve according to established terms if they are to remain in the school.

Residence

Normally, full-time students in the MA in Public Relations and Advertising can complete the program in four semesters.

Foreign Language/Research Tool Requirement

There is no foreign language or research tool requirement; however, prior knowledge of digital media and research tools is beneficial.

Master's Thesis/Capstone

The Master of Arts in Public Relations and Advertising culminates in either a Thesis or Capstone option. Students may choose between two options: a) the 4-unit thesis/professional project option, which entails one of three approaches: a traditional academic thesis (generally reserved for students who intend to pursue a PhD); a research project (a strategic campaign plan or a white paper); or a video thesis. Alternatively, students may select b) a practicum to craft a digital capstone portfolio that tests overall program knowledge. A passing grade in the capstone portfolio is required for graduation.

Course Requirements (36 Units)

- PR 508 Public Relations and Advertising Fundamentals and Strategy Units: 3
- PR 522 Storytelling with Data Intelligence Units: 3
- PR 523 Advanced Audience Insight Mining Units: 3
- PR 524 Multimedia Content Creation for Brand Storytelling I Units: 3
- PR 525 Multimedia Content Creation for Brand Storytelling II Units: 3
- PR 526 Understanding Transmedia Audiences Units: 3
- PR 529 Business and Economic Foundations for Communicators Units: 3
- PR 535 Persuasive Writing Units: 3
- PR 598 Improvisational Leadership Units: 3
- Plus 9 units of approved elective courses*

Note:

*Students electing the thesis option are required to enroll in PR 594a (2 units) and PR 594b (2 units) and must complete 5 units of approved elective courses. Students electing the comprehensive examination option must complete 9 units of approved elective courses.

Specialized Journalism (MA)

The Master of Arts in Specialized Journalism is a program geared toward experienced journalists seeking subject matter expertise and toward experienced professionals in other fields seeking journalism skills to advance their expertise. The program is also open to recent School of Journalism graduates with records of excellence in their university classes and internships and a demonstrated aptitude and commitment to developing an expertise in a specialized field of reporting.

In the SJ program, award-winning, experienced journalists guide students toward publication in professional outlets, generating "impact journalism" that makes a difference. Students are encouraged to explore documentary, investigative, and narrative journalism genres through a range of specialties and disciplines, including international reporting, social justice journalism and reporting on religion, climate change, sports, entertainment and other subjects. Under the guidance of faculty advisers, and with a wide range of electives for study throughout the university, students craft their own unique master's degree.

Students must begin the program in summer term, enrolling in a required 3-unit, intensive session course focused on journalism and society and on digital media. In addition to the formal classes, the course includes multimedia skills workshops. This gateway course provides the master's students with a working knowledge of the specialized journalism and the multimedia storytelling skills necessary for study in the program. Students also are required take a 2-unit class in media law and a 1-credit course in narrative nonfiction in the summer. These classes set the stage for two semesters of access to courses as substantively broad as a major research university such as USC makes available and for advanced courses in the School of Journalism's graduate program.

In the fall semester, students will enroll in the required "Power of Narrative" and "Critical Thinking" courses for journalists in the School of Journalism. They will also select from one of the reporting tracks or reporting platforms. With the advice of their academic adviser and faculty mentors, students will select elective course work appropriate to their fields of specialization. These courses will be drawn from regular graduate and 400-level courses taught in Annenberg or across the university. Students also will begin research for their master's professional project. Thesis topics must be approved in advance by faculty. These projects will be extended works of journalism, such as a full-length magazine article, similar radio, television or multimedia treatments or the equivalent in their professional field. In addition, students will choose one or more concentrations from the available reporting tracks and platforms. These include additional required classes of a minimum of three units each.

In the spring semester, students will enroll in approved electives. Students will also enroll in elective course work, depending on their chosen concentration, selected again from offerings across the university and in consultation with their faculty mentors. Finally, students will complete their master's professional project.

Reporting Tracks

Race and Social Justice

Develop the skills, critical thinking and expertise to report on the ongoing struggles over race, equality and justice in America. Students will deepen their understanding of the struggle for racial equality and justice through the study of critical theories of race, the lived experiences of journalists of color in newsrooms, and the history and coverage of race and justice in California and beyond. Students will understand the way history, global discourses, newsroom dynamics and technological change are shaping foundational social issues, forming practical knowledge of how race manifests in and shapes reporting in the media today. Students will apply these ideas in the service of producing compelling, deeply-reported stories on race and justice, for publication in local, national, and international media outlets.

Sports and Society

Tap into Annenberg's vast resources to produce deeply-informed, socially-aware sports journalism in LA and around the world. USC Annenberg's location in downtown Los Angeles positions students at the hub Southern California's sports media landscape, close to major networks and digital outlets. Students cover the Lakers, Clippers, Dodgers, Kings, Rams, Chargers and Sparks, plus top-level college athletics and Olympic competition. Annenberg faculty have built unparalleled relationships across multiple media platforms and including athletes, coaches and content creators. Students produce on-site field reporting, write longer-form and investigative sports stories, and meet leaders and executives from the NBA, WNBA, MLB, NHL and MLS. Students will also learn the social, political and economic context of sports in American society and culture, equipping them with the tools for both top-notch reporting and critical analysis in a rapidly changing, global sports media environment.

Entertainment and Pop Culture

Go beyond the red carpet to produce deeply reported stories on the culture, social impact, ethics and economics of entertainment and pop culture. Entertainment journalism has a profound impact on how people view politics, government, race, gender and international affairs. With Los Angeles, the entertainment capital of the world, as the backdrop, students will be steeped in the content, social impact, history, ethics and economics of entertainment and pop culture reporting in the United States and the world. Building on this understanding, and critical skills of research, interviewing, writing and production, students will produce groundbreaking reporting on journalism and pop culture. And, they will be introduced to key players, leaders and celebrities, to understand and challenge those who are making decisions that are having an impact on our lives.

Religion

Through Annenberg's Knight Chair in Media and Religion, explore the intersection among religion, politics and culture to write complex stories reported domestically and internationally. Religion plays a crucial role in domestic politics and international relations. Spirituality – the individual search for meaning – shapes our sense of self and our orientation to the world. Report on what gives nations, communities and individuals meaning, identity and purpose whether through arts and entertainment, sports, climate concern, racial justice, politics or humanitarian outreach. Each year, the class travels abroad for an immersive reporting experience focused on religion, politics and culture in countries such as India, Indonesia, South Korea and Israel/Palestine.

International

Combine on-location global reporting through Annenberg with study of international issues across USC, to build top-notch international reporting expertise. To report on the world, you must know the world. Students who opt to specialize in international reporting explore international relations, public policy, religion, health, immigration and environmental studies across the university in tandem with their journalism courses at USC Annenberg. Students have traveled to and reported from countries like Greece, Ireland and Indonesia. As an extension of their coursework, students have also partnered with various media organizations like The Washington Post, The Atlantic, Daily Beast and Public Radio International to have their stories published.

Climate

Work with top climate journalists and experts in science and public policy to build top-notch climate reporting expertise. From devastating hurricanes to annual record-breaking heat waves, from "sunny-day floods" in southern Florida to the annual new normal of a California on fire, climate change has reached deep into the American landscape, its economy, politics, even its collective psyche. With these effects has come new awareness, and an urgency to tackle the problem. Never has there been such a need for an original, compelling and accurate accounting of the threat of climate change, and the promise of constructive measures to address it. Students will sharpen their expertise in climate science and social policy, and consider agriculture, water and food sustainability, while producing groundbreaking narrative, documentary and investigative reporting on a central issue of our time.

Reporting Platforms

Documentary

Report beyond the news through in-depth storytelling and analyses of issues you are passionate about, and contextualize them for a broader audience. The documentary sequence at USC Annenberg provides an opportunity to report beyond the news. You have the opportunity do in-depth analyses of stories that you are passionate about and learn ways to contextualize them for a broader audience. Completed docs are eligible for publication on Impact, a student-produced series that is featured on the Annenberg Media website, and is broadcast by Spectrum News1, L.A.'s 24-hour news channel. You will learn advanced ideas centering on visual literacy, production, techniques to manage large amounts of content, and organized approaches to building documentaries for multi-platform distribution. These are skills that translate to all aspects of journalism.

Data and Innovation

Enhance new forms of storytelling, develop smarter platforms to deliver news, explore techniques in data mining and work on new business models to increase the value of journalistic content. Journalism is at the midst of a bold transformation. The Data and Innovation track is designed for students who are seeking to embrace the technologies that have opened up new frontiers for the profession and to capitalize on this moment by charting the next phase of the communications revolution. Students work closely with leading players in the industry to: (1) enhance new forms of storytelling; (2) develop smarter platforms to deliver news; (3) improve reporting techniques and data mining; and (4) work on new business models to increase the value of journalistic content.

Podcasting and Audio

Explore the power of audio storytelling through advanced production and mixing techniques, narrative point of view, and the history, economics and journalistic range of the podcast. The Audio and Podcasting track gives students grounding in the production and business of podcasting as an outlet for their journalistic work. Students will explore the power of audio storytelling, from classic public radio-style productions to innovative and experimental podcasts. They will learn advanced production and mixing techniques, narrative point of view and the history, economics and journalistic range of the podcast. They will develop a discerning ear for quality audio content and the best practices for effective oral communication. Course work will also expose students to non-production aspects of podcasting such as branding, marketing, distribution, analytics, monetization and legal issues.

Investigative

USC Annenberg is seeking students and early-career journalists of exceptional promise who aspire to journalism's highest calling: producing stories that expose harm, wrongdoing, abuse of power. Stories that matter. Building on the work of the Beacon Project, profiled in *The New York Times*, you will work on a major investigative project under the mentorship of award-winning journalists who will help place deserving stories in professional news outlets. You will learn how to find documents most reporters would not even think to look for; persuade reluctant or hostile sources to reveal their secrets; obtain and analyze data; protect your sources with digital-security savvy and counter-surveillance techniques; bulletproof your stories against libel actions and write compelling stories for text, audio or video.

Narrative

Immerse yourself in myriad ways of nonfiction and longform storytelling, learning from award-winning authors and magazine writers the best ways to produce compelling narrative journalism. Top narrative journalists will show you how to cut through the crowded content landscape to tell the stories that matter. In the narrative track, you will learn nonfiction storytelling techniques across a range of styles and interests of your choice – from the arts to religion and social justice issues, from climate reporting to sports and entertainment – to tell the stories that matter. In the process, you will examine fundamental principles embedded in all good narrative journalism: in-depth, empathetic, and creative storytelling. Work that makes a difference. Here you will learn how to create the "journalism of the heart" – groundbreaking, deeply-reported, humane storytelling that bears witness to the world around us.

The 11-month program has been designed for a fall and spring semester enrollment cycle; however, students may also elect to complete the program over a longer time span on a part-time basis, but must start with the intensive summer course.

Studies toward the Master of Arts in Specialized Journalism require 34 units of prescribed courses and approved electives. No more than 10 units of 400-level course work may be applied toward the Master of Arts in Specialized Journalism.

Residence

The Master of Arts in Specialized Journalism can be completed in an 11-month enrollment cycle that includes the seven-week summer session, plus the fall and spring semesters. These programs may be attended on a part-time basis.

Foreign Language/Research Tool Requirements

There is no foreign language or research tool requirement for the master's degree.

Grammar, Spelling and Punctuation (GSP)

Journalism and strategic public relations graduate students are required to complete an online tutorial about Grammar, Spelling and Punctuation (GSP) and pass the GSP test before the end of the fall semester of their first year. Students who fail to complete the GSP tutorial and pass the test will not receive a degree from the School of Journalism.

Note: Students with disabilities may register with the Office of Student Accessibility Services (OSAS) so the OSAS staff can assess the nature of the students' disabilities and recommend the appropriate accommodations to be provided for each student.

Master's Thesis

MA in Specialized Journalism students normally enroll in JOUR 594a (2 units) and JOUR 594b (2 units) in their single year of study.

For complete admission requirements refer to the section on the School of Journalism page.

Course Requirements

- JOUR 511 Introduction to Narrative Non-Fiction Units: 1
- JOUR 528 Summer Digital Journalism Immersion Units: 3
- JOUR 560 Seminar in Mass Communication Law Units: 2
- JOUR 567 The Power of Narrative Units: 2
- JOUR 594a Master's Thesis Units: 2
- JOUR 594b Master's Thesis Units: 2
- JOUR 595 Critical Thinking: The Art and Science of Not Getting Fooled Units: 3

One course from:

- JOUR 411 Broadcast and Digital Writing for Video and Audio for Non-Majors Units: 2
- JOUR 431 Feature Writing Units: 4
- JOUR 517 Advanced Investigative Reporting Units: 4
- JOUR 519 Advanced Writing and Reporting for Magazine and the Web Units: 4
- JOUR 523 Public Radio Reporting Units: 2
- JOUR 525 This California Life: Storytelling for Radio and Podcasting Units: 4
- JOUR 552 Television Reporting and Production Units: 2
- JOUR 588 Cities, Climate and Risk Units: 3

Concentrations

Choose one reporting track or platform.

Climate

Required course:

- JOUR 588 Cities, Climate and Risk Units: 3

Electives

Choose at least one course:

- COMM 475 Environmental Communication Units: 4
- JOUR 568 The Art of (Micro) Food Journalism: Los Angeles and California Units: 3

- JOUR 569 The Art of (Macro) Food Journalism: A Global View Units: 3

Data and Innovation

Required course:

- JOUR 488 Data-Driven Storytelling About Los Angeles Units: 4

Electives

Choose at least one course:

- CMGT 564 Methodological Fundamentals of Big Data in Communication Units: 4
- COMM 502 Theoretical Approaches to Multidisciplinary Design Projects Units: 4
- COMM 557 Data Science for Communication and Social Networks Units: 4
- COMM 614 Computational Approaches in Health Communication Units: 4
- JOUR 497 Data Visualization and Interactive Tools Units: 2
- JOUR 553 Coding and Programming for Storytelling Units: 2
- JOUR 554 Reporting with Data Units: 2
- JOUR 555 Advanced Coding for Creative Storytelling Units: 2
- JOUR 561 Fundamentals of Data Journalism Reporting Units: 2
- PR 478 Social Media Analytics: Data and Content Creation for Real-time Public Relations Units: 4
- PR 522 Storytelling with Data Intelligence Units: 3
- PR 523 Advanced Audience Insight Mining Units: 3

Documentary

Required courses:

- JOUR 503 Visual Literacy and Introduction to Documentary Storytelling Units: 1
- JOUR 521 Documentary Pre-Production Units: 2
- JOUR 522 Video Documentary Production Units: 4

Electives

Choose at least one course:

- JOUR 405 Non-Fiction Television Units: 4
- JOUR 431 Feature Writing Units: 4
- JOUR 519 Advanced Writing and Reporting for Magazine and the Web Units: 4

Entertainment and Pop Culture

Required courses:

- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- JOUR 572 Reporting on Entertainment and Popular Culture Units: 3

Electives

Choose at least two courses:

- CMGT 543 Managing Communication in the Entertainment Industry Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- COMM 430 Global Entertainment Units: 4
- COMM 431 Global Strategy for the Communications Industry Units: 4
- COMM 432 American Media and Entertainment Industries Units: 4
- COMM 433 Home Entertainment: From Networks to Streaming Units: 4
- COMM 456 Entertainment, Marketing and Culture Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- JOUR 430 Writing the Film Review Units: 4
- JOUR 446 Entertainment Reporting Units: 2
- JOUR 447 Arts Reporting Units: 2
- JOUR 458 Media, Food and Culture Units: 4
- JOUR 459 Fact and Fiction: From Journalism to the Docudrama Units: 4
- JOUR 576 The Image of the Journalist in Popular Culture Seminar Units: 2
- PR 452 Public Relations in Entertainment Units: 4
- PR 457 The Role of Celebrity in Public Relations Units: 4

International

Required course:

- JOUR 585 Specialized Reporting: Religion Units: 4

Electives

Choose at least one course:

- JOUR 484 American Religion, Foreign Policy and the News Media Units: 4
- JOUR 542 Foreign Affairs Reporting Units: 3

Investigative

Required courses:

- JOUR 517 Advanced Investigative Reporting Units: 4
- JOUR 539 Introduction to Investigative Reporting Units: 2

Electives

Choose at least one course:

- JOUR 553 Coding and Programming for Storytelling Units: 2
- JOUR 554 Reporting with Data Units: 2
- JOUR 555 Advanced Coding for Creative Storytelling Units: 2
- JOUR 561 Fundamentals of Data Journalism Reporting Units: 2
- PR 523 Advanced Audience Insight Mining Units: 3

Narrative

Required course (choose one):

- JOUR 431 Feature Writing Units: 4
- JOUR 519 Advanced Writing and Reporting for Magazine and the Web Units: 4

Electives

Choose at least two courses:

- JOUR 400 Interpretive Writing Units: 4
- JOUR 440 Environmental Journalism Units: 4
- JOUR 447 Arts Reporting Units: 2
- JOUR 470 Community Journalism Units: 2
- JOUR 474 Interviewing and Profile Writing Units: 2
- JOUR 512 Advanced Interpretive Writing Units: 2
- JOUR 585 Specialized Reporting: Religion Units: 4
- JOUR 588 Cities, Climate and Risk Units: 3
- JOUR 592 Arts Journalism: Storytelling and Production Units: 3
- JOUR 593 Arts Criticism and Commentary Units: 3
- JOUR 596 Follow the Money: Business and Economics Units: 3

Podcasting and Audio

Required courses:

- JOUR 523 Public Radio Reporting Units: 2
- JOUR 525 This California Life: Storytelling for Radio and Podcasting Units: 4

Electives

Choose at least one course:

- JOUR 407 The World of Podcasting Units: 4
- JOUR 575 Converged Media Center Units: 2, 4

Race and Justice

Required course:

- JOUR 580 Reporting on Race and Justice Units: 4

Electives

Choose at least one course:

- CMGT 584 Communication and the Multicultural Marketplace Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- COMM 563 Black Popular Culture: Theory and Central Debates Units: 4
- JOUR 406 Social Media Storytelling for Latinx Audiences Units: 2
- JOUR 465m Latino News Media in the United States Units: 4
- JOUR 467 Gender and the News Media Units: 4

- JOUR 468m The American Press and Issues of Sexual Diversity Units: 4

Religion

Required course:

- JOUR 585 Specialized Reporting: Religion Units: 4

Electives

Choose at least one course:

- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- JOUR 484 American Religion, Foreign Policy and the News Media Units: 4

Sports and Society

Required course:

- JOUR 574 Sports and Society Units: 3

Electives

Choose at least two courses:

- CMGT 546 Sports Media and Society Units: 4
- JOUR 403 Television News and Sports Production Units: 6
- JOUR 404 Produce and Host Sports Content in Studio A Units: 2
- JOUR 432 Sports Commentary Units: 4
- JOUR 435 Writing Magazine Non-Fiction Units: 4
- JOUR 441 Sports Reporting Units: 2
- JOUR 479 Storytelling for Action Sports Units: 4
- JOUR 481 The Athlete, Sports Media and Popular Culture Units: 4
- JOUR 519 Advanced Writing and Reporting for Magazine and the Web Units: 4
- JOUR 571 21st Century Sports Storytelling Units: 3
- PR 453 Public Relations Strategies for Working with Athletes Units: 4

Total units: 34

Specialized Journalism (The Arts) (MA)

The Master of Arts in Specialized Journalism (The Arts) comprises two separate and distinct journalism concentrations – one focusing on the arts and the other on food. These journalism disciplines begin at the same place of origin with a seven-week 3-unit summer digital immersion course, and join forces for one required course in the fall. After that they go their separate ways, each required to take the same number of units, including a 2-unit commitment to a thesis project in each of the fall and spring semesters.

The Master of Arts in Specialized Journalism (The Arts) is primarily geared toward the experienced journalist, and yet it also, with no less parity, welcomes the amateur. What must be demonstrated prior to acceptance is a strong record of interest and competence in a subject area. For the arts, this spans the critical environments of film, television, music, theatre, dance, literature, architecture and visual arts. We welcome artists with a solid background and/or arts conservatory training who express sincere commitment to wanting to learn the journalism practice and skills to tell compelling stories. The arts master's students' electives will primarily be taken at one or more of USC's arts schools. For food MA students, a demonstrable knowledge about food, and a socio-political understanding and curiosity about the places where food intersects with culture is expected.

For both concentrations, the emphasis is on culture: arts and *culture;* food and *culture*. This program is multidisciplinary and entrepreneurial. The university is a laboratory for experimentation, enlisting the skills of professional artists, journalists, economists, technologists, entrepreneurs, alumni and citizens to welcome students of varied experience and omnivorous interests. Print, online, audio, video and social media are practiced and taught in this program with equal opportunity.

Students will complete 20-25 units of specialized journalism course work, including a master's professional project and 9-14 units of approved elective course work from faculty-recommended lists. For those on the arts journalism track, other electives must be in at least two arts schools ideally with at least 8 units from one school. The arts schools are Architecture, Art and Design, Cinematic Arts, Dance, Dramatic Arts and Music.

Students must begin the program in summer term, enrolling in a required 3-unit intensive summer session course focused on journalism and society and digital media. In addition to the formal classes, the course includes discussions, workshops and field reporting. This gateway course provides master's students with a working knowledge of the specialized journalism background and the multimedia and digital storytelling skills necessary for study in the program. It sets the stage for two semesters of access to courses as substantively broad as a major research university such as USC makes available. Students also take media law, one required writing course and another required in audio in the summer.

In the fall semester, arts journalism students will enroll in an arts reporting and online magazine production seminar and a narrative writing practicum. In the spring, arts journalism students will enroll in an arts reporting and online magazine production seminar.

In the fall semester, food journalism students will enroll in a food journalism course focusing on Los Angeles and California and a course on food media and culture. In the spring semester, food journalism students will enroll in reporting on global issues course and a food narrative writing course.

With the advice of their academic adviser and faculty mentors, students will select elective course work appropriate to their fields of specialization. These courses will be drawn from regular graduate and 400-level courses taught across 14 of the university's schools and within the USC Annenberg School for Communication and Journalism. Students also will begin research for their master's professional project. These projects may be full-length magazine (print, audio, broadcast and/or multimedia) treatments of issues in their field or similar professional work.

The 11-month program has been designed for a summer, fall and spring semester enrollment cycle; however, students also may elect to complete the program on a part-time basis with the approval of the director of the School of Journalism, but must start with the intensive summer course.

Studies toward the Master of Arts in Specialized Journalism (the Arts) require 34 units of prescribed courses and approved electives. No more than 11 units of 400-level course work may be applied toward the Master of Arts in Specialized Journalism (The Arts).

Residence

The Master of Arts in Specialized Journalism can be completed in an 11-month enrollment cycle that includes the four-week summer session, plus the fall and spring semesters. These programs may be attended on a part-time basis.

Foreign Language/Research Tool Requirements

There is no foreign language or research tool requirement for the master's degree.

Grammar, Spelling and Punctuation (GSP)

Journalism and strategic public relations graduate students are required to complete an online tutorial about Grammar, Spelling and Punctuation (GSP) and pass the GSP test before the end of the fall semester of their first year. Students who fail to complete the GSP tutorial and pass the test will not receive a degree from the School of Journalism.

Note: Students with disabilities may register with the Disability Services and Programs office (DSP) so the DSP staff can assess the nature of the students' disabilities and recommend the appropriate accommodations to be provided for each student.

Master's Thesis

MA in Specialized Journalism students normally enroll in JOUR 594a (2 units) and JOUR 594b (2 units) in their single year of study.

For complete admission requirements refer to the section on the School of Journalism page.

Course Requirements (34 Units)

Required Courses:

- JOUR 511 Introduction to Narrative Non-Fiction Units: 1
- JOUR 515 Introduction to Audio Storytelling Units: 1
- JOUR 528 Summer Digital Journalism Immersion Units: 3
- JOUR 560 Seminar in Mass Communication Law Units: 2
- JOUR 594a Master's Thesis Units: 2
- JOUR 594b Master's Thesis Units: 2

Concentration Courses:

Choose all courses from either the arts concentration or the food concentration.

Arts Concentration

- JOUR 591 Arts Writing Practicum Units: 3
- JOUR 592 Arts Journalism: Storytelling and Production Units: 3
- JOUR 593 Arts Criticism and Commentary Units: 3

Food Concentration

- JOUR 458 Media, Food and Culture Units: 4
- JOUR 568 The Art of (Micro) Food Journalism: Los Angeles and California Units: 3
- JOUR 569 The Art of (Macro) Food Journalism: A Global View Units: 3
- JOUR 597 Food Culture Journalism Units: 4

Elective Courses:

Plus 9-14 approved elective units (400-level courses and above).

Note:

**All students must take their elective course work (400-level courses and above) from faculty-recommended lists with advisement from the program director and USC Annenberg's graduate advisement assistant director. The number of elective units is based on the concentration category selected. No more than 11 units of 400-level electives may be taken. For the arts students, these electives must be in at least two arts schools, ideally with at least 8 units from one school. The arts schools are Architecture, Art and Design, Cinematic Arts, Dance, Dramatic Arts and Music. If an arts student wants to take an elective course outside of these schools, your petition will be heard and duly considered. For the food concentration student, these electives are not restricted across the university except at the discretion of the individual professor. Permission may be required.*

Graduate Certificate

Journalism Certificate

The certificate program requires students to complete a 3-unit course in the summer and then complete 17 units during the fall semester, for a total of 20 units.

Course Requirements (20 Units)

- JOUR 505 The Practice: Journalism's Evolution as a Profession Units: 1
- JOUR 510 Special Assignment Reporting Units: 2
- JOUR 528 Summer Digital Journalism Immersion Units: 3
- JOUR 531 Fall Digital Journalism Immersion Units: 3
- JOUR 553 Coding and Programming for Storytelling Units: 2
- JOUR 560 Seminar in Mass Communication Law Units: 2

Plus 7 approved graduate-level elective units.

Public Policy Advocacy Graduate Certificate

The graduate certificate is offered jointly by the Sol Price School of Public Policy and the Annenberg School of Communication and Journalism. The certificate provides students with knowledge of the increasingly important role played by information flows in politics and governance. Students will assess the structure of campaigns designed to influence public opinion, the messaging strategies utilized by political players and civic society organizations and new scholarship on the pathways of persuasion in the digital age. The certificate is especially appropriate for students who intend to pursue work with elected officials, think tanks, foundations, community-based organizations, consulting firms and corporate offices that aim to shape public policy through advocacy.

Applicants for the Certificate in Public Policy Advocacy must be currently enrolled in a graduate program at USC and in good standing, with a 3.0 GPA. Students can apply for the certificate through the student services office at the Price or the Annenberg School.

The Certificate in Public Policy Advocacy requires a minimum of 14 units for students taking two 3-unit electives in the Strategic Public Relations Program. More typically students will earn 15 or 16 units by taking one or two 4-unit electives. All units earned in pursuit of the certificate can be applied toward the completion of degree requirements if they fall within existing criteria. However, courses taken solely for certificate purposes will not substitute for degree requirements.

Required Courses

- PPD 693 Communicating Public Policy Units: 4
- PR 501 Advocacy Communications Units: 4

Elective Courses

Pick any two courses from the following:

Annenberg

- CMGT 508 Communicating Strategy and Change Units: 4
- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- COMM 561 Leading and Communicating Change in Global Organizations Units: 4
- PR 534 Case Studies in Public Relations Units: 3
- PR 536 Digital, Social and Mass Media Public Relations Strategies Units: 3
- PR 568 Crisis Management in Strategic Public Relations Units: 3

Price

- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 616 Participatory Methods in Planning and Policy Units: 4
- PPD 657 Political Leadership in Public Organizations Units: 4
- PPDE 647 Civic Engagement in Governance Units: 4

USC Kaufman School of Dance

Founded in 2015, the USC Glorya Kaufman School of Dance embodies excellence in the interdisciplinary study of dance. Dance in the twenty-first century is a dynamic art form, and the professionals who will shape the future of the field will need to move seamlessly throughout this changing landscape. These thought leaders will embrace innovation alongside tradition, study classical genres as well as emerging dance forms, and engage with the latest technologies while exploring the historical origins of dance. USC Kaufman is creating a unique model in which intersecting dance techniques create hybrid art forms expressed through performance, choreography, media, scholarship, and beyond. We call this vision The New Movement.

The state-of-the-art Glorya Kaufman International Dance Center is the school's vision realized in brick and mortar. The largest facility dedicated to dance at any private university, it includes six studios, a performance venue, four classrooms and a collaborative workspace for students.

The Bachelor of Fine Arts in Dance provides a rigorous conservatory experience at one of the world's leading private research universities. The BFA curriculum includes world-class training in a multitude of dance forms including ballet, hip-hop, jazz, African and contemporary dance. Students are exposed to world-renowned practicing artists, provided opportunities to pursue interdisciplinary projects, and studies in dance science, history, new media, and entrepreneurship - all the while providing an expansive liberal arts education. A robust performance repertory includes works by current faculty as well as other influential artists in dance such as George Balanchine, Alejandro Cerrudo, Merce Cunningham, Martha Graham, Francesca Harper, Jiří Kylián, Matthew Neenan, Crystal Pite, Paul Taylor, Rauf "RubberLegz" Yasit, and many more.

Led by Dean Robert Cutietta, USC Kaufman faculty are unparalled in their depth and diversity of experience. Full-time and part-time faculty have highly regarded careers in the field. Faculty Artists in Residence include leading dance innovators such as Hope Boykin, Marjani Forté-Saunders, Zippora Karz, Fiona Lummis, Barak Marshall, Victor Quijada, Dwight Rhoden, Desmond Richardson, Jermaine Spivey, Micaela Taylor, and Doug Varone. Students have also worked with guest artists from all over the world, including Kyle Abraham, Bill T. Jones, Akram Khan, Alonzo King, Sonya Tayeh, Diana Vishneva, Wendy Whelan and Andrew Winghart – to name a few.

Established relationships with Glorya Kaufman Presents Dance at The Music Center and the USC Thornton School of Music afford significant opportunities to collaborate with acclaimed artists. Joint efforts with the USC Division of Biokinesiology and Physical Therapy and USC Counseling and Mental Health put student wellness front and center. Through its partnership with the USC School of Dramatic Arts, USC Kaufman provides dance training to students pursuing the BFA in Musical Theatre. USC Kaufman's location in Los Angeles, a global center for the arts and entertainment, provides students with easy access to rich artistic and professional opportunities.

In addition to the Bachelor of Fine Arts, USC Kaufman offers a wide variety of classes open to all USC students. It has studio courses in African Dance, Afro-Cuban Dance, Bollywood Dance, Ballet, Choreography, Commercial Dance, Contemporary Dance, Gaga, Hip-Hop Dance, International Ballroom Dance, Jazz Dance, Mat Pilates, and Tap Dance. General Education courses on the history and culture of dance, including African American Dance, Hip-Hop Don't Stop, and Dancing on the Screen provide a rewarding introduction to the field. A wide range of other electives such as Dance and New Media and World Perspectives on Dance Performance provide specialized studies of the art form.

USC students may also pursue minors that complement other areas of study. These 16- to 20-unit offerings include Choregraphy for Stage and Screen; Dance; Hip-Hop, Street and Social Dance Forms; and Dance in Entertainment.

USC Glorya Kaufman School of Dance
Glorya Kaufman International Dance Center
849 West 34th Street
Los Angeles, CA 90089-3521
213-740-9327
Email: uscdance@usc.edu

Leadership

Robert A. Cutietta, DEd, *Dean*
Jackie Kopcsak, MFA, *Assistant Dean of Faculty*
Anne Aubert-Santelli, *Assistant Dean of Admission and Student Services*

Faculty

Claude and Alfred Mann Professor of Dance: Kyle Abraham, MFA
Professor of Dance: Margo Apostolos, PhD
Professor of Dance and Founding Director: Jodie Gates
Associate Professors of Practice: Patrick Corbin, MFA; E. Moncell Durden; d. Sabela grimes, MFA; Jackie Kopcsak, MFA; Bruce McCormick, MFA
Assistant Professors of Practice: Alison D'Amato, PhD; Jennifer McQuiston Lott, MFA; Dawn Stoppiello, MFA
Assistant Professors of Practice in Dance: Shannon Grayson; Saleemah E. Knight, MFA
Adjunct Professor: Rosana Tavarez
Adjunct Assistant Professor in Dance: Bonnie Oda Homsey, MFA
Lecturers: Tiffany Bong; Kathryn Dunn; Bret Easterling; Gillian Finley; Jesus Fuentes; Anindo Marshall; Achinta S. McDaniel; Amy O'Neal
Instructor of Clinical Physical Therapy and Instructor of Dance: Marisa Hentis, PT, DPT, OCS, CSCS
Artists in Residence: Hope Boykin; Marjani Forté-Saunders; Zippora Karz; Fiona Lummis; Barak Marshall; Victor Quijada; Desmond Richardson; Dwight Rhoden; Penny Saunders; Jermaine Spivey; Micaela Taylor; Doug Varone

Bachelor's Degree

Dance (BFA)

The Bachelor of Fine Arts in Dance is a four-year professional degree designed to prepare the artist, innovator and entrepreneur. A diverse array of electives, in combination with a rigorous core curriculum, provides students with ample opportunity to explore their artistic and intellectual passions and develop a strong personal vision of dance.

Intensive studio instruction is in three core areas: ballet, hip hop and contemporary styles. Emphasis is on performance and composition, while also building a solid foundation in dance history, science, conditioning, new media, entrepreneurship and critical theory. Upperclassmen continue to work on technique as well as performance and/or composition, while also pursuing individual interests.

In the junior and senior years, students pursue one of four concentrations: Dance Performance, Choreography for Stage and Screen, Dance and Music or Design Your Own. They are mentored by faculty and assisted by academic advisers in selecting elective courses both within and outside of USC Kaufman that support their personal and professional goals.

Emphasis in the final year of study is placed on the development of a professional quality project in the areas of performance, choreography, music, media, scholarship or entrepreneurship.

Dance Performance Concentration

The Dance Performance concentration is designed for students who are interested in careers as professional dancers or in other performance mediums. Emphasis is placed on providing students with the skills to succeed in a variety of entertainment positions. Students work with artists and scholars in the field,

learning essential tools needed for a successful career in dance performance.

Dance and Music Concentration

The Dance and Music concentration provides students with a unique perspective on dance by combining dance training with substantial studies in music. Courses in vocal arts, music theory or instrumental training, for example, equip students interested in choreography or dance performance with the knowledge to explore careers in the music and larger entertainment industry.

Choreography for Stage and Screen Concentration

The Choreography for Stage and Cinematic Arts concentration is designed to guide students who are interested in the field of dance for the stage, motion pictures, television, digital media and animation. Students are mentored in experimental types of dance media, both as individual performers and in collaboration with other visual and performing artists.

Design Your Own Concentration

The Design Your Own concentration allows students to pursue a truly custom program of study by combining hand-picked elective courses from across the university with dance electives. This is the only concentration for which students must formally apply in their junior year. The application requires students to demonstrate how the concentration is different from a major and minor combination and to provide preliminary ideas about how their senior project brings together their hand-picked courses with their dance studies.

General Requirements

Candidates must submit the Common Application and USC Writing Supplement as well as the USC Kaufman Portfolio, which includes a headshot, action shot, written short answer, dance résumé, one-minute video response, and two video auditions showing contrasting solos. Final candidates are selected to audition and interview in person. Specific audition requirements, along with other entrance requirements, are reviewed on an annual basis and published under the Apply section at *kaufman.usc.edu*.

Curriculum Requirements

The Bachelor of Fine Arts in Dance requires a total of 132 units.

All students in the dance program are required to complete the university's General Education and Writing requirements.

Within USC Kaufman, students will receive foundational training and insight through the core curriculum. In addition, they must complete a minimum of 23 electives toward their concentration.

The BFA degree's 132 unit requirement includes at least 16 general elective units. Students are encouraged to use these units in order to pursue a minor outside of USC Kaufman.

Core Requirements (61 units)

Lower Division

- DANC 101 Colloquium: What is the Medium of Dance Today? Units: 1
- DANC 103 Conditioning for Dancers Units: 2
- DANC 105 Dance Science: Analysis of Dance Movement Units: 4
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 110 Dance Technique I Units: 3 + 3
- DANC 120L Repertory and Performance I Units: 2 + 2
- DANC 130 Improvisation and Composition I: Introduction Units: 2
- DANC 131 Improvisation and Composition II: Introduction Units: 2
- DANC 201 Colloquium: History of Performance and Cultural Context Units: 1
- DANC 210 Dance Technique II Units: 3 + 3
- DANC 218 Introduction to Dance for the Camera: New Media and Editing Units: 2
- DANC 220L Repertory and Performance II Units: 2 + 2
- DANC 230 Improvisation and Composition III: Intermediate Units: 2
- DANC 231 Improvisation and Composition IV: Intermediate Units: 2
- MUCO 140 Music for Dancers Units: 2

Upper Division

- DANC 301 Colloquium: The Role of the Dance Artist in Society Units: 1
- DANC 310 Dance Technique III Units: 3 + 3
- DANC 312gw African American Dance Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4
- DANC 470 Dance Leadership Units: 2
- DANC 480 Advanced Performance Studies: Senior Seminar Units: 1
- DANC 485 Advanced Performance Studies: Senior Project Units: 1

Dance Performance Concentration (minimum 23 units)

Required Electives (14 units)

- DANC 320L Repertory and Performance III Units: 2 + 2
- DANC 410 Dance Technique IV Units: 3 + 3
- DANC 420L Repertory and Performance IV Units: 2 + 2

Additional Electives (minimum 9 units)

In addition to DANC courses, students in this concentration are able to take up to 8 units in the USC Thornton School of Music, USC School of Cinematic Arts and/or USC School of Dramatic Arts. More details are below.

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 150 Dance and New Media Units: 1, 2, 3, 4
- DANC 170 Choreography and Performance Units: 2
- DANC 171 Commercial Dance: Professional Dance Preparation Units: 1, 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 180-189c - Dance Technique
- DANC 190 Gaga: People Units: 1, 2
- DANC 191 Gaga: Dancers Units: 1, 2
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 1, 2, 3, 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 345 Artist in Residence Units: 1, 2, 3, 4
- DANC 347 Artist Collaborative Units: 1, 2, 3, 4
- DANC 350 Advanced Composition Units: 2
- DANC 352g Dancing with Words Units: 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 370 Dance in Los Angeles Units: 1, 2, 3, 4
- DANC 399 Maymester: Dance Capitals of the World Units: 1, 2, 3, 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- DANC 499 Special Topics Units: 1, 2, 3, 4
  Students may take courses under the below prefixes. These courses must be approved within USC Kaufman by the faculty mentor, assistant dean of admission and student services and vice dean. Students must also meet any eligibility requirements (i.e. prerequisites) and/or receive approval from the school or department when needed.

USC Thornton School of Music
- ARTL: Arts Leadership
- MPGU: Performance (Guitar)
- MPKS: Performance (Keyboard Studies)
- MPPM: Performance (Popular Music)
- MPST: Performance (Strings)
- MPVA: Performance (Vocal Arts)
- MPWP: Performance (Wind & Percussion)
- MTEC: Music Technology
- MUHL: Music History and Literature
- MUIN: Music Industry
- MUCO: Music Composition
- MUJZ: Jazz Studies

USC School of Dramatic Arts
- THTR: Theatre

USC School of Cinematic Arts
- CNTV: Cinematic Arts
- CTAN: Animation
- CTCS: Cinema and Media Studies
- CTIN: Interactive Media
- CTPR: Production
- IML: Media Arts and Practice

Choreography for Stage and Screen Concentration (minimum 23 units)

Required Electives (8 units)
- DANC 350 Advanced Composition Units: 2 +2 +2 +2

Additional Electives (minimum 15 units)
In addition to DANC courses, students in this concentration are able to take up to 8 units in the USC School of Cinematic Arts, USC Thornton School of Music and/or USC School of Dramatic Arts. More details are below.
- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 150 Dance and New Media Units: 1, 2, 3, 4
- DANC 170 Choreography and Performance Units: 2
- DANC 171 Commercial Dance: Professional Dance Preparation Units: 1, 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 180-189c - Dance Technique
- DANC 190 Gaga: People Units: 1, 2
- DANC 191 Gaga: Dancers Units: 1, 2
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 1, 2, 3, 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 320L Repertory and Performance III Units: 2
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 345 Artist in Residence Units: 1, 2, 3, 4
- DANC 347 Artist Collaborative Units: 1, 2, 3, 4
- DANC 352g Dancing with Words Units: 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 370 Dance in Los Angeles Units: 1, 2, 3, 4
- DANC 399 Maymester: Dance Capitals of the World Units: 1, 2, 3, 4
- DANC 410 Dance Technique IV Units: 3
- DANC 420L Repertory and Performance IV Units: 2
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- DANC 499 Special Topics Units: 1, 2, 3, 4
  Students may take courses under the below prefixes. These courses must be approved within USC Kaufman by the faculty mentor, assistant dean of admission and student services and vice dean. Students must also meet any eligibility requirements (i.e. prerequisites) and/or receive approval from the school or department when needed.

  USC Thornton School of Music
  - ARTL: Arts Leadership
  - MPGU: Performance (Guitar)
  - MPKS: Performance (Keyboard Studies)
  - MPPM: Performance (Popular Music)
  - MPST: Performance (Strings)
  - MPVA: Performance (Vocal Arts)
  - MPWP: Performance (Wind & Percussion)
  - MTEC: Music Technology
  - MUHL: Music History and Literature
  - MUIN: Music Industry
  - MUCO: Music Composition
  - MUJZ: Jazz Studies

  USC School of Dramatic Arts
  - THTR: Theatre

  USC School of Cinematic Arts
  - CNTV: Cinematic Arts
  - CTAN: Animation
  - CTCS: Cinema and Media Studies
  - CTIN: Interactive Media
  - CTPR: Production
  - IML: Media Arts and Practice

Dance and Music Concentration (minimum 23 units)

Required Electives (8 units)
Students pursuing this concentration must complete a combined 8 units of DANC 320L (taken up to two times), DANC 350 (taken up to four times), DANC 420L (taken up to two times) and DANC 410 (taken up to two times). Extra units from this course list will be counted as Additional Electives towards the BFA in Dance.
- DANC 320L Repertory and Performance III Units: 2
- DANC 350 Advanced Composition Units: 2
- DANC 410 Dance Technique IV Units: 3
- DANC 420L Repertory and Performance IV Units: 2

Additional Electives (minimum 15 units)
In addition to DANC courses, students in this concentration are able to take up to 8 units in the USC Thornton School of Music, USC School of Cinematic Arts and/or USC School of Dramatic Arts. More details are below.
- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 150 Dance and New Media Units: 1, 2, 3, 4
- DANC 170 Choreography and Performance Units: 2
- DANC 171 Commercial Dance: Professional Dance Preparation Units: 1, 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 180-189c - Dance Technique
- DANC 190 Gaga: People Units: 1, 2
- DANC 191 Gaga: Dancers Units: 1, 2
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 1, 2, 3, 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 320L Repertory and Performance III Units: 2
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 345 Artist in Residence Units: 1, 2, 3, 4
- DANC 347 Artist Collaborative Units: 1, 2, 3, 4
- DANC 350 Advanced Composition Units: 2
- DANC 352g Dancing with Words Units: 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 370 Dance in Los Angeles Units: 1, 2, 3, 4
- DANC 399 Maymester: Dance Capitals of the World Units: 1, 2, 3, 4
- DANC 410 Dance Technique IV Units: 3
- DANC 420L Repertory and Performance IV Units: 2

- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- DANC 499 Special Topics Units: 1, 2, 3, 4
  Students may take courses under the below prefixes. Any such courses must be approved within USC Kaufman by the faculty mentor, assistant dean of admission and student services and vice dean. Students must also meet any eligibility requirements (i.e. prerequisites) and/or receive approval from the school or department when needed.
  USC Thornton School of Music
- ARTL: Arts Leadership
- MPGU: Performance (Guitar)
- MPKS: Performance (Keyboard Studies)
- MPPM: Performance (Popular Music)
- MPST: Performance (Strings)
- MPVA: Performance (Vocal Arts)
- MPWP: Performance (Wind & Percussion)
- MTEC: Music Technology
- MUHL: Music History and Literature
- MUIN: Music Industry
- MUCO: Music Composition
- MUJZ: Jazz Studies
  USC School of Dramatic Arts
- THTR: Theatre
  USC School of Cinematic Arts
- CNTV: Cinematic Arts
- CTAN: Animation
- CTCS: Cinema and Media Studies
- CTIN: Interactive Media
- CTPR: Production
- IML: Media Arts and Practice

Design Your Own Concentration (minimum 23 units)

Required Electives (8 units)

Students pursuing this concentration must complete a combined 8 units of DANC 320L (taken up to two times), DANC 350 (taken up to four times), DANC 420L (taken up to two times) and DANC 410 (taken up to two times). Extra units from this course list will be counted as Additional Electives towards the BFA in Dance.

- DANC 320L Repertory and Performance III Units: 2
- DANC 350 Advanced Composition Units: 2
- DANC 410 Dance Technique IV Units: 3
- DANC 420L Repertory and Performance IV Units: 2

Additional Electives (minimum 15 units)

In addition to DANC courses, students in this concentration are able to take up to 10 units across one or several USC departments offering undergraduate courses. These courses must be approved within USC Kaufman by the faculty mentor, assistant dean of admission and student services and vice dean. Students must also meet any eligibility requirements (i.e. prerequisites) and/or receive approval from the school or department when needed.

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 150 Dance and New Media Units: 1, 2, 3, 4
- DANC 170 Choreography and Performance Units: 2
- DANC 171 Commercial Dance: Professional Dance Preparation Units: 1, 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 180-189c Dance Technique
- DANC 190 Gaga: People Units: 1, 2
- DANC 191 Gaga: Dancers Units: 1, 2
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 1, 2, 3, 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 320L Repertory and Performance III Units: 2
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 345 Artist in Residence Units: 1, 2, 3, 4
- DANC 347 Artist Collaborative Units: 1, 2, 3, 4
- DANC 350 Advanced Composition Units: 2
- DANC 352g Dancing with Words Units: 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 370 Dance in Los Angeles Units: 1, 2, 3, 4
- DANC 399 Maymester: Dance Capitals of the World Units: 1, 2, 3, 4
- DANC 410 Dance Technique IV Units: 3
- DANC 420L Repertory and Performance IV Units: 2
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- DANC 499 Special Topics Units: 1, 2, 3, 4

Total Units Required: 132

Minor

Choreography for Stage and Screen Minor

The Choreography for Stage and Screen Minor explores the different techniques used to create dances for the stage and screen, including new media. By researching classic and contemporary film and stage musicals and existing choreographic works, combined with technical skills, students learn methods used to generate movement vocabulary and gain practical experience in choreographing for multiple mediums.

This minor consists of three lower-division courses, one upper-division course and 7 units of elective courses. Students must be in good academic standing to be admitted. No previous dance experience is required.

Required Lower-Division Courses (7 units)

- DANC 150 Dance and New Media Units: 1, 2, 3, 4
- DANC 170 Choreography and Performance Units: 2
- DANC 280g Introduction to Dance as an Art Form Units: 4

Required Upper-Division Course (4 units)

- DANC 363g Dancing on the Screen Units: 4

Elective Courses (7 units)

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 103 Conditioning for Dancers Units: 2
- DANC 105 Dance Science: Analysis of Dance Movement Units: 4
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 171 Commercial Dance: Professional Dance Preparation Units: 1, 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 180-189c Dance Technique Courses*
- DANC 190 Gaga: People Units: 1, 2
- DANC 191 Gaga: Dancers Units: 1, 2
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 1, 2, 3, 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4

- DANC 352g Dancing with Words Units: 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 370 Dance in Los Angeles Units: 1, 2, 3, 4
- DANC 399 Maymester: Dance Capitals of the World Units: 1, 2, 3, 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 483 Dance Performance Units: 2
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- DANC 499 Special Topics Units: 1, 2, 3, 4

Dance Technique Courses*

Students with previous dance experience may place into intermediate (b-level), intermediate/advanced (c-level) and/or advanced (d-level) courses. Such students must submit a Prerequisite Waiver Form, which requires the instructor's approval.

- DANC 180 African Dance Units: 2
- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 181c Contemporary Dance Units: 2
- DANC 183a Ballet Units: 2
- DANC 183b Ballet Units: 2
- DANC 183c Ballet Units: 2
- DANC 183d Ballet Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 184d Jazz Dance Units: 2
- DANC 185a Hip Hop Dance Units: 2
- DANC 185b Hip Hop Dance Units: 2
- DANC 186 Afro Cuban Dance Units: 2
- DANC 187 Bollywood Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2
- DANC 189c Tap Dance Units: 2

Total Units Required: 18

Dance in Entertainment Minor

The Dance in Entertainment Minor offers undergraduate students an opportunity to explore dance in the commercial realm, from Hollywood to Broadway, primarily focused on performance, choreography and dance entrepreneurship. The program offers a wide variety of courses in dance technique, theory, the business of dance and choreography.

This minor consists of one lower-division course, one upper-division course and 10 units of elective courses. Students must be in good academic standing to be admitted. No previous dance experience is required.

Required Lower-Division Requirement (4 units)

- DANC 280g Introduction to Dance as an Art Form Units: 4

Required Upper-Division Requirement (4 units)

- DANC 333gw Origins of Jazz Dance Units: 4 or
- DANC 363g Dancing on the Screen Units: 4

Elective Courses (10 units)

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 103 Conditioning for Dancers Units: 2
- DANC 105 Dance Science: Analysis of Dance Movement Units: 4
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 150 Dance and New Media Units: 1, 2, 3, 4
- DANC 170 Choreography and Performance Units: 2
- DANC 171 Commercial Dance: Professional Dance Preparation Units: 1, 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 180-189c Dance Technique Courses*
- DANC 190 Gaga: People Units: 1, 2
- DANC 191 Gaga: Dancers Units: 1, 2
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 1, 2, 3, 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4
- DANC 352g Dancing with Words Units: 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 370 Dance in Los Angeles Units: 1, 2, 3, 4
- DANC 399 Maymester: Dance Capitals of the World Units: 1, 2, 3, 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 483 Dance Performance Units: 2
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- DANC 499 Special Topics Units: 1, 2, 3, 4

Dance Technique Courses*

Students with previous dance experience may place into intermediate (b-level), intermediate/advanced (c-level) and/or advanced (d-level) courses. Such students must submit a Prerequisite Waiver Form, which requires the instructor's approval.

- DANC 180 African Dance Units: 2
- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 181c Contemporary Dance Units: 2
- DANC 183a Ballet Units: 2
- DANC 183b Ballet Units: 2
- DANC 183c Ballet Units: 2
- DANC 183d Ballet Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 184d Jazz Dance Units: 2
- DANC 185a Hip Hop Dance Units: 2
- DANC 185b Hip Hop Dance Units: 2
- DANC 186 Afro Cuban Dance Units: 2
- DANC 187 Bollywood Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2
- DANC 189c Tap Dance Units: 2

Total Units Required: 18

Dance Minor

The minor in dance presents undergraduate students with a broad yet deep foundation in dance. The program offers a variety of courses in dance technique, history, culture, critical theory, choreography and performance.

This minor consists of one lower-division course, one upper-division course and 12 units of elective courses. Students must be in good academic standing to be admitted. No previous dance experience is required.

Required Lower-Division Course (4 Units)

- DANC 280g Introduction to Dance as an Art Form Units: 4

Required Upper-Division Course (4 Units)

- DANC 342gp International and Historical Perspectives on Dance Units: 4

Elective Courses (12 Units)

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 103 Conditioning for Dancers Units: 2
- DANC 105 Dance Science: Analysis of Dance Movement Units: 4
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 150 Dance and New Media Units: 1, 2, 3, 4
- DANC 170 Choreography and Performance Units: 2
- DANC 171 Commercial Dance: Professional Dance Preparation Units: 1, 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 180-189c Dance Technique Courses*
- DANC 190 Gaga: People Units: 1, 2
- DANC 191 Gaga: Dancers Units: 1, 2
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 1, 2, 3, 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 352g Dancing with Words Units: 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 370 Dance in Los Angeles Units: 1, 2, 3, 4
- DANC 399 Maymester: Dance Capitals of the World Units: 1, 2, 3, 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 483 Dance Performance Units: 2
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- DANC 499 Special Topics Units: 1, 2, 3, 4

Dance Technique Courses*

Students with previous dance experience may place into intermediate (b-level), intermediate/advanced (c-level) and/or advanced (d-level) courses. Such students must submit a Prerequisite Waiver Form, which requires the instructor's approval.

- DANC 180 African Dance Units: 2
- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 181c Contemporary Dance Units: 2
- DANC 183a Ballet Units: 2
- DANC 183b Ballet Units: 2
- DANC 183c Ballet Units: 2
- DANC 183d Ballet Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 184d Jazz Dance Units: 2
- DANC 185a Hip Hop Dance Units: 2
- DANC 185b Hip Hop Dance Units: 2
- DANC 186 Afro Cuban Dance Units: 2
- DANC 187 Bollywood Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2
- DANC 189c Tap Dance Units: 2

Total Units Required: 20

Hip Hop, Street and Social Dance Forms Minor

The Hip Hop, Street and Social Dance Forms minor delves into the historical, social and aesthetic issues of dance in the contemporary settings of entertainment, concert, vernacular and recreational forms. This minor is designed to explore the foundations and structures of hip hop, street and social dances and to introduce and orient non-major students to the language of dance in contemporary society. In the hip hop culture dance has become a major avenue of expression, acceptance and power. This minor will address issues of art, race and politics within the parameters of dance as an art form, entertainment and personal expression.

This minor consists of one lower-division course, one upper-division course and 8 units of elective courses. Students must be in good academic standing to be admitted. No previous dance experience is required.

Required Lower-Division Course (4 Units)

- DANC 280g Introduction to Dance as an Art Form Units: 4

Required Upper-Division Course (4 Units)

- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4

Elective Courses (8 Units)

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 103 Conditioning for Dancers Units: 2
- DANC 105 Dance Science: Analysis of Dance Movement Units: 4
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 150 Dance and New Media Units: 1, 2, 3, 4
- DANC 170 Choreography and Performance Units: 2
- DANC 171 Commercial Dance: Professional Dance Preparation Units: 1, 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 180-189c Dance Technique Courses*
- DANC 190 Gaga: People Units: 1, 2
- DANC 191 Gaga: Dancers Units: 1, 2
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 1, 2, 3, 4
- DANC 312gw African American Dance Units: 4
- DANC 333gw Origins of Jazz Dance Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4
- DANC 352g Dancing with Words Units: 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 370 Dance in Los Angeles Units: 1, 2, 3, 4
- DANC 399 Maymester: Dance Capitals of the World Units: 1, 2, 3, 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 483 Dance Performance Units: 2
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- DANC 499 Special Topics Units: 1, 2, 3, 4

Dance Technique Courses*

Students with previous dance experience may place into intermediate (b-level), intermediate/advanced (c-level) and/or advanced (d-level) courses. Such students must submit a Prerequisite Waiver Form, which requires the instructor's approval.

- DANC 180 African Dance Units: 2
- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 181c Contemporary Dance Units: 2
- DANC 183a Ballet Units: 2
- DANC 183b Ballet Units: 2
- DANC 183c Ballet Units: 2
- DANC 183d Ballet Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 184d Jazz Dance Units: 2
- DANC 185a Hip Hop Dance Units: 2
- DANC 185b Hip Hop Dance Units: 2
- DANC 186 Afro Cuban Dance Units: 2
- DANC 187 Bollywood Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2
- DANC 189c Tap Dance Units: 2

Total Units Required: 16

Herman Ostrow School of Dentistry of USC

Since 1897, the Herman Ostrow School of Dentistry of USC has provided students with unique, intensive clinical experiences using the most advanced techniques and technologies in the field. Graduates form a tightly knit community of proud alumni, provide top-notch patient care, conduct world-class research and lead the oral health field.

The school's strength is its educators. Their world-renowned expertise, combined with innovative curricula, gives students the strong clinical education they need to become great oral health professionals. The curricula include the Doctor of Dental Surgery program and postdoctoral advanced and specialty programs: endodontics, general practice residency, operative dentistry, oral and maxillofacial surgery, orofacial pain, orthodontics, pediatric dentistry, periodontology and prosthodontics. Other programs include an advanced standing program for international dentists; online master of science degrees in geriatric dentistry, orofacial pain and oral medicine, and community oral health; online graduate certificate programs in geriatric dentistry, orofacial pain, oral pathology and radiology, community oral health; and master's and doctor of philosophy degrees in craniofacial biology.

The Herman Ostrow School of Dentistry's celebrated status as a well-funded dental and craniofacial research unit allows students to enrich their education through laboratory activities and bolster their clinical skills with strong scientific foundations.

Through community service, the Herman Ostrow School of Dentistry provides valuable clinical experiences to the students while helping disadvantaged individuals improve their oral health. Serving the surrounding community helps students develop clinical competency and learn to treat all members of diverse communities with care and compassion.

Herman Ostrow School of Dentistry of USC
dentistry.usc.edu

Administration
Avishai Sadan, DMD, MBA, *Dean*
Mahvash Navazesh, DMD, *Executive Associate Dean for Academic, Faculty and Student Affairs*
Douglas Solow, DDS, MBA, *Associate Dean of Clinical Affairs*
Roseann Mulligan, MS, DDS, *Associate Dean of Community Health Programs and Hospital Affairs*
Ilan Rotstein, DDS, *Associate Dean of Continuing Education and Chair, Division of Endodontics and Orthodontics*
Yang Chai, DDS, PhD, *Associate Dean of Research*
Malcolm Snead, DDS, PhD, *Chair, Division of Biomedical Sciences*
Piedad Suarez, DDS, *Interim Chair, Division of Dental Public Health and Pediatric Dentistry*
Mark Urata, MD, DDS, FACS, FAAP, *Chair, Division of Oral and Maxillofacial Surgery*
Casey Chen, DDS, PhD, *Chair, Division of Periodontology, Diagnostic Sciences and Dental Hygiene*
Sillas Duarte, Jr., DDS, PhD, *Chair, Division of Restorative Sciences*
Kim Austin, DDS, *Assistant Dean for Diversity and Inclusion*
Glenn Clark, MS, DDS, *Assistant Dean for Distance Education*
Anita Tourah, DDS, *Assistant Dean for Admissions and Student Affairs*

Biokinesiology and Physical Therapy
pt.usc.edu
James Gordon, EdD, PT, FAPTA, *Associate Dean and Chair, Division of Biokinesiology and Physical Therapy*

Occupational Science and Occupational Therapy
chan.usc.edu
Grace Baranek, PhD, OTR/L, FAOTA, *Associate Dean and Chair, Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy*

Faculty

G. Donald and Marian James Montgomery Dean's Chair in Dentistry: Avishai Sadan, DMD, MBA
George and Mary Lou Boone Chair in Craniofacial Molecular Biology: Yang Chai, DDS, PhD
Don and Sybil Harrington Foundation Chair in Esthetic Dentistry: Pascal Magne, DMD, PhD
Wayne G. and Margaret L. Bemis Endowed Professorship in Endodontics: Rafael Roges, DDS
Ralph W. and Jean L. Bleak Professor of Restorative Dentistry: Winston Wan-Li Chee, BDS
Violet S. Bonney Professor of Dental Hygiene: M. Diane Melrose, BSDH, MA
Mrs. T.H. Chan Professorship in Occupational Science and Occupational Therapy: Grace Baranek, PhD
Charles M. Goldstein Professor of Community Dentistry: Roseann Mulligan, DDS, MS
Carl Rieder Endowed Professorship in Restorative Dentistry: Cheryl Park, DDS, FACP
Phillip Maurer Tennis Professorship in Clinical Dentistry: George C. Cho, DDS
USC Associates Assistant Professor of Dentistry: Sanaz Fereshteh, DDS
USC Robert K. Avakian Endowed Restorative Dentistry Professor: Gelareh Ronaghi, DDS
Professors: Yang Chai, DDS, PhD; Chih-Kuang (Casey) Chen, DDS, PhD; Glenn Clark, MS, DDS; Pinghui Feng, MD, PhD; Tina F. Jaskoll, PhD; Michael Melnick, DDS, PhD; Roseann Mulligan, MS, DDS; Mahvash Navazesh, DMD; Janet Moradian-Oldak, PhD; Michael Paine, BDS, PhD; Ilan Rotstein, DDS; Avishai Sadan, DMD, MBA; Michael L. Schneir, MS, PhD; Jorgen Slots, MBA, DDS, PhD, DMD; Malcolm L. Snead, DDS, PhD
Associate Professors: Winston Wan-Li Chee, BDS; Jiannfu Chen, PhD; George C. Cho, DDS; Sillas Duarte, Jr., DDS, PhD; Pascal Magne, DMD, PhD; Amy Merrill-Brugger, PhD; Glenn Sameshima, DDS, PhD; Arnold Tiber, DDS, PhD; Homayoun H. Zadeh, DDS, PhD
Assistant Professor of Dentistry: Jian Xu, PhD
Professors of Clinical Dentistry: Loris Abedi, DDS; Joyce Galligan, RN, DDS; Mina Habibian, DMD, PhD; Michael Jorgensen, DDS; M. Diane Melrose, BSDH, MA; Michael J. Mulvehill III, DDS, MBA; Ramon Roges, DDS; Eddie Sheh, DDS; Douglas Solow, DDS, MBA; Mark Urata, DDS, MD
Associate Professor (Clinical Scholar): Stephen Yen, DMD, PhD
Associate Professors of Clinical Dentistry: Tae Ahn, DDS; Kim Austin, DDS; Gardner Beale, DDS; Laura Elizondo, DDS; Reyes Enciso, PhD; Alon Frydman, DDS; Julie Jenks, MS, MPH, DDS; Kian Kar, MS, DDS; Tae Kim, DDS; John Morzov, DDS; Mariela Padilla, DDS; Anthony Park, DDS; Jin-Ho Phark, DDS; José Polido, DDS; Daniel Romo, DDS; Parish P. Sedghizadeh, DDS; Piedad Suarez, DDS; Joyce Sumi, RDH, MS; Santosh Sundaresan, DDS; Marlene Talley, DDS; Thanh Tam Ton, DDS; Anita Tourah, DDS
Assistant Professors of Clinical Dentistry: Abier Abdulwahab, DDS; Ji Hyun Ahn, DDS, MS; Alexander Alcaraz, DMD; Kamal Al-Eryani, PhD; Neema Bakhshalian, DDS, PhD, MS; Nissim Benbassat, DDS; Yaara Berdan, DDS; Nam Cho, DDS, MD; John Costandi, DMD, MD; Narine Danielian, DDS; Rebecca Dayanim, DDS; Christine Edwards, PhD; Sanaz Fereshteh, DDS; Helia Hooshangi, DDS; Boris Keselbrener, DDS; Gerald Lee, DDS; Richard S. Lin, DDS; Xuanyu Lu, BDS, MS, MS, PhD; W. Michael Madden, DDS; Ali Ostadali Makhmalbaf, DDS; (Mehdi) Mohammad Mohammadi, MPH, DDS; Cheryl Park, DDS; Kristine Parungao, BSDH; Lisa Popkoff, DDS; Elham Radan, DMD, MSc; Rafael Roges, DDS; Gelareh Ronaghi, DDS; Jenny Son, MS, DDS; Natalie Tung, DDS, MD; Felix (Kyle) Yip, DDS, MD; Nineli Zadourian, DDS

Associate Professors of Research: Matthew K. Lee, MD; Yan Zhou, PhD
Clinical Professors: Ralph B. Allman, MS, DDS; Margarita Zeichner-David, PhD
Clinical Associate Professors: Gabriela Anderson, DDS; Vartuhi Avanesian, DDS; Nasrin Bahari Chopiuk, PhD; Linda Brookman, RDH, MSHS; Phuu Han, DDS, PhD; John Kishibay, DMD, PhD; Alena Knezevic, DMD, MS, PhD; Theresia Laksmana, DMD, MS; Bach Le, DDS, MD; Lisa Oshiro, RDH; Lucille Rotstein, BChD; Carlos Sanchez, RDH; Hovhanness Shnorhokian, DMD, PhD; Natalia Slusky, DDS; James W. Tom, DDS, MS; Fabiana Varjao, PhD; Stefan Zweig, DDS
Clinical Assistant Professors: Marwa Abulhasan, DMD, MS; Azadeh Ahmadieh, DDS, MS; Mainul Ahsan, PhD; Mahsa Alavi, DMD, MS; Mario Alvarez, DDS; Gelareh Asadi, DDS, MSc; Vanessa Beer, DMD; Audrey Boros, DDS; Sangho Byun, DDS; Kai Chiao Chang, DDS, MS; Yojeong Cho, DDS; Xiao Mei Cui, DDS; David Datu, DDS; Sibel Dincer, DDS, MS; Marie Dizon, DDS; Sharon Faust, DDS; Howard Fleiner, DDS; Ellen M. Grady, BA; Michael Gu, DDS; Jun Han, MS, DDS, PhD; Lisa Hou, DDS; Viola Iskarious, DDS; Daniel Jacob, BA, MSW; Steven Kallman, DDS; David Kang, DDS; Rebecca (Chae Hyun) Kim, DDS; Kimberly Klein, DDS; Bethany Kum, RDH; James McAndrews, DDS; Brett Nagatani, DDS; Charlene Napolitano, DDS; Michaela Nguyen, RDH; Naomi Nguyen, DDS, MS; Camille Nishikawa, DDS; Narendranath Ravindranath, PhD; Daniel Schechter, DDS; Daniela Schmid, DDS, PhD; Arezou Shahbazi, DDS, MS; J. Denise Tefft, PhD; Justin Urbano, RDH, MA; Xin Wen, PhD; Ryan Wu, DDS; Xun Xu, PhD, DDS; Kiyomi Yamazaki, DDS, PhD; Danhong Zhu, MD, MS, PhD
Clinical Instructors: Joiakim Bakhoum, DDS; Joan Beleno, RDH; Cristy Boehm, RDH; Brandon Gauthier, DDS; Shahrokh Jedian, DDS; Ivan Pinto, RDH
**Recipient of university-wide or school teaching award.*

Degrees Offered

The Herman Ostrow School of Dentistry awards the following degrees and certificates: Master of Science, Craniofacial Biology; Master of Science, Biomaterials and Digital Dentistry; Master of Science, Biomedical Implants and Tissue Engineering; Doctor of Philosophy, Craniofacial Biology; Doctor of Dental Surgery; Advanced Operative and Adhesive Dentistry Certificate; Advanced Orthodontics Certificate; Advanced Pediatric Dentistry Certificate; Advanced Periodontology Certificate; Advanced Oral and Maxillofacial Surgery; Advanced Orofacial Pain; and Advanced Prosthodontics Certificate. A Minor in Craniofacial and Dental Technology is also offered jointly by the Herman Ostrow School of Dentistry, the Viterbi School of Engineering and the Dornsife College of Letters, Arts and Sciences.

The Herman Ostrow School of Dentistry awards the following online degrees and certificates: Master of Science, Geriatric Dentistry; Master of Science, Orofacial Pain and Oral Medicine; Master of Science, Community Oral Health; Orofacial Pain Certificate; Oral Pathology and Radiology Certificate; Geriatric Dentistry Certificate; and Community Oral Health Certificate.

General Information

The Grading System

Grades are issued by members of the faculty to indicate to students their level of achievement and to provide information to committees given the responsibility of reviewing a student's total academic record and assigning honor or deficient status.

Newly admitted students to all programs in the school are bound by the university grading system (excluding plus/minus grades), which is detailed in the Academic Standards section of this catalogue.

Grades used by course directors of advanced clinical classes are: "Cr" — credit and "NC" — no credit. Other notations appearing on the transcript are: A — excellent; B — good; C — minimum passing in courses for graduate credit; F — failed; "IP" — course in progress indicating that the grade in a course is not issued until a subsequent trimester; "IN" — incomplete work; "MG" — missing grade; and "W" — withdraw. Students pursuing a Master of Science, Doctor of Philosophy in Craniofacial Biology, and Doctor of Dental Surgery classes should refer to the Academic Standards section of this catalogue.

Probation and Disqualification

A student evaluation policy has been developed that outlines methods by which the faculty can recognize outstanding achievements by students and identify those who have difficulty meeting the school's academic standards.

In this policy, the procedures dealing with the assignment and consequences of academic status, including academic probation and disqualification, are outlined in detail. It is hoped that the development of specific guidelines will eliminate confusion and minimize the amount of time spent in determining the student's status, thus allowing faculty and students to concentrate on their primary responsibility — the training of dental health professionals. Copies of Student Professional Performance Evaluation Committee guidelines are available online on the Dental School intranet.

DDS (including Advanced Standing Program for International Dentists)

A student will be placed on academic warning ("AW") if: (1) the GPA of a given Academic Time Unit (ATU) falls below a 2.0; (2) a failing course grade in a course of 1 unit or less is received; (3) a student does not successfully pass National Board Part I and National Board Part II or does not take the exams during the time-frame designated; and/or (4) if in the judgment of the Student Professional Performance Evaluation Committee, such a warning is warranted for other reasons, such as poor attendance or consistent tardiness.

A student will be placed on academic probation ("AP") if: (1) a failing grade is received in 2 or more units completed in one ATU; (2) a second consecutive academic warning is warranted: (2) two conditions that justify academic warning are met in a single ATU or if a single condition is met twice in an ATU; and/or (4) a student receives a failing score or an F in a module that results in an MG. A first-year student in trimesters I, II or III will be placed on academic probation if: (1) the quality of preclinical work is unsatisfactory as reflected by a failing score or an F in a module; (2) the quality of preclinical work is poor enough to jeopardize the student's timely transition to clinic with the rest of the class; (3) warranted by other factors related to the quality of preclinical/clinical work such as poor attendance, unprofessional behavior and/or poor performance in written examinations; (4) in the judgment of the Student Professional Performance Evaluation Committee, probation is warranted by other academic factors; and/or (5) recommended by the group practice director, due to the quality of clinical work.

A student may be placed on clinical probation upon recommendation of the group practice director, associate dean for Clinical Affairs, or any other faculty who have supervised the student's clinical activities if a failing score is received in any of the graded categories of group practice performance, or, in the judgment of the group practice director, the associate dean for Clinical Affairs, or any other faculty who have supervised the student's clinical activities, probation is warranted by other factors related to the delivery of health care or clinical accomplishment.

A student will be considered for disqualification if: (1) at the end of any trimester during the first year (trimesters I, II, III), a student's continued lack of preclinical accomplishment is significant enough to suggest a deterioration of preclinical skills; (2) a second academic probation is warranted; (3) a failing grade is not reconciled; (4) at the end of the academic year the grade point average for the preceding year is below 2.0; (5) academic probation is warranted while repeating a trimester on probation; (6) a deficiency in any area is determined by the Student Professional Performance Evaluation Committee to be

insurmountable; (7) at the end of the second trimester of the Advanced Standing Program for International Dentists (ASPID), the cumulative average is less than 2.0; (8) it is recommended by the group practice director, based on severe and irreconcilable deficiencies relating to the quality and/or quantity of patient treatment; and/or (9) at the end of any trimester following trimester VI, a student's ongoing lack of clinical accomplishment is significant enough to suggest a deterioration of skills and/or inadequate treatment of patients assigned to his/her care.

Advanced Clinical Programs and Online Master of Science Degrees and Online Certificate Programs

A student will be placed on academic probation if a failing grade is received in any course or if, in the judgment of the program director, a student's performance warrants such status due to academic or other factors. A student may be disqualified if: (1) the stipulations of a probationary period are not met by the required deadline; (2) a failing grade is not reconciled in the period specified by the course director; (3) if a student is placed on second academic probation; and/or (4) a deficiency in any area is acquired that is determined by the program director to be insurmountable. A student who is placed on academic probation a second time can continue in the program only with the approval of the program director and the Advanced Student Professional Performance Evaluation Subcommittee.

Advanced Clinical Programs Graduation Requirements

A minimum program GPA of 3.0 is required to graduate from the following advanced clinical dentistry programs: endodontics, operative and adhesive dentistry, orofacial pain, periodontology and prosthodontics.

Honor Status

The Herman Ostrow School of Dentistry recognizes excellence in achievement by assigning special honor status during the course of study and by presentation of awards upon graduation.

Dean's List

Students who complete all course work by a prescribed deadline and earn a grade point average of 3.5 or above for a trimester are eligible for and will be considered for placement on the Dean's List for that ATU. Placement is not automatic and is not based on any single marker of performance. Students shall not be placed on the Dean's List if they are on academic warning, academic probation or continued academic probation at any time during that trimester, or are under active ethics sanctions as a result of having been found guilty of or engaged in a direct resolution of an ethics violation.

Graduation Awards

There are numerous awards made each year at graduation to recognize excellence in members of the graduating doctoral, dental hygiene and ASPID classes. A complete list is available at the Herman Ostrow School of Dentistry.

Voluntary Withdrawal/Leave of Absence

The Herman Ostrow School of Dentistry recognizes that in some special instances it may be necessary or beneficial for a student to interrupt or discontinue dental education. A student wishing to withdraw from School or request a leave of absence must contact the Office of Academic Affairs for procedures to be followed. An approved leave of absence will not be granted for more than one year.

Students at the Herman Ostrow School of Dentistry who have not been formally dropped by the school, are considered enrolled each term unless they have submitted a letter of intent to withdraw. A student's verbal indication that he or she intends to withdraw or failure to settle a fee bill are not sufficient to eliminate the student from class rosters. Final course grades will be collected for students who do not have a letter of intent to withdraw on file with the Office of Academic Affairs.

A student who withdraws at any time during the first three weeks of a trimester will receive no grades for enrolled courses. A student who withdraws after three full weeks of an Academic Time Unit (ATU) will receive a mark of "W" for all enrolled courses not completed. Withdrawal is not permitted after the 12th week of a trimester.

Family Educational Rights and Privacy Act

The University of Southern California recognizes and acts in full compliance with regulations set in accordance with the Family Educational Rights and Privacy Act of 1974 (The Buckley Amendment). A student may have access to all records about him or her maintained by the university except those considered confidential under the act. Students of the School of Dentistry wishing to review records or to appeal for a change in those records should contact the Herman Ostrow School of Dentistry or USC Registrar. A small charge may be made to cover the time and costs of duplication of the record.

Tuition and Fees (Estimated)

Tuition at the Herman Ostrow School of Dentistry is charged on a flat fee basis for enrollment in the regular degree and advanced certificate programs of the school. Exceptions do not apply to students who have courses waived based on their prior education. In such cases, students are charged the standard flat fee for the program in which they are enrolled.

Auditors pay the regular tuition rate. Auditors are not required to participate in class exercises (discussions and examinations); they receive no grades or credit.

The information outlined here is for Herman Ostrow School of Dentistry fees and tuition deposits only. For information about Herman Ostrow School of Dentistry tuition and university fees, refer to the Tuition and Fees (Estimated), Fall 2021 section of this catalogue. The university reserves the right to assess new fees or charges as it may determine.

Processing Fee (not refundable):	
Domestic applicants	85
Graduates of foreign dental schools or students requiring a student visa	145
Commitment Deposit	
Dentistry	3,000
International Dental	3,000
Advanced Dental	1,000
Pre-Tuition Payment (refundable in accordance with the refund policy)	1,500

Mandatory Fees (School of Dentistry fees only; for other fees, refer to the Tuition and Fees (Estimated), Fall 2020 section of this catalogue.)	
CDA/ASDA Dues	96
Doctoral dental and Advanced Standing Program for International Dentists students only; fall only.	
Gown Usage Fee	165
Disability Insurance (Doctoral, Advanced Standing Program for International Dentists and Advanced Certificate)	53
Scrubs (first year only)	420

Student Issue

Figures shown below are approximate. The Herman Ostrow School of Dentistry reserves the right to change fees at any time.

DDS Program

1st Year	Instruments and supplies	10,575.28
	IMS Fee	4,848
2nd Year	Instruments and supplies	3,600.11
	IMS Fee	4,848
3rd Year	Instruments and supplies	0
	IMS Fee	4,848
4th Year	Instruments and supplies	0
	IMS Fee	3,232

Advanced Standing Program for International Dentists Incoming

(Su 2021)	Instruments and supplies	12,310.35
	IMS Fee	1,616
1st Year	Instruments and supplies	0
	IMS Fee	4,848
2nd Year	Instruments and supplies	0
	IMS Fee	3,232

Advanced Dentistry Programs

IMS Fee	**Endodontics (Incoming — Su 21)**	178 (IMS), 2,065 (lab fee)
	Endodontics, 1st Year	2,768 (IMS), 6,195 (lab fee)
	Endodontics, 2nd Year	2,542 (IMS), 6,195 (lab fee)
	Orthodontics (Incoming — Su 21)	178
	Orthodontics, 1st Year	1,050
	Orthodontics, 2nd Year	1,050
	Orthodontics, 3rd Year	700
	Pediatric Dentistry (Incoming — Su 21)	178
	Pediatric Dentistry, 1st Year	2,370
	Pediatric Dentistry, 2nd Year	0
	Periodontology (Incoming — Su 21)	178
	Periodontology, 1st Year	2,542
	Periodontology, 2nd Year	2,542
	Periodontology, 3rd Year	878
	Prosthodontics (Incoming — Su 21)	178
	Prosthodontics, 1st Year	2,768
	Prosthodontics, 2nd Year	2,542
	Prosthodontics, 3rd Year	700
	Orofacial Pain (Incoming — Su 21)	172
	Orofacial Pain, 1st Year	2,316
	Orofacial Pain, 2nd Year	700
	Operative and Adhesive Dentistry (Incoming — Su 21)	178
	Operative and Adhesive Dentistry, 1st Year	2,768
	Operative and Adhesive Dentistry, 2nd Year	2,370

Financial Aid

Detailed information concerning financial aid programs available to dental students can be obtained by contacting the Herman Ostrow School of Dentistry of USC Office of Financial Aid at (213) 740-2861, uscsdfa@usc.edu or visit dentistry.usc.edu/admission.

Minor

Craniofacial and Dental Technology Minor

The Herman Ostrow School of Dentistry, the Viterbi School of Engineering Department of Biomedical Engineering and the Dornsife College of Letters, Arts and Sciences Department of Biological Sciences jointly offer the minor in craniofacial and dental technology. This minor is designed to prepare engineering, pre-dental, pre-medical and biological sciences undergraduates to enter the dental biotechnology industry as well as to introduce them to recent innovations in craniofacial sciences and therapeutics. The course work introduces students to concepts in dental and craniofacial sciences and technology, tissue engineering, molecular biology, genetics, biochemistry and biotechnology as well as applications to dental diagnostics, imaging and dental therapies (dental implants, restorative dentistry, salivary diagnostics).

This minor requires a minimum of 16 units outside your home department; further, at least 16 units must be unique to the minor.

Please see a biomedical engineering, biological sciences or Herman Ostrow School of Dentistry adviser for specific program requirements.

Core Required Courses, Upper Division

- DENT 412 Fundamentals of Craniofacial and Dental Technology Units: 3
- BISC 320Lg Molecular Biology Units: 4
- BISC 325 Genetics Units: 4 *
- BME 410L Introduction to Biomaterials and Tissue Engineering Units: 4 *

Total core units: 15

Electives

Enroll in at least two courses from the following to complete at least 16 units outside your home department; further, at least 16 units must be unique to the minor:

- BISC 330L Biochemistry Units: 4 *
- BISC 403 Advanced Molecular Biology Units: 4 *
- BISC 406L Biotechnology Units: 4 *
- BISC 410 Applications of Molecular Biology to Medicine Units: 4 *
- BISC 435 Advanced Biochemistry Units: 4 *
- BME 404 Orthopaedic Biomechanics Units: 4 *
- BME 415 Regulation of Medical Products Units: 2
- BME 416L Development and Regulation of Medical Products Units: 4
- BME 451L Fundamentals of Biomedical Microdevices Units: 4 *
- DENT 221 Introduction to Dentistry Units: 1
- ENGR 305 Engineering Biology Matters Units: 3

- HP 340Lg Health Behavior Statistical Methods Units: 4
- HP 350L Health Behavior Research Methods Units: 4
- MASC 310 Materials Behavior and Processing Units: 4
- RXRS 416 Medical Products: From Idea to Market Units: 4

Total elective units: 3-8

Note:

**Prerequisite required*

Master's Degree

Advanced Orofacial Pain and Oral Medicine (MS)

The Master of Science degree in orofacial pain and oral medicine program consists of a 36-month hybrid program (online and face-to-face) leading to a master's degree in orofacial pain and oral medicine (OFPOM). The curriculum is designed to provide practicing dentists with advanced knowledge and training in the areas of orofacial pain and oral medicine including sleep medicine.

The program consists of a series of 14 online didactic courses where the students will gain knowledge about the underlying science as well as the diagnosis, pathobiology and treatment of different oral and maxillofacial diseases and disorders. In addition to these courses, the student will attend USC for two weeks each summer during the three-year period for an additional three face-to-face assessment courses where they will be tested for knowledge acquisition using a set of objective standardized clinical examinations, oral interviews and written examinations. They will also be required to prepare a final portfolio of cases and conduct and present a research project report. During their visits to USC, the residents will gain experience diagnosing and treating patients in the USC OFOPM center.

During the year, the residents will attend weekly video conferences where online students are required to analyze, diagnose and prepare treatment plan cases that are posted for analysis. These cases will cover the following diseases: temporomandibular disorders; infectious, dysplastic, neoplastic proliferative, erosive and ulcerative oral and pharyngeal mucosal diseases. Students will also learn about and work with patients who have various salivary, neurogenic, osseous, and odontogenic infections, tumors and diseases including oral neuropathic pain, oral spasticity, migraine, tension type and chronic daily headache and sleep apnea disorders.

Required Courses

- GDEN 733 Research Methodology Units: 2
- OFPM 702a Soft Tissue Disease for Dental Residents Units: 1
- OFPM 702b Soft Tissue Disease for Dental Residents Units: 2
- OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents Units: 1
- OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents Units: 2
- OFPM 706 TMD, Orthopedics, Rheumatology and Physical Therapy for Dental Residents Units: 2
- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OFPM 710a Knowledge Assessment for OFPOM Residents Units: 1
- OFPM 710b Knowledge Assessment for OFPOM Residents Units: 1
- OFPM 721 Neurosciences for Dental Residents Units: 2
- OFPM 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2
- OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents Units: 2
- OFPM 724 Psychological and Psychometric Assessment for Dental Residents Units: 2
- OFPM 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2
- OFPM 726 Immunology and Immunosuppression for Dental Residents Units: 2
- OFPM 727 Infectious Disease, Oral Microbiology and Virology for Dental Residents Units: 2
- OFPM 729a Capstone Project for OFPOM Residents Units: 0.5
- OFPM 729b Capstone Project for OFPOM Residents Units: 0.5
- OFPM 729c Capstone Project for OFPOM Residents Units: 0.5
- OFPM 729d Capstone Project for OFPOM Residents Units: 0.5
- OFPM 730a Case Portfolio Preparation by Online OFPOM Residents Units: .5
- OFPM 730b Case Portfolio Preparation by Online OFPOM Residents Units: .5
- OFPM 730c Case Portfolio Preparation by Online OFPOM Residents Units: .5
- OFPM 730d Case Portfolio Preparation by Online OFPOM Residents Units: .5
- OFPM 730e Case Portfolio Preparation by Online OFPOM Residents Units: .5

Total units: 32.5

Biomaterials and Digital Dentistry (MS)

The Herman Ostrow School of Dentistry offers a 24-month program leading to a Master of Science (MS) in Biomaterials and Digital Dentistry (BMDD). The MS in Biomaterials and Digital Dentistry provides dental professionals with in-depth knowledge in dental material properties, characterization, biological interactions of dental adhesive systems, composite resins, ceramics, implants, 3D printing, digital scanning and Computer-Aided Design/ Computer-Aided Manufacturing (CAD/CAM).

The MS BMDD also places an academic focus on skills to master cutting-edge digital technologies for improving dental health. Developing skills in cutting-edge digital technologies is an emphasis and strength of the program. The MS BMDD program will prepare graduates for future careers in dental research and academic positions, industry jobs, and public service in Dental Healthcare management.

The admissions requirements include a DDS, DMD or equivalent degree (for international dentist applicants), three letters of recommendation, curriculum vitæ, Educational Credential Evaluators (ECE) Report and statement of purpose. The GRE is not required for the MS in BMDD program. For non-native English speakers, an Internet-based TOEFL (iBT) test score of 90 or above is required, with 20 or above on each section (reading, listening, speaking, and writing). The exam score should be current (less than two years old). The MS BMDD is only available to current residents on USC Operative and Adhesive Dentistry and Prosthodontics. Please refer to the Admissions section of the Herman Ostrow School of Dentistry for more information.

All students are required to complete an original research project and a master's thesis following a thesis protocol approved by their advisory committee. An advisory committee normally includes three faculty members, who will establish thesis requirements to be completed by each student.

Required Courses

- BMDD 588a Digital Technology Applied to Dentistry Units: 3
- BMDD 588b Digital Technology Applied to Dentistry Units: 3
- BMDD 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
  (3 units required)
- BMDD 594a Master's Thesis Units: 2
- BMDD 594b Master's Thesis Units: 2
- BMDD 594z Master's Thesis Units: 0
- DMAT 701 Advanced Biomaterials Units: 2
- OPER 704a Operative Dentistry and Biomaterials Literature Review Units: 1

- OPER 704b Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704c Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704d Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 705L Dental Photography Units: 1
- OPER 735aL Research Methodology Units: 2
- OPER 735bL Research Methodology Units: 2

Total units: 24

Biomedical Implants and Tissue Engineering (MS)

The Master of Science in "Biomedical Implants and Tissue Engineering (BITE)" is an intense academic program designed to enhance the knowledge and critical thinking skills of graduate students interested in biological and clinical aspects of osseointegration and clinical applications of tissue engineering sciences. Through rigorous review of the scientific literature, graduate students are expected to gain advanced knowledge of clinical and scientific studies involving dental implants and related procedures required to regenerate oral and craniofacial tissues. These studies are intended to form the fundamental basis to pursue evidence-based practice for clinicians, as well as conduct scientific studies for clinical researchers. This academic degree is suitable for those, who are interested to gain expertise in dental implant therapeutics and regenerative sciences. In addition to the didactic courses and gaining comprehensive understanding with relevant scientific literature, graduate students are required to design and complete a scientific research project, under the supervision of an academic committee, composed of mentors with relevant expertise. The resulting data from the scientific study is expected to be prepared in manuscript format and submitted for publication in a peer-reviewed journal.

The BITE MS program is 6 trimesters (24 months) in length. The program is a purely academic program and there is no clinical patient care component to this program.

Required Courses

- BITE 582 Introduction to Biomedical Implants Units: 3
- BITE 583 Clinical Applications of Tissue Engineering Units: 4
- BITE 584 Evidence Based Practice Units: 3
- BITE 585 Biomaterial and Protocols Units: 3
- BITE 586 Current Trends in Biomedical Implants and Tissue Engineering Units: 3
- BITE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (4 units)
- BITE 594a Master's Thesis Units: 2
- BITE 594b Master's Thesis Units: 2
- BITE 594z Master's Thesis Units: 0

Community Oral Health (MS)

The online Master in Community Oral Health is a program with a total 16 courses (30 units), specifically designed for the professional who wants to improve skills and gain expertise to ensure the best care for patients within their communities. The curriculum is designed with a series of didactic courses where students will gain knowledge about health sciences and education, programs assessment, planning and administration, epidemiology, environmental and cultural issues, social and behavioral sciences. The student will select electives in one of two areas: vulnerable populations and community health care, or project administration. The goal of this postdoctoral two-year master's program is to give health care providers, educators and administrators and advanced didactic and evidence-based education in the field of community health.

Core Courses

(24 units)

- COH 593a Capstone Project Units: 2
- COH 593b Capstone Project Units: 2
- COH 701 Community Health Sciences Units: 2
- COH 702 Social and Behavioral Sciences Units: 2
- COH 703 Community Health Program Planning and Implementation Units: 2
- COH 704 Environmental Health Sciences Units: 3
- COH 705 Research and Biostatistics in Healthcare Units: 2
- COH 706 Foundations and Strategies in Health Education Units: 2
- COH 707 Epidemiology Units: 2
- COH 708 Community Health Science Administration, Assessment and Evaluation Units: 2
- COH 711 Practicum 1 Units: 1
- COH 712 Practicum 2 Units: 1
- COH 717 Practicum 3 Units: 1

Elective Courses

Select three courses (total of 6 units)

- COH 709 Community Health Program Execution and Communication Units: 2
- COH 710 Health Assessment Units: 2
- COH 713 Health Education and Promotion Units: 2
- COH 714 Community Health Funding and Support Units: 2
- COH 715 Community Health Practice Standards Units: 2
- COH 716 Healthcare Communication Technology Units: 2

Geriatric Dentistry (MS)

The Master of Science in Geriatric Dentistry online program consists of 30.5 units of course work delivered online and in person leading to a master's degree in geriatric dentistry. The curriculum is designed to prepare students to work in the area of geriatric dentistry. The program consists of a series of didactic courses where the students will gain in-depth knowledge about older adults from a variety of perspectives that will include learning about the aging process and how it affects and is affected by social, behavioral and health factors commonly seen with aging. The program will focus on the most common medical and oral health conditions seen in older adults including oral lesions and orofacial pain conditions and their treatments, as well as cognitive changes, mental disorders, and social factors that will impact and thus require adjustments to oral health care delivery.

During the year, the students will attend weekly video conferences where they will discuss lesions most likely to be found in older adults or composite patient case scenarios, during which the patient's medical, pharmacologic and psychologic profiles and social status is taken into consideration in determining treatment modifications.

All master students are required to choose and finish a capstone project and 18 portfolio cases during the program duration. The students will attend USC for 8-10 days during two summer trimesters for knowledge assessment courses. As part of the graduation requirements, the students are required to successfully defend their capstone project and portfolio cases during their last summer term and pass all the courses with a grade point average of 3.0 or more.

Required Courses

- GDEN 710 Knowledge Assessment for GDEN Students Units: 1
- GDEN 712a Capstone Research Project for GDEN Students Units: .5
- GDEN 712b Capstone Research Project for GDEN Students Units: .5
- GDEN 712c Capstone Research Project for GDEN Students Units: .5
- GDEN 712d Capstone Research Project for GDEN Students Units: .5
- GDEN 713 Common Systemic Conditions in Older Patients Units: 2
- GDEN 714 Topics in Gerontology Units: 2
- GDEN 715 Geriatric Dentistry Issues Units: 2
- GDEN 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2

- GDEN 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2
- GDEN 730 OFPM Case Portfolio Preparation for Dental Residents Units: .5
  (1 unit required)
- GDEN 731 GDEN Case Portfolio Preparation for Dental Residents Units: .5
  (1 unit required)
- GDEN 732 Case Portfolio Defense for GDEN Students Units: .5
- GDEN 733 Research Methodology Units: 2
- OFPM 702a Soft Tissue Disease for Dental Residents Units: 1
- OFPM 702b Soft Tissue Disease for Dental Residents Units: 2
- OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents Units: 1
- OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents Units: 2
- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OFPM 710a Knowledge Assessment for OFPOM Residents Units: 1
- OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents Units: 2
- OFPM 726 Immunology and Immunosuppression for Dental Residents Units: 2

Total units: 30.5

Graduate Certificate

Advanced Orthodontics Certificate

The advanced orthodontics certificate program is a 34-month course of study leading to a certificate in orthodontics. The program in orthodontics is accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. Upon completion of all requirements, the graduate is eligible for examination and certification by the American Board of Orthodontics.

The program has as its primary mission the preparation and training of residents for clinical practice in the specialty of orthodontics. This is achieved through a broad, in-depth curriculum designed to develop proficiency in clinical orthodontics with a solid foundation in fundamental and advanced biological and mechanical principles. Clinical training is evidence-based and includes treatment of orthognathic, esthetic, interdisciplinary, interceptive, growth modification and all types of malocclusion cases. Research is an integral part of the program and the student must complete an original research project. Preparation for a successful orthodontic career includes formal courses in orthodontic practice management, and current orthodontic technology and techniques.

Required Courses

- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- ORTH 674 Clinical and Molecular Bone Biology Units: 2
- ORTH 701a Cephalometrics: Growth and Development Units: 2, 3, 4
- ORTH 701b Cephalometrics: Growth and Development Units: 2, 3, 4
- ORTH 702 Seminar: Review of the Orthodontic Literature Units: 5
- ORTH 703a Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703b Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703c Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703d Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703e Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703f Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703h Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703i Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 704a Seminar: Orthodontics in Theory and Practice Units: 2
- ORTH 704b Seminar: Orthodontics in Theory and Practice Units: 2
- ORTH 704c Seminar: Orthodontics in Theory and Practice Units: 2
- ORTH 705a Orthodontic Practice Management Units: 2
- ORTH 705b Orthodontic Practice Management Units: 2
- ORTH 705c Orthodontic Practice Management Units: 2
- ORTH 706 Surgical Orthodontics Units: 2
- ORTH 707 Interdisciplinary Aesthetic Treatment Units: 2
- ORTH 708 Information Technology in Orthodontic Practice Units: 2
- ORTH 709 Advanced Information Technology in Orthodontic Practice Units: 2
- ORTH 721 Biomechanics and Orthodontic Technic Units: 8
- ORTH 744 Statistical Methods and Research Design in Orthodontics Units: 2
- ORTH 751a Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751b Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751c Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751d Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751e Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751f Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751h Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751i Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 752 Interdisciplinary Treatment: An Orthodontic Perspective Units: 2

Community Oral Health Certificate

The online university certificate in Community Oral Health is a program with a total of six courses (13 units), specifically designed for the professional who wants to improve skills and gain expertise to ensure the best care for patients within their communities.

The curriculum is designed with a series of didactic courses in which students will gain knowledge about health sciences and education, programs assessment, planning and administration, epidemiology, environmental and cultural issues, social and behavioral sciences.

The goal of this one-year certificate program is to give health care providers, educators and administrators an advanced didactic and evidence-based education in the field of community oral health.

Certificate in Community Oral Health

- COH 701 Community Health Sciences Units: 2
- COH 702 Social and Behavioral Sciences Units: 2
- COH 703 Community Health Program Planning and Implementation Units: 2
- COH 704 Environmental Health Sciences Units: 3
- COH 705 Research and Biostatistics in Healthcare Units: 2
- COH 706 Foundations and Strategies in Health Education Units: 2

Geriatric Dentistry Graduate Certificate

The graduate certificate in geriatric dentistry program is designed to prepare practicing dentists and dental hygienists who have already completed their professional training in general or advanced dentistry or dental hygiene to acquire a greater understanding of gerontology and geriatrics. Dental hygienists must have a minimum of a baccalaureate degree in order to apply for the program. The program consists of a total of 12 units of course work delivered online and in-person in which the students will gain knowledge about older adults from a variety of perspectives, focusing on those topics that will have a direct impact on professional practice.

Clinical privilege status is not required for any of the course work. Students admitted to the non-degree certificate program are expected to enroll each semester until the program is completed.

There are seven required courses (six online and one residential) and no electives. As part of the required curriculum, all students will attend USC for a two-week period during the summer trimester following completion of the didactic courses, for a knowledge assessment course (GDEN 710). This course will consist of reviews, practical demonstrations and assessment activities.

Required Courses

- GDEN 710 Knowledge Assessment for GDEN Students Units: 1
- GDEN 713 Common Systemic Conditions in Older Patients Units: 2
- GDEN 714 Topics in Gerontology Units: 2
- GDEN 715 Geriatric Dentistry Issues Units: 2
- GDEN 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2
- GDEN 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2
- GDEN 731 GDEN Case Portfolio Preparation for Dental Residents Units: .5

(1 unit required)

Total units: 12

Oral Pathology and Radiology Certificate

The Hybrid-Online Certificate in Oral Pathology and Radiology is a program with a total of eight courses (12 academic units), specifically designed for the practicing professional who wants the knowledge to improve skills and gain expertise to in the field of Oral Pathology and Radiology. The certificate curriculum is designed with a series of didactic courses in which students will gain knowledge about the diagnosis, pathobiology and treatment of different oral diseases in the field of Oral Pathology and confidence in Oral Radiology and the use of conventional and advanced imaging studies for the diagnostic process. The goal of this postdoctoral one-year certificate program is to give practicing dentist or physician advanced didactic and evidence-based education in the field of oral diagnostics, specifically oral pathology and radiology. With the onset of new diseases to dentistry and advancements in diagnostics and therapeutics in the last few decades, many clinicians may feel ill-prepared to comprehensively manage patients with oral lesions or patients with oral manifestations of complex medical conditions. Therefore, this program taught by expert USC Ostrow School of Dentistry faculty is designed to provide clinicians with the knowledge and confidence necessary for patient care.

The students participate in weekly live online sessions with faculty and other program residents, ensuring a collaborative and social learning experience. There are two to three courses per trimester, with 2-4 streaming video lectures for viewing each week. After each video lecture students complete an associated online quiz (composed of multiple choice, short answer or fill-in questions). The program is primarily online but also includes a 10-day practical training conducted on-campus at USC, with skills development and competence evaluation.

Mandatory courses

All courses on this program are required.

- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OPR 701 Bone Pathology and Oral and Maxillofacial Radiology Units: 1
- OPR 702 Principles and Practice of Oral Medicine Units: 1
- OPR 703 General and Systemic Human Pathology Units: 1
- OPR 704 Oral Pathology and Maxillofacial Medicine Units: 2
- OPR 708 Diagnostic Radiology Units: 2
- OPR 730 Clinical Cases in Oral Pathology and Radiology Units: 2
- OPR 732 Knowledge Assessment Units: 1

Orofacial Pain Certificate

The Certificate in Orofacial Pain is a hybrid program (face-to-face and online classes) with a total of nine courses (12.5 academic units), specifically designed for the practicing dentist who wants to improve skills and gain expertise to deliver the best care for patients with complex conditions. The certificate curriculum is designed with a series of didactic courses in which students will gain knowledge about the diagnosis, pathobiology and treatment of different oral diseases in the field of orofacial pain, including masticatory musculoskeletal pain, neurogenic orofacial pain, temporomandibular disorders, headaches, orofacial motor disorders including orofacial dystonias and bruxism, intraoral, intracranial, extracranial and systemic disorders that cause orofacial pain.

Students will participate in weekly live webinar sessions with the faculty and other residents, ensuring a collaborative and social learning experience. There are two-three courses per trimester, with two-four streaming video lectures for viewing each week. After each video lecture students complete an associated online quiz (comprising multiple choice, short answer or fill-in questions). The program is primarily online but also includes a 10-day practical training program conducted at the USC campus, with skills development and competence evaluation. At the end of the program, the students present and defend a case portfolio.

This program is consistent with the global vision of the University of Southern California, and looks for a worldwide presence. All students will need English language proficiency, but we will provide support for our Spanish speaking students. This is achieved by providing lectures with the option of closed captioning in Spanish and live-webinars both in English and Spanish.

Course List

Course List of the Orofacial Pain Certificate

- OFP 705 Neurogenic Based Oral and Facial Pains Units: 2
- OFP 706 TMD, Orthopedics, Rheumatology, and Physical Therapy Units: 2
- OFP 707 Pharmacology Series Units: 2
- OFP 710 Knowledge Assessment Units: 1
- OFP 723 Systems Physiology, Motor Disorders, and Sleep Apnea Units: 2
- OFP 724 Psychological and Psychometric Assessment Units: 2
- OFP 730a Case Portfolio Preparation Units: .5
- OFP 730b Case Portfolio Preparation Units: .5
- OFP 730c Case Portfolio Preparation Units: .5

Doctoral Degree

Dental Surgery (DDS)

The Doctor of Dental Surgery (DDS) program covers 11 consecutive 14-week trimesters. The course of study maximizes the interrelationship of all basic sciences and clinical detail sciences required by the Commission on Dental Accreditation of the American Dental Association.

USC's reputation for excellent preparation of its graduates for private practice has been enhanced by curriculum changes that permit students to begin clinical experience in their first year. At the same time, opportunity and encouragement are given to those who might elect to pursue careers in teaching and research.

Admission

The Herman Ostrow School of Dentistry of USC admits 144 students each year for the curriculum leading to the Doctor of Dental Surgery. Admission to the school is granted through the Office of Admissions, which receives and processes all applications, evaluates credentials and notifies applicants who qualify for entrance by forwarding letters of acceptance. Students are selected by the Admissions Committee, which bases its decision on consideration of an applicant's personal qualities, aptitude and superior scholarship necessary for the successful study and practice of dentistry. Candidates who have received or will receive a baccalaureate or higher degree will be considered more favorably than applicants who have fulfilled only minimum requirements. As a precondition of enrollment, accepted students must undergo a background screening and provide evidence of sound health and meet the school's health requirements.

Admission information may be obtained by mail, online or in person. Address inquiries to: Herman Ostrow School of Dentistry of USC, Office of Admissions, 925 W. 34th Street, Room 201, Los Angeles, CA 90089-0641, (213) 740-2841, email: uscsdadm@usc.edu or access the school's Website at dentistry.usc.edu.

Admission Requirements

Minimum entrance requirements include: (1) graduation from an accredited secondary school, with credit for at least 12 academic units, including three in English, three in one laboratory science course, two in one foreign language and two in college preparatory mathematics; (2) a minimum of 60 semester units, or the equivalent completed or in progress, at the time of application, in an accredited college or university in the United States or Canada. A baccalaureate or higher degree is preferred. No more than 60 semester hours earned at a community college will be accepted and preference is given to candidates who complete the science prerequisites at a four-year institution; (3) required courses, semester hours with laboratory required: 8 units each — one year's completed course — of general biology, inorganic/general chemistry, organic chemistry, physics; other courses: English composition (8 units or one year), philosophy, history or fine arts (8 units or one year). All prerequisite course work must be completed with a grade of "C" or better; (4) it is strongly suggested that students take additional upper division courses. Biochemistry, human or comparative anatomy, embryology, histology, genetics, physiology, microbiology, immunology and economics are examples of recommended courses; (5) all students who apply for admission to the School of Dentistry are required to take the Dental Admission Test (DAT), given under the auspices of the Council on Dental Education of the American Dental Association. The Dental Admission Test must be taken no later than February 1 of the year for which formal application is made.

To expedite the admissions process, it is recommended that the DAT be taken during a testing period before filing formal application through the Associated American Dental Schools Application Service (AADSAS). Test scores more than three years old will not be accepted. Applicants should check with the Dental Admissions Office. Full information about the test is sent to all applicants upon request, or can be obtained from the Division of Educational Measurements, Council on Dental Education, American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611. No action can be taken on the application until DAT scores have been received.

(6) An interview at the School of Dentistry is required of all applicants who appear qualified for consideration as determined by the Office of Admissions; (7) complete transcripts of undergraduate and graduate work, including degree notations, must be on file in the Office of Admissions by July 15 prior to enrolling; (8) residency requirements: as a private institution, USC seeks a culturally and geographically diverse population. Therefore, out-of-state applicants are evaluated and selected based on the same criteria as California residents.

No applicant will be denied admission on the basis of race, religion, creed or disability. All admitted students must provide evidence that functional health is sufficient to meet professional demands, both in the student role and as an entry-level practitioner.

Application Procedure

(1) An application form should be obtained from the Associated American Dental Schools Application Service (AADSAS) online at adea.org. (2) The AADSAS application form must be completed and returned to AADSAS. USC requires that the application be received by AADSAS no later than February 1 of the year in which enrollment is anticipated. Early application and file completion is recommended. Do not send the application form to USC directly. In addition to submitting the ADEA AADSAS application, applicants must submit DAT scores and one official transcript from every college/university attended directly to AADSAS. Application evaluation cannot begin until these items are received by ADEA AADSAS. (3) Applicants are required to pay a nonrefundable $85 processing fee, which should be forwarded directly to the Ostrow Office of Admissions (international students requiring a student visa must submit a $145 processing fee). (4) Notification from the Office of Admissions will be sent, indicating that the application has been received from AADSAS. (5) Candidates who are being seriously considered for acceptance will be sent an invitation for an interview and will be required to submit additional information. No interview can be granted unless the file is complete, including DAT scores. (6) Notification of acceptance will be sent by the Office of Admissions sometime after December 1. (7) A non-refundable commitment fee of $2,000 is required from admitted students by the deadline indicated in the acceptance letter to hold a place in the entering class. A second commitment fee of $1,000 is required by the deadline in their acceptance letter. These non-refundable fees will be applied toward tuition upon enrollment. (8) Preregistration for the first year dental class is held before orientation. (9) All entering students are required to prepay $3,000 toward the initial tuition by their deadline. (10) As a precondition of enrollment, accepted students undergo a background screening conducted by Certiphi Screening, Inc. to help ensure patient safety and compliance with state laws and regulations and provide evidence of sound health and meet the school's health requirements.

Orientation

Students who have been accepted into the predoctoral dental program and who have reserved their place in the class will receive information on orientation during the first two weeks in July.

Orientation takes place prior to the first week of classes. The purpose of the orientation program is to acquaint incoming students with the school, its policies, programs, faculty and facilities. Incoming students receive financial counseling and receive their initial equipment issue during this orientation period.

Graduation Requirements

A student is eligible for the Doctor of Dental Surgery after successfully attaining the qualitative and quantitative level expected in the doctoral curriculum, specifically: has met the 2.0 GPA requirement for graduation; has no conditions existing at the termination of the final academic time unit that would qualify him or her for academic probation, clinical probation or academic disqualification; has no marks of "F," "IN" or "MG"; has passed Part I and Part II of the National Dental Board Examinations; has demonstrated the personal characteristics expected of a professional; has fulfilled his or her financial obligations as well as all other obligations and requirements for graduation.

In addition to meeting the academic requirements indicated above, students must have a completed administrative clearance form on file in the Office of Academic Affairs before a degree can be conferred. This administrative clearance indicates that the student has met other obligations to the university and to the student's patients.

Curriculum

The curriculum leading to the Doctor of Dental Surgery degree undergoes constant change to meet the challenges of modern dental practice.

Doctor of Dental Surgery — Learner-Centered Curriculum

Required Courses

- DPBL 501a Dental Problem Based Learning — Human Structure I Units: 3
- DPBL 501b Dental Problem Based Learning — Human Structure I Units: 3
- DPBL 501c Dental Problem Based Learning — Human Structure I Units: 3
- DPBL 502a Dental Problem Based Learning — Human Function I Units: 8
- DPBL 502b Dental Problem Based Learning — Human Function I Units: 8
- DPBL 502c Dental Problem Based Learning — Human Function I Units: 8
- DPBL 503a Dental Problem Based Learning — Human Behavior I Units: 2
- DPBL 503b Dental Problem Based Learning — Human Behavior I Units: 2
- DPBL 503c Dental Problem Based Learning — Human Behavior I Units: 2
- DPBL 504a Dental Problem Based Learning — Human Clinical Dentistry I Units: 4
- DPBL 504b Dental Problem Based Learning — Human Clinical Dentistry I Units: 4
- DPBL 504c Dental Problem Based Learning — Human Clinical Dentistry I Units: 4
- DPBL 511a Dental Problem Based Learning — Human Structure II Units: 2
- DPBL 511b Dental Problem Based Learning — Human Structure II Units: 2
- DPBL 511c Dental Problem Based Learning — Human Structure II Units: 2
- DPBL 512a Dental Problem Based Learning — Human Function II Units: 5
- DPBL 512b Dental Problem Based Learning — Human Function II Units: 5
- DPBL 512c Dental Problem Based Learning — Human Function II Units: 5
- DPBL 513a Dental Problem Based Learning — Human Behavior II Units: 3
- DPBL 513b Dental Problem Based Learning — Human Behavior II Units: 3
- DPBL 513c Dental Problem Based Learning — Human Behavior II Units: 2
- DPBL 514a Dental Problem Based Learning — Human Clinical Dentistry II Units: 7
- DPBL 514b Dental Problem Based Learning — Human Clinical Dentistry II Units: 7
- DPBL 514c Dental Problem Based Learning — Human Clinical Dentistry II Units: 8
- DPBL 521a Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 521b Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 521c Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 522a Dental Problem Based Learning — Human Function III Units: 1
- DPBL 522b Dental Problem Based Learning — Human Function III Units: 1
- DPBL 522c Dental Problem Based Learning — Human Function III Units: 1
- DPBL 523a Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 523b Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 523c Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 524a Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 524b Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 524c Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 531a Dental Problem Based Learning — Human Structure IV Units: 1
- DPBL 531b Dental Problem Based Learning — Human Structure IV Units: 1
- DPBL 532a Dental Problem Based Learning — Human Function IV Units: 1
- DPBL 532b Dental Problem Based Learning — Human Function IV Units: 1
- DPBL 533a Dental Problem Based Learning — Human Behavior IV Units: 1
- DPBL 533b Dental Problem Based Learning — Human Behavior IV Units: 1
- DPBL 534a Dental Problem Based Learning — Human Clinical Dentistry IV Units: 13
- DPBL 534b Dental Problem Based Learning — Human Clinical Dentistry IV Units: 13

Note:

For those individuals who are not familiar with the problem-based pedagogy which is an integrated curriculum, the content of the curriculum listed above is based on what was traditionally housed in the following courses.

Doctor of Dental Surgery — Traditional Program Curriculum

Required Courses

- AMED 502 Emergency Medicine Units: 2
- AMED 523 Pharmacosedation II Units: 1
- AMED 524 Pain and Anxiety Control Units: 2
- ANAT 521 Head and Neck Anatomy Units: 2
- ANAT 522 Systemic Human Anatomy Units: 3
- ANAT 523 Head and Neck Dissection Units: 1
- CMDT 501 Introduction to Community Dentistry Programs Units: 1
- CMDT 502a Contemporary Dental Practice Units: 2
- CMDT 502b Contemporary Dental Practice Units: 2
- CMDT 507a Ethical Issues in the Practice of Dentistry Units: 0
- CMDT 507b Ethical Issues in the Practice of Dentistry Units: 0
- CMDT 507c Ethical Issues in the Practice of Dentistry Units: 1
- CMDT 601 Mobile Clinic Units: 1
- DBIO 501 Biochemistry and Molecular Biology Units: 2
- DIAG 521 Principles of Oral Radiology Units: 2
- DIAG 522 Radiographic Techniques Units: 1
- DMAT 505 Dental Materials Update Units: 1
- DMAT 521a Dental Materials Units: 2
- DMAT 521b Dental Materials Units: 2
- DPHR 501 Pharmacology Units: 3
- ENDO 501 Clinical Endodontics Units: 1
- ENDO 502 Advanced Endodontics Units: 1
- ENDO 521 Preclinical Endodontics Units: 3
- ENDO 562a Clinic: Concentrated Early Endodontics Units: 0
- ENDO 562b Clinic: Concentrated Early Endodontics Units: 0
- ENDO 562c Clinic: Concentrated Early Endodontics Units: 0
- ENDO 562d Clinic: Concentrated Early Endodontics Units: 1
- ENDO 563a Clinic: Endodontic Therapy Units: 0, 1, 2
- ENDO 563b Clinic: Endodontic Therapy Units: 0, 1, 2
- FPRO 521 Preclinical Fixed Prosthodontics I Units: 3
- FPRO 522 Preclinical Fixed Prosthodontics II Units: 3

- FPRO 561a Clinic: Fixed Prosthodontics I Units: 0
- FPRO 561b Clinic: Fixed Prosthodontics I Units: 0
- FPRO 561c Clinic: Fixed Prosthodontics I Units: 0
- FPRO 561d Clinic: Fixed Prosthodontics I Units: 3
- FPRO 562a Clinic: Fixed Prosthodontics II Units: 0, 1, 2, 3
- FPRO 562b Clinic: Fixed Prosthodontics II Units: 0, 1, 2, 3
- GSPD 504 Dental Treatment of the Geriatric and Special Patient Units: 2
- GSPD 562a Clinic: Geriatric Dentistry Units: 0
- GSPD 562b Clinic: Geriatric Dentistry Units: 0
- GSPD 562c Clinic: Geriatric Dentistry Units: 1
- GSPD 563a Clinic: Special Patient Care Units: 0
- GSPD 563b Clinic: Special Patient Care Units: 0
- GSPD 563c Clinic: Special Patient Care Units: 1
- HBHV 501 Behavioral Skills in Dentistry Units: 1
- HBHV 502 Interactional Skills Units: 1
- HBHV 504 Patient Education and Management Units: 1
- HBHV 550 Communications in Clinical Dentistry Units: 1
- HBHV 561a Clinic: Behavioral Dentistry Units: 0
- HBHV 561b Clinic: Behavioral Dentistry Units: 0
- HBHV 561c Clinic: Behavioral Dentistry Units: 0
- HBHV 561d Clinic: Behavioral Dentistry Units: 0
- HBHV 561e Clinic: Behavioral Dentistry Units: 1
- INDD 501 Applied Growth and Development Units: 1
- INTB 504 Human Craniofacial Development and Genetics Units: 3
- INTB 521 Basic and Medical Microbiology Units: 2
- INTP 503a Evaluation of Scientific Information in Clinical Practice Units: 0, 1
- INTP 503b Evaluation of Scientific Information in Clinical Practice Units: 0, 1
- INTR 503 Preclinical Diagnosis and Treatment Planning Units: 2
- INTR 524a Clinical Practice Units: 0
- INTR 524b Clinical Practice Units: 0
- INTR 524c Clinical Practice Units: 0
- INTR 524d Clinical Practice Units: 0
- INTR 524e Clinical Practice Units: 0
- INTR 524f Clinical Practice Units: 3
- INTR 550a Introduction to Clinical Dentistry Units: 0, 1
- INTR 550b Introduction to Clinical Dentistry Units: 0, 1
- INTR 551a Clinical Diagnosis and Treatment Planning Units: 0
- INTR 551b Clinical Diagnosis and Treatment Planning Units: 0
- INTR 551c Clinical Diagnosis and Treatment Planning Units: 0
- INTR 551d Clinical Diagnosis and Treatment Planning Units: 0
- INTR 551e Clinical Diagnosis and Treatment Planning Units: 1
- INTR 553a Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553b Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553c Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553d Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553e Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553f Clinic: Diagnosis and Treatment Planning Units: 2
- INTX 501a Integrated Basic and Applied Science I Units: 1
- INTX 501b Integrated Basic and Applied Science I Units: 1
- INTX 501c Integrated Basic and Applied Science I Units: 2
- INTX 501d Integrated Basic and Applied Science I Units: 2
- INTX 501e Integrated Basic and Applied Science I Units: 2
- INTX 501f Integrated Basic and Applied Science I Units: 2
- INTX 501h Integrated Basic and Applied Science I Units: 1
- INTX 502a Integrated Basic and Applied Science II Units: 1
- INTX 502b Integrated Basic and Applied Science II Units: 1
- INTX 502c Integrated Basic and Applied Science II Units: 2
- INTX 502d Integrated Basic and Applied Science II Units: 3
- INTX 502e Integrated Basic and Applied Science II Units: 1
- INTX 502f Integrated Basic and Applied Science II Units: 2
- MBIO 501 Immunology Units: 2
- OCCL 502 Occlusion Units: 1
- OCCL 521a Dental Morphology and Function Units: 3
- OCCL 521b Dental Morphology and Function Units: 2
- OCCL 522 Occlusion Laboratory Units: 1
- OMOD 501 Emergency Dental Treatment Units: 1
- OMOD 502 Chronic Orofacial Pain Units: 2
- OMOD 506 Infection Control Units: 1
- OMOD 551a Clinic: Physical Evaluation Units: 0
- OMOD 551b Clinic: Physical Evaluation Units: 0
- OMOD 551c Clinic: Physical Evaluation Units: 0
- OMOD 551d Clinic: Physical Evaluation Units: 1
- OMOD 562a Clinic: Hospital Dentistry Units: 0
- OMOD 562b Clinic: Hospital Dentistry Units: 0
- OMOD 562c Clinic: Hospital Dentistry Units: 0
- OMOD 562d Clinic: Hospital Dentistry Units: 1
- OMOD 563a Clinic: Emergency Dental Treatment Units: 0
- OMOD 563b Clinic: Emergency Dental Treatment Units: 0
- OMOD 563c Clinic: Emergency Dental Treatment Units: 0
- OMOD 563d Clinic: Emergency Dental Treatment Units: 0
- OMOD 563e Clinic: Emergency Dental Treatment Units: 0
- OMOD 563f Clinic: Emergency Dental Treatment Units: 1
- OPER 521a Preclinical Operative Dentistry I Units: 1, 2, 3
- OPER 521b Preclinical Operative Dentistry I Units: 1, 2, 3
- OPER 522 Preclinical Operative Dentistry II Units: 3
- OPER 561a Clinic: Operative Dentistry I Units: 0
- OPER 561b Clinic: Operative Dentistry I Units: 0
- OPER 561c Clinic: Operative Dentistry I Units: 0
- OPER 561d Clinic: Operative Dentistry I Units: 6
- OPER 562a Clinic: Operative Dentistry II Units: 0, 1, 2, 3, 4, 5, 6
- OPER 562b Clinic: Operative Dentistry II Units: 0, 1, 2, 3, 4, 5, 6
- ORTH 501a Seminar: Orthodontics Units: 0, 1
- ORTH 501b Seminar: Orthodontics Units: 0, 1
- ORTH 521 Preclinical Orthodontics Units: 2
- ORTH 561a Clinic: Orthodontic Therapy Units: 0
- ORTH 561b Clinic: Orthodontic Therapy Units: 0
- ORTH 561c Clinic: Orthodontic Therapy Units: 0
- ORTH 561d Clinic: Orthodontic Therapy Units: 0
- ORTH 561e Clinic: Orthodontic Therapy Units: 0
- ORTH 561f Clinic: Orthodontic Therapy Units: 2
- PEDO 501 Clinical Pediatric Dentistry Units: 1
- PEDO 521 Preclinical Pediatric Dentistry Units: 2
- PEDO 551a Clinic: Dentistry for Children I Units: 0
- PEDO 551b Clinic: Dentistry for Children I Units: 0
- PEDO 551c Clinic: Dentistry for Children I Units: 2
- PEDO 561a Clinic: Dentistry for Children II Units: 0
- PEDO 561b Clinic: Dentistry for Children II Units: 0
- PEDO 561c Clinic: Dentistry for Children II Units: 1
- PERI 502 Periodontal Diseases and Elements of Therapeutic Judgment Units: 2
- PERI 504 Advanced Periodontics Units: 1
- PERI 521 Periodontal Surgery Units: 2
- PERI 550a Clinic: Introductory Periodontal Therapy Units: 1
- PERI 550b Clinic: Introductory Periodontal Therapy Units: 1
- PERI 561a Clinic: Periodontal Therapy I Units: 0
- PERI 561b Clinic: Periodontal Therapy I Units: 0
- PERI 561c Clinic: Periodontal Therapy I Units: 0
- PERI 561d Clinic: Periodontal Therapy I Units: 1
- PERI 562a Clinic: Periodontal Therapy II Units: 0, 1, 2
- PERI 562b Clinic: Periodontal Therapy II Units: 0, 1, 2
- PTHL 501 Oral Pathology Units: 4
- PTHL 504a Seminar: Oral Pathology Units: 0
- PTHL 504b Seminar: Oral Pathology Units: 0
- REST 501 Preclinical Operative and Fixed Prosthodontics (Conjoint) Units: 2
- REST 503a Clinical Restorative Dentistry Units: 1
- REST 503b Clinical Restorative Dentistry Units: 1
- REST 504 Diagnosis and Treatment Planning Units: 1
- REST 521 Preclinical Operative/Fixed Prosthodontics Laboratory Units: 3

- REST 522 Aesthetics in Dentistry Units: 1
- RPRO 502 Removable Complete Prosthodontics Units: 1
- RPRO 503a Preclinical Removable Prosthodontics and Implants Units: 2
- RPRO 503b Preclinical Removable Prosthodontics and Implants Units: 1
- RPRO 510 Implant Dentistry Units: 1
- RPRO 513 Removable Partial Prosthodontics Units: 1
- RPRO 523a Preclinical Removable Prosthodontics and Implants Laboratory Units: 1
- RPRO 523b Preclinical Removable Prosthodontics and Implants Laboratory Units: 1
- RPRO 550 Removable Complete Prosthodontics Clinic I Units: 1
- RPRO 561a Clinic: Removable Complete Prosthodontics I Units: 0
- RPRO 561b Clinic: Removable Complete Prosthodontics I Units: 0
- RPRO 561c Clinic: Removable Complete Prosthodontics I Units: 0
- RPRO 561d Clinic: Removable Complete Prosthodontics I Units: 2
- RPRO 562a Clinic: Removable Complete Prosthodontics II Units: 0, 1, 2, 3
- RPRO 562b Clinic: Removable Complete Prosthodontics II Units: 0, 1, 2, 3
- RPRO 571a Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571b Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571c Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571d Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571e Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571f Clinic: Removable Partial Prosthodontics Units: 2
- SURG 501 Oral Surgery Units: 2
- SURG 562a Clinic: Oral Surgery I Units: 0
- SURG 562b Clinic: Oral Surgery I Units: 0
- SURG 562c Clinic: Oral Surgery I Units: 1
- SURG 563a Clinic: Oral Surgery II Units: 0
- SURG 563b Clinic: Oral Surgery II Units: 0
- SURG 563c Clinic: Oral Surgery II Units: 1
- SURG 564a Clinic: Hospital Oral Surgery Units: 0
- SURG 564b Clinic: Hospital Oral Surgery Units: 0
- SURG 564c Clinic: Hospital Oral Surgery Units: 0
- SURG 564d Clinic: Hospital Oral Surgery Units: 1

Note:

Five units of selective courses are required in addition to the above.

Advanced Standing Program for International Dentists Curriculum

Advanced Placement Doctoral Dental Degree

The Herman Ostrow School of Dentistry of USC offers a unique pathway for talented students to earn a bachelor's degree in Dental Hygiene (DH) on their way to a Doctor of Dental Science (DDS) degree. Successful candidates for the six-year DH to DDS Pathway will immediately transition to the DDS degree program following graduation from the Dental Hygiene program.

Admission Requirements

(1) Application materials for the American Dental Education Association Dental Hygiene Application Service (ADEA DHCAS) are due by March 1 of the year in which enrollment are desired. (2) Applicants must complete the Dental Hygiene prerequisite and USC General Education course work prior to entering the program. (3) The Dental Admissions Committee makes the final selection of students admitted for the pathway. Five to ten students are accepted each year. (4) Prior to enrollment in the DDS program, applicants must submit an application through the American Dental Education Association's Associated American Dental Schools Application Service (ADEA AADSAS). The AADSAS application must be submitted by the February 1 deadline during the applicant's senior year. Applicants must also take the Dental Admission Test (DAT) and achieve a score of 15 or higher in all tested categories. DAT results must be submitted by the applicant's senior year of Dental Hygiene studies.

Additional requirements include: Successful graduation from the Dental Hygiene program with a minimum overall GPA of 3.0; a letter of recommendation from the Dental Hygiene program director and recommendations from two additional USC faculty members; certification that the student has maintained the school's professional standards and ethical requirements.

Advanced Standing Program for International Dentists

This program is designed to teach qualified dentists from other countries the knowledge and skills available in the United States. Time necessary to complete the program depends upon the doctor's ability; a minimum of two years is usually required. About eight months will be devoted to fundamental, technical and academic procedures. The remaining time is devoted to clinical training as necessary to achieve graduation qualifications. Graduation from the Advanced Standing Program for International Dentists leads to a DDS degree but does not give automatic licensure to practice dentistry. However, graduates are eligible to take the State Board Dental Examinations in most of the United States. (A few states still require U.S. citizenship.)

Additional information may be requested from the Herman Ostrow School of Dentistry of USC, Office of Admissions , 925 W. 34th Street, Room 201, Los Angeles, CA 90089-0641, (213) 740-2841, email: uscsdadm@usc.edu or access the school's Website at dentistry.usc.edu.

Admission

Prospective students must apply to the Advanced Standing Program for International Dentists through the ADEA Centralized Application for Advanced Placement for International Dentists (ADEA CAAPID℠). The application is available online only. You can access the ADEA CAAPID℠ application at portal.caapid.org.

Selected applicants will be interviewed and tested in October and accepted based on the following requirements: (1) completion of the formal application (before August 15 for admission to the program in April). A $145 processing fee must accompany the application. (2) Starting summer 2021, successful completion of the National Board Part I and Part II or Integrated National Board Dental Examination of the American Dental Association (ADA). A score of 75 percent must be attained in each category. Higher scores are advantageous in evaluation of the candidate's academic level. (3) Applicants are strongly encouraged to submit scores from the National Board Part II and competitive scores on both the quantitative and verbal sections of the Graduate Record Examinations. For information about the GRE test visit ets.org/gre. (4) Applicants for the Advanced Standing Program for International Dentists must demonstrate English-language proficiency by submitting either Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) scores. Competitive applicants should submit an Internet Based TOEFL (iBT) score of 100, or an IELTS score of 7, with at least 6 on each band. Official scores must be received directly from the testing service and dated no earlier than two years (24 months) prior to the start of the student's intended first term at USC. For TOEFL, the institution code for USC is 4852 (no department code is required). To submit IELTS scores, please choose USC from the list of available institutions. Additional information about these exams can be found at ets.org for the TOEFL and at ielts.org for the IELTS. (5) A small group problem-based interview evaluation session with members of the School of Dentistry. (6) Two letters

of recommendation from dental school faculty submitted with the CAAPID application. (7) A brief but accurate account of clinical experience and a personal statement submitted with the CAAPID application. (8) Documentary proof of license to practice from a Ministry of Health or proper governing body. (9) Satisfactory completion of and competence in the following academic and artistic entrance examinations to be given to invited applicants in October: (a) fixed prosthodontics (practical); (b) operative dentistry (practical). In addition, a separate written examination may be administered. (10) Complete official documents (transcripts) of all college and university course work, including dental education in the original language accompanied by certified English translation when necessary. (11) Certification of dental degree. Candidates chosen will be those who demonstrate the best qualifications in all academic and practical skills. (12) Submit a course-by-course World Education Services evaluation. (13) As a precondition of enrollment, accepted students must undergo a background screening conducted by Certiphi Screening, Inc. to help ensure patient safety and compliance with state laws and regulations and all students must provide evidence of sound health and meet the school's health requirements.

Student Visas

The I-20 Student Visa is issued to the applicant only after complete admission and acceptance has been granted. Before the papers can be processed, the applicant must present a copy of the I-94 form (white sheet in the passport) and a notarized statement of financial support for tuition and expenses for one year ($120,000) to the Advanced Standing Program for International Dentists. These materials must be submitted at the time of application. The International Admission Office will issue the I-20 visa upon receipt and approval of these documents.

Financial Assistance

The United States government requires all international applicants to provide proof of ability to pay tuition and living expenses before a formal letter of admission or the forms needed to obtain a visa will be issued.

International students are not eligible to participate in U.S. federal financial aid programs. Please contact the Herman Ostrow School of Dentistry of USC Office of Financial Aid to discuss other financing options at (213) 740-2841, uscsdfa@usc.edu or visit usc.edu/admission/fa/loans/private.html.

Curriculum

Each candidate for the DDS degree should complete the course of instruction in two years, however, some individuals may need more time. The first four to eight months will be spent in preclinical exercises to acquaint the student with the fundamental technical procedures used at USC. The balance will be used for clinical procedures related to diagnosis and treatment of patients.

Grade Point Average Standards

Since this is a short program and highly concentrated, a GPA of 2.0 (A = 4.0) must be maintained each trimester. Therefore, each applicant will be provisionally accepted. If a doctor is unable to maintain an average GPA of 2.0, he or she will be asked to resign.

Each trimester, Advanced Standing Program for International Dentists students are evaluated by the student professional performance evaluation committee. From these meetings, recommendations are made regarding advancement, special programs and disqualification.

Graduation Requirements

In order to receive the Doctor of Dental Surgery (DDS) degree, students in the Advanced Standing Program for International Dentists must: (1) successfully complete all the required courses and clinical patient care assigned in trimesters VI, VII, VIII, IX, X and XI of the Problem Based Learning DDS curriculum; (2) pass Part I and Part II of the National Dental Board Examinations; and (3) achieve all of the competencies defined for the DDS curriculum and complete all required clinical performance evaluations. All assessments of progress to degree completion will be equivalent for all students seeking the DDS degree.

In addition to meeting the academic requirements indicated above, students must have a completed administrative clearance form on file in the Office of Academic Affairs before a degree can be conferred. This administrative clearance indicates that the student has met financial and other obligations to the university and to the student's patients.

Required Courses

- DPBL 511c Dental Problem Based Learning — Human Structure II Units: 2
- DPBL 512c Dental Problem Based Learning — Human Function II Units: 5
- DPBL 513c Dental Problem Based Learning — Human Behavior II Units: 2
- DPBL 514c Dental Problem Based Learning — Human Clinical Dentistry II Units: 8
- DPBL 521a Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 521b Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 521c Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 522a Dental Problem Based Learning — Human Function III Units: 1
- DPBL 522b Dental Problem Based Learning — Human Function III Units: 1
- DPBL 522c Dental Problem Based Learning — Human Function III Units: 1
- DPBL 523a Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 523b Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 523c Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 524a Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 524b Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 524c Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 531a Dental Problem Based Learning — Human Structure IV Units: 1
- DPBL 531b Dental Problem Based Learning — Human Structure IV Units: 1
- DPBL 532a Dental Problem Based Learning — Human Function IV Units: 1
- DPBL 532b Dental Problem Based Learning — Human Function IV Units: 1
- DPBL 533a Dental Problem Based Learning — Human Behavior IV Units: 1
- DPBL 533b Dental Problem Based Learning — Human Behavior IV Units: 1
- DPBL 534a Dental Problem Based Learning — Human Clinical Dentistry IV Units: 13
- DPBL 534b Dental Problem Based Learning — Human Clinical Dentistry IV Units: 13

Total units: 100

Craniofacial Biology

Herman Ostrow School of Dentistry of USC
DEN 218
(213) 740-1001
FAX: (213) 740-2376

Craniofacial biology is concerned with the evolution, growth, structure and function of oral tissues and the oral region; and with the etiology and pathogenesis of numerous diseases and malformations. These involve studies at various levels of biological organization, from the molecular and subcellular to the organismic. Craniofacial biology comprises a large, rapidly increasing body of knowledge that has both clinical and academic importance. The objective of the program is primarily, but not exclusively, to prepare health science graduates for entry into careers in academic environments as clinical scholars or as members of multidisciplinary teams of health professionals in academic centers of clinical and basic health science research.

Admission Requirements

The graduate program in Craniofacial Biology (CBY) offers academic graduate training to individuals with a Doctor of Dental Surgery (DDS), Medical Doctor (MD) or equivalent degree. Applicants with Bachelor of Science degrees in areas such as biology and chemistry are also encouraged to apply.

All applications are evaluated individually in search of the most promising students in terms of intellectual distinction and professional merit in the sciences and/or dentistry. Beyond this, the committee looks for academic trends, documented potential and evidence of good character. Priority consideration for admission is given to applications that are complete by December 1.

Applications

Formal application to the USC Office of Graduate Admission and the graduate program in Craniofacial Biology (CBY) is required for Master of Science (MS) and Doctor of Philosophy (PhD) objectives. The Craniofacial Biology graduate programs are administered by the USC Graduate School whose catalogue provides additional information about specific application requirements and courses that must be completed in order to graduate. The CBY MS program is offered only as a terminal degree option for individuals already enrolled in the CBY PhD program, and have elected to change majors from a PhD to a MS.

Requirements for PhD applications include:

- Statement of purpose.
- Three letters of recommendation describing academic abilities, personal attributes and research (if applicable).
- Original postsecondary transcripts from all schools attended.
- A grade point average (GPA) of 3.0 or higher on a 4.0 scale, and grades of A or B in science courses.
- Graduate Record Examinations (GRE) general test scores no older than five years.
- Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English to test their ability to use and understand English in an academic setting. Official scores must be received directly from the testing service and date no earlier than two years (24 months) prior to the start of the intended first term at USC.
- Personal interviews may be required.

The Doctor of Philosophy requires a minimum GRE verbal score of 60 percent rank and quantitative score of 60 percent rank. For non-native English speakers, a minimum combined TOEFL score of 100 is required with no less than 20 on each section (reading, listening, speaking and writing). Many accepted students score higher than the minimum requirement.

Progressive Degree Program

Applicants for a progressive degree program must have completed 64 units of course work applicable to their undergraduate degree since graduating from high school. (AP units, IB units and course work taken prior to high school graduation are excluded.) Applicants must submit their application before completing 96 units of course work. Normally, the application is submitted in the fall semester of the third year of enrollment at USC. Applicants do not have to submit GRE scores but are expected to have at least a 3.0 GPA at the time of application. The application for admission to a progressive master's program must be approved by the deans of the bachelor's and the master's degree-granting schools at USC and submitted to the Degree Progress Department. An approved course plan proposal and letters of recommendation from two USC faculty members must be submitted with the application, with at least one of the recommendations coming from a faculty member in the student's bachelor's degree major department.

Master's Degree

Craniofacial Biology (MS)

This degree is under the jurisdiction of the Graduate School. Students should also refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School. The Master of Science degree in craniofacial biology offers the clinician (DDS, MD or equivalent) the opportunity to obtain clinical research knowledge and skills in the area of craniofacial biology. Such training will include research into the causes of craniofacial diseases and anomalies, as well as normal development and function. The course of study is particularly directed toward those clinicians committed to pursuing a career in research and teaching.

Degree Requirements

A total of 24 units is required that includes four courses in craniofacial biology, and four units of CBY 594a Master's Thesis and CBY 594b Master's Thesis and necessary units of CBY 590 Directed Research. All students must achieve a 3.0 grade point average in the craniofacial biology courses. Four core courses in craniofacial biology are required for all students: CBY 585, INTD 531, INTD 561 and PM 510L. All students are required to complete a thesis based on the student's research following a thesis protocol approved by a committee of craniofacial biology faculty. An advisory committee, comprising the research adviser and two additional faculty members, will establish thesis requirements to be completed by the student.

Graduate Certificate

Craniofacial Biology Certificate

The Certificate in Craniofacial Biology is intended to provide dentists in post-graduate dental education with experience in graduate education and insight into the requirements to complete a graduate degree. This will provide the students with additional information relative to selecting academic careers. All certificate students must have a dental degree and have been admitted to a post-graduate dental education program sponsored by the Herman Ostrow School of Dentistry of USC.

Degree Requirements

A total of six CBY courses and 18 units of course work is required for the certificate. The six courses may be selected from the following list: CBY 573, CBY 574, CBY 575, CBY 576, CBY 579L, CBY 583, CBY 585, CBY 587, CBY 672, CBY 673, CBY 674. The credit received for these classes may be applied toward either the MS or PhD in Craniofacial Biology should the student decide later to pursue an advanced degree.

Admissions Criteria

Only residents enrolled in the following advanced dental education and specialty programs are eligible for the Certificate in Craniofacial Biology: General Practice Residency, Endodontics, Orofacial Pain/Oral Medicine, Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry, Periodontology, Prosthodontics.

Residents must complete all admission requirements for dental advanced education programs and have been accepted to these programs in accordance with criteria established by the advanced dental education program faculty.

Doctoral Degree

Craniofacial Biology (PhD)

The Doctor of Philosophy degree in craniofacial biology is awarded under the jurisdiction of the Graduate School. Students should also refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School. This program is designed to provide health science-oriented training for the professional with interests in academic, as well as clinical, aspects of craniofacial biology. Appointment to the PhD program are designated each year for all semester admission.

New Student Orientation Committee

All new students seeking Master of Science and/or Doctor of Philosophy degree objectives will be assigned to an orientation committee. This committee will function to advise and guide new students through their first semester. Thereafter, each student will identify a mentor and assemble a qualifying exam committee.

Qualifying Exam Committee

During the second semester of study each graduate student should select a qualifying exam committee. The qualifying exam committee must include five faculty members who will be of assistance in the student's education. The student's mentor will serve as chair of the qualifying exam committee. One committee member must be a USC faculty member from outside the program. The graduate program director will be an *ex officio* member of all qualifying exam committees. The qualifying exam committee will monitor the student's progress, recommend readings or additional training, and determine when the student is ready for the qualifying examination. It is the student's responsibility to meet with the qualifying exam committee at least once during every semester of each academic year. The results of these formal meetings should be summarized by the student in a written statement and submitted to the program director each semester.

Screening Procedure

As soon as the student has satisfactorily completed the core courses and selected the committee, a screening meeting with the qualifying exam committee should be called. The screening procedure may consist of an oral examination; the student will outline his research progress and be examined on academic development. The committee may recommend that the student take specific additional course work and that readings in certain areas be initiated to remedy deficiencies. A brief report will be given to the student and included in his or her file. The student will meet with the committee each semester; they shall agree when the student is prepared to take the qualifying examination in the next semester or if the student should resign or be dropped from the program.

Course Requirements

A total of 60 units are required for the PhD Eight didactic courses at the graduate level are required. The core required CBY courses are PM 510L, CBY 585, INTD 531 and INTD 561. The remaining graduate-level courses may be selected from courses offered by any department, following consultation with the graduate mentor and graduate program director. It is highly recommended that PhD students take the PIBBS core curriculum on the Health Sciences Campus. Students must achieve a 3.0 GPA or better in their course work. Students with a Doctor of Dental Surgery or other professional degree may be granted waivers for having completed equivalent course work. It is the student's responsibility to obtain from the Graduate School the Request for Permission to take the PhD Qualifying Examination form which must be signed by all committee members. This form must be completed 60 days before the qualifying examination.

Qualifying Examination

The PhD qualifying examination is offered during the fall or spring semesters. A written examination will cover specific subject areas of the core curriculum, as well as topics selected by the qualifying exam committee. After successfully completing all parts of the written examination, the student will prepare and submit an original research proposal to the qualifying exam committee which presents, in National Institutes of Health (NIH) format, the student's proposed dissertation research. If the submitted proposal is acceptable, an oral examination will be conducted. This examination will include a defense of the proposal and could also include material from the written examination and related topics. A student failing any part of the examination may be allowed one additional opportunity to pass that portion, at the discretion of the qualifying exam committee, within the regulations of the Graduate School governing the repetition of qualifying examinations.

Dissertation

The doctoral dissertation is to focus upon an original research problem which reflects the creative scholarly abilities of the candidate and contributes to the general advancement of biological understanding, as well as to an understanding of the theoretical basis of disease and its treatment.

Defense of the Dissertation

An oral examination on a rough or final copy of the dissertation is conducted within one month following submission of the manuscript to the committee.

Advanced Programs in Dental Education

The Herman Ostrow School of Dentistry offers advanced dental education programs in general dentistry, endodontics, general practice residency, operative and adhesive dentistry, orofacial pain, oral and maxillofacial surgery, pediatric dentistry, periodontology and prosthodontics, all leading to a certificate. The Herman Ostrow School of Dentistry in conjunction with the Graduate School also offers a program in craniofacial biology. In conjunction with the Keck School of Medicine, the Herman Ostrow School of Dentistry offers a combined program leading to an MD degree and certificates in oral and maxillofacial surgery and orofacial pain. The Herman Ostrow School of Dentistry also offers an online master's degree in orofacial pain and oral medicine, geriatric dentistry and community oral health, as well as online certificate programs in geriatric dentistry, community oral health, orofacial pain, and oral pathology and radiology. In addition to clinical seminars and clinical experience, students take basic science courses with advanced students from other departments.

The certificate curriculum consists of a core of basic science subjects plus clinical seminars and clinical experience. Elective subjects may also be selected by the student with the approval of the program director.

The estimated lengths of programs are as follows:

- Biomaterials and Digital Dentistry, 24 months
- Biomedical Implants and Tissue Engineering, 24 months
- Community Oral Health (online certificate), 12 months
- MS in Community Oral Health (online), 37 months
- Endodontics, 24 months
- General Practice Residency, 12 months
- Geriatric Dentistry (online certificate), 12 months
- MS in Geriatric Dentistry (online), 37 months
- Operative and Adhesive Dentistry, 26 months
- Oral and Maxillofacial Surgery, 48 months
- Oral and Maxillofacial Surgery/MD, 72 months
- Oral Pathology and Radiology Certificate (online), 12 months

- Orofacial Pain, (on-site certificate), 24 months
- Orofacial Pain (online certificate), 12 months
- MS in Orofacial Pain and Oral Medicine (online), 37 months
- Orthodontics, 34 months
- Pediatric Dentistry, 24 months
- Periodontology, 36 months
- Prosthodontics, 36 months

Most programs will begin in June (date to be determined).

Admission Requirements

Applicants must hold the Doctor of Dental Surgery or Doctor of Medical Dentistry degree (or equivalent degree if educated oversees) and must present the appropriate degrees, approved transcripts and affidavits as prescribed by the Office of Dental Admissions and Student Affairs.

Admission Procedures

Prospective students for online masters and online certificate programs must apply through the USC Graduate Admission Office Centralized Application Services (CAS) at usc.liaisoncas.com/applicant-ux/#/login.

Prospective students for traditional (not online) programs must apply through the Postdoctoral Application Support Service (PASS) at adea.org/PASSapp/applicants/. The ADEA PASS application requires the submission of an essay, one or more Professional Evaluations, an Institution Evaluation from the dental school dean, and official dental school transcripts. The application cannot be processed until all required documents are submitted.

Information about this examination can be found at ets.org/gre. The last acceptable test date is in September of the year preceding desired admission.

The following material is also required to complete the application: (1) payment of an $85 processing fee (graduates of foreign dental schools or students requiring a visa must submit a $145 processing fee) directly to the Herman Ostrow School of Dentistry Office of Admissions and Student Affairs; (2) applicants for General Dentistry, General Practice Residency, Orthodontic, Pediatric Dentistry and Oral Surgery programs must submit applicant agreement forms to the Postdoctoral Dental Matching Program. Information and forms can be obtained online at natmatch.com/dentres; (3) board scores Part I and Part II are required for all programs with the exception of the Operative and Adhesive Dentistry certificate; MCATs are required for the Integrated MD degree/oral maxillofacial surgery certificate. International students are required to take GREs for the two-year certificate program. These requirements may be waived at the discretion of the program director; (4) a biographical statement; (5) applicants may be asked to be available for an interview. If one is necessary, applicants will be contacted by the director of the individual advanced program; (6) applicants will be required to pay a non-refundable $1,500 tuition deposit upon notification of acceptance. (7) As a precondition to enrollment, accepted students must undergo a background screening conducted by Certiphi Screening, Inc. to help ensure patient safety and compliance with state laws and regulations and all students must provide evidence of sound health and meet the school's health requirements.

Timetable for Applications

Applications for admission must be received as follows:

- Biomaterials and Digital Dentistry, July 15
- Biomedical Implants and Tissue Engineering, July 15
- Community Oral Health (online certificate)
- Community Oral Health (online Master of Science)
- Endodontics, Aug. 15
- General Practice Residency, Nov. 1
- Geriatric Dentistry (online certificate)
- Geriatric Dentistry (online Master of Science)
- Operative and Adhesive Dentistry, Dec. 1
- Oral and Maxillofacial Surgery, Oct. 1
- Oral Pathology and Radiology (online certificate)
- Orofacial Pain (on-site certificate), Nov. 1
- Orofacial Pain (online certificate)
- Orofacial Pain and Oral Medicine (online Master of Science)
- Orthodontics, Oct. 1
- Pediatric Dentistry, Oct. 1
- Periodontology, Sept. 1
- Prosthodontics, Nov. 1

Completed applications and related information are reviewed first by the faculty of the department of interest. In selecting applicants for admission the faculty considers academic records and personal qualifications. Final approval for admission rests with the advanced education coordinating committee. Responsibility for advising the student after admission rests with the department chair.

Orientation

A departmental orientation session is usually held the first week of classes, beginning in late June. Incoming students are acquainted with the Herman Ostrow School of Dentistry, its policies, procedures, faculty and facilities.

Student Issue — Advanced Programs

Dental units in the school's clinics are equipped with Midwest Company type tubing and couplers for low and high speed air hand pieces. Advanced students must provide their own adapters to fit the school's couplers unless the students' present hand pieces are already so modified.

Students accepted into an advanced program should consult their program directors about needed equipment.

Dual Degree

Advanced Periodontology Certificate/Master of Science, Craniofacial Biology

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 703a Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703b Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703c Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703d Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703e Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703f Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703h Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703i Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703j Seminar: Combined Treatment Planning Units: 2 each
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- CBY 574 Statistical Methods in Bioexperimentation Units: 3
- CBY 575 Biologic Basis of Oral-facial Disease Units: 3
- CBY 576 Biochemical Aspects of Periodontal Disease Units: 3
- CBY 579L Craniofacial Molecular Genetics Units: 4
- CBY 582L Laboratory Methods Units: 3
- CBY 585 Systematic Research Writing Units: 3
- CBY 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CBY 594a Master's Thesis Units: 2
- CBY 594b Master's Thesis Units: 2

- CBY 671 Epistemology and Ethos of Bioscience Units: 2
- CBY 674 Advanced Oral Microbiology Units: 2
- DHIS 701 Advanced Oral Histology Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- PERI 701a Seminar: Review of Current Periodontal Literature Units: 2, 3
- PERI 701b Seminar: Review of Current Periodontal Literature Units: 2, 3
- PERI 702a Seminar: Periodontal Treatment Procedures Units: 2
- PERI 702b Seminar: Periodontal Treatment Procedures Units: 2
- PERI 704a Seminar: Periodontal Therapy Units: 2 each
- PERI 704b Seminar: Periodontal Therapy Units: 2 each
- PERI 704c Seminar: Periodontal Therapy Units: 2 each
- PERI 704d Seminar: Periodontal Therapy Units: 2 each
- PERI 704e Seminar: Periodontal Therapy Units: 2 each
- PERI 704f Seminar: Periodontal Therapy Units: 2 each
- PERI 704h Seminar: Periodontal Therapy Units: 2 each
- PERI 704i Seminar: Periodontal Therapy Units: 2 each
- PERI 704j Seminar: Periodontal Therapy Units: 2 each
- PERI 708 Seminar: Clinical Basis of Periodontics Units: 4
- PERI 710 Clinical Periodontal Photography Units: 1
- PERI 711 Occlusal Therapy in Periodontics Units: 2
- PERI 713a Treatment Planning in Periodontics Units: 2 each
- PERI 713b Treatment Planning in Periodontics Units: 2 each
- PERI 713c Treatment Planning in Periodontics Units: 2 each
- PERI 713d Treatment Planning in Periodontics Units: 2 each
- PERI 713e Treatment Planning in Periodontics Units: 2 each
- PERI 713f Treatment Planning in Periodontics Units: 2 each
- PERI 713h Treatment Planning in Periodontics Units: 2 each
- PERI 713i Treatment Planning in Periodontics Units: 2 each
- PERI 713j Treatment Planning in Periodontics Units: 2 each
- PERI 716a Seminar: Special Topics in Periodontal Disease Units: 3
- PERI 716b Seminar: Special Topics in Periodontal Disease Units: 3
- PERI 750 Advanced Periodontal Instrumentation Units: 3
- PERI 752 Interdisciplinary Treatment: An Orthodontic Perspective Units: 2
- PERI 761a Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761b Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761c Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761d Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761e Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761f Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761h Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761i Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761j Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PTHL 601 Advanced Oral Pathology Seminar Units: 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 710c Implant Dentistry Units: 1
- REST 710d Implant Dentistry Units: 1
- REST 782a Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782b Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782c Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782d Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782e Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each

Total units: 183

University Certificate

General Practice Residency

The General Practice Residency program consists of a 12-month first-year, full-time residency program, which is designed in conformance with the guidelines of the Council on Dental Education and the Commission on Dental Accreditation of the American Dental Association. The program is structured to increase diagnostic acumen, general knowledge and clinical ability in dentistry.

The program is conducted primarily at the Los Angeles County + USC Medical Center, one of the nation's largest teaching hospitals, and at the Veterans Administration Los Angeles Ambulatory Care facility in downtown Los Angeles. Some of the training is also conducted at Rancho Los Amigos Medical Center, West Los Angeles Veterans Administration Hospital, the Herman Ostrow School of Dentistry of USC and other community facilities.

The program emphasizes the treatment of a wide range of oral health disorders, medical considerations related to dental care, the ability to treat medically compromised and disabled patients and teaches how to provide dental care in a hospital environment interacting with health care providers of various disciplines. Inherent in the year of training, a philosophy of practice addresses the medical psychosocial and oral health care needs of the patient.

The program in general practice is accredited by the American Dental Association's Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education.

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ENDO 702 Seminar: Advanced Clinical Endodontics Units: 2
- GPR 601 Hospital Dentistry I Units: 1
- GPR 603a Dental Ethics Units: .5,
- GPR 603b Dental Ethics Units: .5,
- GPR 603c Dental Ethics Units: .5,
- GPR 603d Dental Ethics Units: .5,
- GPR 604a Practice Management Units: .5,
- GPR 604b Practice Management Units: .5,
- GPR 604c Practice Management Units: .5,
- GPR 604d Practice Management Units: .5,
- GPR 605a Review of General Dentistry Literature Units: 1
- GPR 605b Review of General Dentistry Literature Units: 1
- GPR 605c Review of General Dentistry Literature Units: 1
- GPR 605d Review of General Dentistry Literature Units: 1
- GPR 611a Emergency Medicine Units: .5,
- GPR 611b Emergency Medicine Units: .5,
- GPR 611c Emergency Medicine Units: .5,
- GPR 611d Emergency Medicine Units: .5,
- GPR 622 Forensic Dentistry Units: 1
- GPR 701 Treating Medically Compromised Dental Patients Units: 1
- GPR 702 General Dentistry Overview Units: 1
- GPR 705a Periodontal Treatment Procedures Units: .5,
- GPR 705b Periodontal Treatment Procedures Units: .5,
- GPR 705c Periodontal Treatment Procedures Units: .5,
- GPR 705d Periodontal Treatment Procedures Units: .5,
- GPR 706a Treatment Planning Units: 1
- GPR 706b Treatment Planning Units: 1
- GPR 706c Treatment Planning Units: 1
- GPR 706d Treatment Planning Units: 1
- GPR 710a Oral and Maxillofacial Surgery Units: 1
- GPR 710b Oral and Maxillofacial Surgery Units: 1

- GPR 710c Oral and Maxillofacial Surgery Units: 1
- GPR 710d Oral and Maxillofacial Surgery Units: 1
- GPR 711a Implantology Units: 1
- GPR 711b Implantology Units: 1
- GPR 722 Occlusion, TMJ Dysfunction, Orofacial Pain Units: 1
- GPR 733a Advanced and Maxillofacial Prosthodontics Units: .5,
- GPR 733b Advanced and Maxillofacial Prosthodontics Units: .5,
- GPR 733c Advanced and Maxillofacial Prosthodontics Units: .5,
- GPR 733d Advanced and Maxillofacial Prosthodontics Units: .5,
- PTHL 601 Advanced Oral Pathology Seminar Units: 2

Total units: 40

Graduate Certificate

Advanced Endodontics Certificate

The advanced endodontics certificate program is a 24-month course of study. The program provides advanced students with the academic background information and clinical experience necessary for the specialty practice of endodontics. The program also requires activities in research and teaching to expose the advanced students interested to these areas of endodontics.

Advanced students are encouraged to pursue Board Certification by the American Board of Endodontics and are prepared for the certification examinations.

Emphasis is also placed on the interaction of endodontics with other specialties and general dentistry.

The program in endodontics is accredited by the Commission on Dental Accreditation (CODA), which serves as the only nationally recognized accrediting body for dentistry and the related dental field. The Commission receives its accreditation authority from the acceptance of all stakeholders within the dentistry community and recognition by the United States Department of Education. Since its inception in 1937, the Commission and its predecessors have operated within the parameters of the ADA Bylaws. The Commission serves the profession and the public by establishing and applying high-quality standards for the accreditation of educational programs in dentistry, postgraduate general and specialty dentistry, and the allied dental professions.

Advanced Endodontics Curriculum

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- ADNT 702 Physical Diagnosis Units: 2
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- DHIS 701 Advanced Oral Histology Units: 2
- DMAT 701 Advanced Biomaterials Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- ENDO 521 Preclinical Endodontics Units: 3
- ENDO 701a Seminar: Biological Basis of Endodontic Therapy Units: 1
- ENDO 701b Seminar: Biological Basis of Endodontic Therapy Units: 1
- ENDO 701c Seminar: Biological Basis of Endodontic Therapy Units: 1
- ENDO 701d Seminar: Biological Basis of Endodontic Therapy Units: 1
- ENDO 702 Seminar: Advanced Clinical Endodontics Units: 2
- ENDO 703a Seminar: Review of Endodontic Literature Units: 1
- ENDO 703b Seminar: Review of Endodontic Literature Units: 1
- ENDO 703c Seminar: Review of Endodontic Literature Units: 1
- ENDO 703d Seminar: Review of Endodontic Literature Units: 1
- ENDO 704a Seminar: Surgical Endodontics Units: 2
- ENDO 704b Seminar: Surgical Endodontics Units: 2
- ENDO 705a Seminar: Endodontic Case Presentation Units: 4
- ENDO 705b Seminar: Endodontic Case Presentation Units: 4
- ENDO 710 Seminar: Endodontic Practice Management Units: 2
- ENDO 711 Alternatives in Endodontics Units: 4
- ENDO 761a Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761b Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761c Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761d Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761e Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761f Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 790 Directed Research: Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PTHL 601 Advanced Oral Pathology Seminar Units: 2

Advanced Operative and Adhesive Dentistry Certificate

The Herman Ostrow School of Dentistry offers a 26-month program leading to a Certificate in Advanced Operative and Adhesive Dentistry.

The program provides students with in-depth scientific knowledge and clinical experience in operative and adhesive dentistry, including cutting-edge technologies in minimally invasive adhesive dentistry, esthetic functional rehabilitation, digital workflow, CAD/CAM technologies, cariology, dental biomaterials, implant dentistry and advanced esthetic treatment planning. In addition, the programs offer students teaching experience through assisting the learning activities of the Doctor of Dental Surgery Program.

Biomaterials research is an integral part of the curriculum. Students enrolled in the Certificate in Operative and Adhesive Dentistry have an opportunity to apply for the Master of Science in Biomaterials and Digital Dentistry (BMDD).

The program in Advanced Operative and Adhesive Dentistry Certificate requires DDS, DMD or equivalent degree (for international dentist applicants), grade point average (GPA) of 3.0 or higher, three letters of recommendation, curriculum vitæ, and statement of purpose. For non-native English speakers, an Internet-based TOEFL (iBT) test score of 90 or above is required, with 20 or above on each section (reading, listening, speaking and writing). The exam score should be current (less than two years old). Non-US obtained dental school transcripts must be translated and certified by Educational Credential Evaluators Report (ECE).

The clinical, research and teaching experiences will prepare graduates for future academic careers in dental research and education, as well as career options in dental related public organizations and private organizations.

Advanced Operative and Adhesive Dentistry Certificate

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5

- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- DMAT 701 Advanced Biomaterials Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- OPER 702aL Advanced Dental Morphology for Esthetic Restorations Units: 3
- OPER 702bL Advanced Dental Morphology for Esthetic Restorations Units: 3
- OPER 704a Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704b Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704c Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704d Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704e Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704f Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 705L Dental Photography Units: 1
- OPER 706 Operative Implant Dentistry Units: 1
- OPER 715aL Applied Adhesion Sciences Units: 2
- OPER 715bL Applied Adhesion Sciences Units: 2
- OPER 715cL Applied Adhesion Sciences Units: 2
- OPER 725a Cariology Units: 1
- OPER 725b Cariology Units: 1
- OPER 735aL Research Methodology Units: 2
- OPER 735bL Research Methodology Units: 2
- OPER 780a Treatment Planning in Operative Dentistry Units: 2
- OPER 780b Treatment Planning in Operative Dentistry Units: 2
- OPER 780c Treatment Planning in Operative Dentistry Units: 2
- OPER 780d Treatment Planning in Operative Dentistry Units: 2
- OPER 780e Treatment Planning in Operative Dentistry Units: 2
- OPER 780f Treatment Planning in Operative Dentistry Units: 2
- OPER 780h Treatment Planning in Operative Dentistry Units: 2
- OPER 795a Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795b Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795c Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795d Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795e Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795f Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- REST 708a Dental Ceramics, Color, and Aesthetics Units: 2
- REST 708b Dental Ceramics, Color, and Aesthetics Units: 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 721a Principles of Occlusion Units: 2

Advanced Operative and Adhesive Dentistry Certificate/MS, Craniofacial Biology

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- CBY 574 Statistical Methods in Bioexperimentation Units: 3
- CBY 579L Craniofacial Molecular Genetics Units: 4
- CBY 585 Systematic Research Writing Units: 3
- CBY 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CBY 594a Master's Thesis Units: 2
- CBY 594b Master's Thesis Units: 2
- CBY 671 Epistemology and Ethos of Bioscience Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- DMAT 701 Advanced Biomaterials Units: 2
- OPER 702aL Advanced Dental Morphology for Esthetic Restorations Units: 3
- OPER 702bL Advanced Dental Morphology for Esthetic Restorations Units: 3
- OPER 704a Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704b Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704d Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704e Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 704f Operative Dentistry and Biomaterials Literature Review Units: 1
- OPER 705L Dental Photography Units: 1
- OPER 715aL Applied Adhesion Sciences Units: 2
- OPER 715bL Applied Adhesion Sciences Units: 2
- OPER 715cL Applied Adhesion Sciences Units: 2
- OPER 725a Cariology Units: 1
- OPER 725b Cariology Units: 1
- OPER 735aL Research Methodology Units: 2
- OPER 735bL Research Methodology Units: 2
- OPER 780a Treatment Planning in Operative Dentistry Units: 2
- OPER 780b Treatment Planning in Operative Dentistry Units: 2
- OPER 780c Treatment Planning in Operative Dentistry Units: 2
- OPER 780d Treatment Planning in Operative Dentistry Units: 2
- OPER 780e Treatment Planning in Operative Dentistry Units: 2
- OPER 780f Treatment Planning in Operative Dentistry Units: 2
- OPER 780h Treatment Planning in Operative Dentistry Units: 2
- OPER 795a Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795b Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795c Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795d Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795e Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795f Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- REST 708a Dental Ceramics, Color, and Aesthetics Units: 2
- REST 708b Dental Ceramics, Color, and Aesthetics Units: 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 721a Principles of Occlusion Units: 2

Total units: 162

Advanced Oral and Maxillofacial Surgery

The advanced education program in oral and maxillofacial surgery is a continuous 48-month course of study that prepares the graduate for the practice of oral and maxillofacial surgery. The program in oral surgery is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. The program also meets the requirements of the American Association of Oral and Maxillofacial Surgeons.

The program is conducted at the Herman Ostrow School of Dentistry and at the LAC+USC Medical Center. The course provides graduates with the necessary background for certification by the American Board of Oral and Maxillofacial Surgery. Certificates are awarded upon successful completion of the 48-month course.

Advanced Oral and Maxillofacial Surgery Curriculum

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 704c Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- PTHL 601 Advanced Oral Pathology Seminar Units: 2
- PTHL 701 Clinicopathologic Conference Units: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
- SURG 701a Seminar: Advanced Oral Surgery Units: 2
- SURG 701b Seminar: Advanced Oral Surgery Units: 2
- SURG 702a Seminar: Review of the Oral Surgery Literature Units: 2
- SURG 702b Seminar: Review of the Oral Surgery Literature Units: 2
- SURG 708a Orthognathic Surgery Units: 2
- SURG 708b Orthognathic Surgery Units: 2
- SURG 761a Clinic: Advanced Oral Surgery Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 761b Clinic: Advanced Oral Surgery Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 761c Clinic: Advanced Oral Surgery Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 761d Clinic: Advanced Oral Surgery Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 763a Clinic: Advanced Hospital Oral Surgery and Anesthesia Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 763b Clinic: Advanced Hospital Oral Surgery and Anesthesia Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 763c Clinic: Advanced Hospital Oral Surgery and Anesthesia Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 763d Clinic: Advanced Hospital Oral Surgery and Anesthesia Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each

Advanced Orofacial Pain Certificate

The Herman Ostrow School of Dentistry's 24-month, certificate residency program in advanced orofacial pain trains one to two residents per year to be expert clinicians in orofacial pain with an emphasis on oral medicine.

The program has received accreditation from the Commission on Dental Accreditation (CODA) of the American Dental Association (ADA). The certificate curriculum is designed with a series of didactic courses in which students will gain knowledge about the diagnosis, pathobiology and treatment of different oral diseases in the field of orofacial pain. The field of orofacial pain encompasses masticatory musculoskeletal pain, neurogenic orofacial pain, sleep disorders related to orofacial pain, temporomandibular disorders, headaches, orofacial motor disorders including orofacial dystonias and bruxism, intraoral, intracranial, extracranial and systemic disorders that cause orofacial pain. The courses and clinical experiences covered in the intensive two-year program are listed below.

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- OFPM 701 CPR, Blood and Airborne Infections and Common Emergencies for Dental Residents Units: 1
- OFPM 702a Soft Tissue Disease for Dental Residents Units: 1
- OFPM 702b Soft Tissue Disease for Dental Residents Units: 2
- OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents Units: 1
- OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents Units: 2
- OFPM 706 TMD, Orthopedics, Rheumatology and Physical Therapy for Dental Residents Units: 2
- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OFPM 709 Headaches for Dental Residents Units: 1
- OFPM 721 Neurosciences for Dental Residents Units: 2
- OFPM 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2
- OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents Units: 2
- OFPM 724 Psychological and Psychometric Assessment for Dental Residents Units: 2
- OFPM 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2
- OFPM 726 Immunology and Immunosuppression for Dental Residents Units: 2
- OFPM 727 Infectious Disease, Oral Microbiology and Virology for Dental Residents Units: 2
- OFPM 728 Case Presentations by OFP-OM Residents Units: 2

Advanced Pediatric Dentistry Certificate

The advanced pediatric dentistry certificate program is a 24-month course of study designed to provide students with the background information and clinical experience necessary for the practice of pediatric dentistry. The program in pediatric dentistry is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. The program also meets the educational requirements of the American Board of Pediatric Dentistry.

First-year studies emphasize advanced pediatric dentistry theory and clinical treatment of the "healthy" child. Students develop a sound basis in genetics, growth and development, nonpharmacologic and pharmacologic behavior guidance, physical evaluation, research methodology and statistics, interceptive orthodontics, prevention and a review of the pediatric dentistry literature. Second year studies concentrate on oral health care of children with physical, medical, intellectual and emotional disabilities. The second year student serves as a hospital-based resident at Children's Hospital Los Angeles, Long Beach Memorial Medical Center/Miller Children's Hospital or Children's Hospital of Orange County (with the Healthy Smiles for Kids community clinic). Residents also rotate to Rancho Los Amigos National Rehabilitation Center and the Pediatric Dental Clinic (PDC) at LAC+USC. Students gain experience in performing operating room procedures, oral conscious sedation, participating on interdisciplinary/multidisciplinary teams, providing emergency treatment and treating children with medical issues, developmental disabilities and pathologies in the hospital environment.

In addition to the two-year program, opportunities are available to combine the basic certificate program with a master's or doctoral degree through the Keck School of Medicine in either Academic Medicine (MACM) or Public Health (MPH).

The purpose of the combined Certificate in Pediatric Dentistry/ Master's Degree program is to prepare highly qualified specialists in pediatric dentistry who can assume leadership positions in dental education, service to the community, dental research and

oral health care of children with developmental disabilities and medically compromising conditions.

An individual who elects to apply to the combined program should apply first to the certificate program. Upon acceptance into the certificate program, the applicant would then apply for the master's programs. The first year of the combined program would be spent in pediatric dentistry. Master's level courses would be introduced within the second and third years of the combined programs.

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- ADNT 706 Seminar: Diseases of Childhood Units: 2
- ADNT 707 Behavior of the Child Patient Units: 2
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- DPHR 701 Advanced Pharmacology Units: 1
- PEDO 701a Seminar: Advanced Pediatric Dentistry Units: 8, 9, 10, 11, 12, 13, 14, 15 each
- PEDO 701b Seminar: Advanced Pediatric Dentistry Units: 8, 9, 10, 11, 12, 13, 14, 15 each
- PEDO 702a Comprehensive Review of Pediatric Dentistry Units: 5, 6, 7 each
- PEDO 702b Comprehensive Review of Pediatric Dentistry Units: 5, 6, 7 each
- PEDO 703a Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 703b Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 703c Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 703d Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 703e Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 704a Prevention in Pediatric Dentistry Units: 2
- PEDO 704b Prevention in Pediatric Dentistry Units: 2
- PEDO 705 Pediatric Diseases Units: 2
- PEDO 706 Dental Care for Pediatric Patients with Disabilities Units: 2
- PEDO 707 Seminar: Cleft Palate Rehabilitation Units: 1, 2, 3, 4, 5, 6, 7, 8, 9
- PEDO 708 Practice Management Units: 1
- PEDO 709 Conscious Sedation in Pediatric Dentistry Units: 1
- PEDO 721 Pediatric Physical Evaluation Units: 2
- PEDO 761a Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 761b Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 761c Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 761d Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 761e Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 771a Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771b Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771c Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771d Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771e Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771f Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 772a Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 772b Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 772c Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 772d Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 772e Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 773 Hospital Pediatric Clinics Units: 2, 3, 4
- PEDO 774 Clinical Genetics in Pediatric Dentistry Units: 9
- PEDO 790a Directed Research: Pediatric Dentistry Units: 1, 2, 3, 4, 5, 6 each
- PEDO 790b Directed Research: Pediatric Dentistry Units: 1, 2, 3, 4, 5, 6 each

Note:

**In addition to the required courses, a combined minimum of 36 units of PEDO 761a through PEDO 761e and PEDO 771a through PEDO 771f must be satisfactorily completed, as directed by the program director.*

Advanced Periodontology Certificate

The advanced periodontology program offers a 36-month course of study leading to a certificate of clinical training in periodontology. Interested applicants have the option to enroll in a 24-month Master of Science in Biomedical Implants and Tissue Engineering (BITE) in conjunction with the Periodontology certificate. The program in periodontology is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation, and the United States Department of Education. The program also meets the educational requirements of the American Board of Periodontology. Preparation for board certification process is an integral part of the curriculum, and all graduates are highly encouraged to achieve diplomate status of the American Board of Periodontology and Dental Implant Surgery.

The curriculum provides a sound foundation in basic sciences and clinical sciences with direct application to clinical periodontology and dental implantology. Emphasis is placed on evidence-based clinical practice in order to select appropriate therapies rooted in scientific evidence.

The USC Advanced Periodontology Program is designed to train clinicians with the competency and advanced skills to practice clinical periodontology at the highest level. Residents will acquire expertise in diagnosis and treatment of patients with periodontal and peri-implant diseases and conditions. Residents master various therapeutic procedures such as controlling inflammation through non-surgical and surgical therapy including respective and regenerative procedures, reconstructive/periodontal plastic surgery, replacement of missing and hopeless teeth with dental implants as well as hard and soft tissue surgery for dental implant site development. Clinical training is provided to achieve competency in pharmacosedation, including inhalation sedation as well as adult minimal enteral and moderate parenteral sedation as defined by the *ADA Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students*. During the course of the study, periodontology residents work very closely with other disciplines such as prosthodontics, orthodontics, endodontics, and oral medicine in delivering complex interdisciplinary patient care.

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 703a Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703b Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703c Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703d Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703e Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703f Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703h Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703i Seminar: Combined Treatment Planning Units: 2 each

- ADNT 703j Seminar: Combined Treatment Planning Units: 2 each
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- CBY 574 Statistical Methods in Bioexperimentation Units: 3
- CBY 575 Biologic Basis of Oral-facial Disease Units: 3
- CBY 576 Biochemical Aspects of Periodontal Disease Units: 3
- CBY 585 Systematic Research Writing Units: 3
- CBY 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CBY 674 Advanced Oral Microbiology Units: 2
- DHIS 701 Advanced Oral Histology Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- PERI 701a Seminar: Review of Current Periodontal Literature Units: 2, 3
- PERI 701b Seminar: Review of Current Periodontal Literature Units: 2, 3
- PERI 702a Seminar: Periodontal Treatment Procedures Units: 2
- PERI 702b Seminar: Periodontal Treatment Procedures Units: 2
- PERI 704a Seminar: Periodontal Therapy Units: 2 each
- PERI 704b Seminar: Periodontal Therapy Units: 2 each
- PERI 704c Seminar: Periodontal Therapy Units: 2 each
- PERI 704d Seminar: Periodontal Therapy Units: 2 each
- PERI 704e Seminar: Periodontal Therapy Units: 2 each
- PERI 704f Seminar: Periodontal Therapy Units: 2 each
- PERI 704h Seminar: Periodontal Therapy Units: 2 each
- PERI 704i Seminar: Periodontal Therapy Units: 2 each
- PERI 704j Seminar: Periodontal Therapy Units: 2 each
- PERI 708 Seminar: Clinical Basis of Periodontics Units: 4
- PERI 710 Clinical Periodontal Photography Units: 1
- PERI 711 Occlusal Therapy in Periodontics Units: 2
- PERI 713a Treatment Planning in Periodontics Units: 2 each
- PERI 713b Treatment Planning in Periodontics Units: 2 each
- PERI 713c Treatment Planning in Periodontics Units: 2 each
- PERI 713d Treatment Planning in Periodontics Units: 2 each
- PERI 713e Treatment Planning in Periodontics Units: 2 each
- PERI 713f Treatment Planning in Periodontics Units: 2 each
- PERI 713h Treatment Planning in Periodontics Units: 2 each
- PERI 713i Treatment Planning in Periodontics Units: 2 each
- PERI 713j Treatment Planning in Periodontics Units: 2 each
- PERI 716a Seminar: Special Topics in Periodontal Disease Units: 3
- PERI 716b Seminar: Special Topics in Periodontal Disease Units: 3
- PERI 750 Advanced Periodontal Instrumentation Units: 3
- PERI 752 Interdisciplinary Treatment: An Orthodontic Perspective Units: 2
- PERI 761a Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761b Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761c Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761d Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761e Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761f Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761h Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761i Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761j Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PTHL 601 Advanced Oral Pathology Seminar Units: 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 710c Implant Dentistry Units: 1
- REST 710d Implant Dentistry Units: 1
- REST 782a Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782b Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782c Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782d Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782e Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each

Total units: 183

Advanced Prosthodontics Certificate

The program in advanced prosthodontics is a 36-month course of study designed to teach didactic and clinical skills leading to competency in the specialized practice of prosthodontics. The program provides a basic science foundation, incorporating studies in physical diagnosis, anatomy, oral pathology, pharmacology and oral biology. Proficiency in fixed, removable and implant prosthodontics will be developed during the course of study from a practical and didactic aspect. There is a strong emphasis on applying principles of esthetics toward oral reconstructions and implant prosthodontics. Periodontally compromised patients are frequently encountered, so the program is closely allied with the advanced program in periodontology. Treatment planning and integrated care with allied specialties is a strength of the program. Additionally a there is a strong emphasis on usage of digital dentistry from a diagnostic and treatment planning perspective. Then carrying this forward to design and fabrication of restorations using Computer Aided Design and Computer Aided Manufacturing (CAD/CAM) for patients. This includes usage of intra oral and extraoral scanners and fabricating restorations on site and remote sites.

In addition to developing clinical skills, the program requires a research methodology course and a research project.

Clinical experience in implant placement is encouraged and didactic study in maxillofacial prosthetics is offered. A concurrent Masters in Biomaterials and Digital Dentistry is available. Application to this program is available when starting the Advanced Prosthodontics Program. For information, see *dentistry.usc.edu/master-of-science-in-biomaterials-and-digital-dentistry/*.

The program in advanced prosthodontics is accredited by the Commission on Dental Accreditation, a special accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. The program also meets the requirements of the American Board of Prosthodontics. A certificate is awarded upon successful completion of the program.

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 703a Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703b Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703c Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703d Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703e Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703f Seminar: Combined Treatment Planning Units: 2 each

- ADNT 703h Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703i Seminar: Combined Treatment Planning Units: 2 each
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- CBY 575 Biologic Basis of Oral-facial Disease Units: 3
- DMAT 701 Advanced Biomaterials Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- PTHL 601 Advanced Oral Pathology Seminar Units: 2
- REST 701 Orientation to Advanced Prosthodontics Units: 5
- REST 702a Seminar: Treatment Planning Units: 2 each
- REST 702b Seminar: Treatment Planning Units: 2 each
- REST 702c Seminar: Treatment Planning Units: 2 each
- REST 702d Seminar: Treatment Planning Units: 2 each
- REST 702e Seminar: Treatment Planning Units: 2 each
- REST 702f Seminar: Treatment Planning Units: 2 each
- REST 702h Seminar: Treatment Planning Units: 2 each
- REST 702i Seminar: Treatment Planning Units: 2 each
- REST 703a Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703b Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703c Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703d Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703e Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703f Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703h Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 704a Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704b Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704c Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704d Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704e Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704f Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704h Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 705 Advanced Fixed Prosthodontics Techniques Units: 1
- REST 706 Advanced Complete Denture Techniques Units: 1
- REST 708a Dental Ceramics, Color, and Aesthetics Units: 2
- REST 708b Dental Ceramics, Color, and Aesthetics Units: 2
- REST 709a Seminar: Removable Partial Dentures Units: 1, 2
- REST 709b Seminar: Removable Partial Dentures Units: 1, 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 712 Maxillofacial Prosthodontics Units: 2
- REST 721a Principles of Occlusion Units: 2
- REST 721b Principles of Occlusion Units: 2
- REST 761a Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761b Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761c Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761d Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761e Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761f Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761h Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761i Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761j Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782a Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782b Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782c Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 790 Directed Research: Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Integrated MD Degree/Oral and Maxillofacial Surgery Certificate Program

The Herman Ostrow School of Dentistry of USC and the Keck School of Medicine of USC offer a continuous 72-month integrated course of study leading to a medical degree in addition to a certificate in oral and maxillofacial surgery that prepares the graduate for the practice of oral and maxillofacial surgery. The program is fully integrated and will include advanced placement into the established medical school curriculum.

During the first three years, the student will function in the capacity of a medical student as well as a resident in the oral and maxillofacial surgery program. After the completion of the medical school curriculum, the MD degree will be awarded. This is required before the student can continue in the general surgery internship portion of the program. At the completion of the surgical internship, the student is qualified for medical licensure. During the fourth through sixth year, all required rotations and surgical training will be completed to fulfill the educational requirements of the Commission of Dental Accreditation of the American Dental Association and the American Association of Oral and Maxillofacial Surgeons.

The program is conducted at the Schools of Dentistry and Medicine and at the LAC+USC Medical Center. The course of study provides the graduates with the necessary background for certification by the American Board of Oral and Maxillofacial Surgery. The oral and maxillofacial surgery certificates are awarded upon successful completion of the entire 72-month course.

USC School of Dramatic Arts

One of the premier dramatic arts schools in the United States, the USC School of Dramatic Arts uniquely blends artistic training in a conservatory environment with outstanding faculty and the full academic experience found only within a major research university. This close-knit, supportive environment offers students the freedom to explore their artistic passions. Through programs of the highest caliber, as well as initiatives that provide access to professional experience, students are prepared for leadership in every facet of dramatic arts.

The school also attracts a wide range of guest speakers and lecturers, including some of the most distinguished talents from stage, screen and television. The location of the campus, literally in the center of the entertainment industry, makes the USC School of Dramatic Arts distinctive among colleges and universities in the United States.

Graduates of the school work professionally in all aspects of the entertainment industry. The school's faculty are dynamic teachers who are also artists working at the highest level of their profession.

The breadth of learning opportunities offered at the school prepares students for the spectrum of careers in the dramatic arts. The School of Dramatic Arts strives to instill confidence, integrity, excellence and artistic sensitivity into each of its students — traits that are essential to success in any field.

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Administration

Emily Roxworthy, PhD, *Interim Dean*
Lori Ray Fisher, MA, *Vice Dean*
Anita Dashiell-Sparks, MFA, *Associate Dean*
Oliver Mayer, MFA, *Associate Dean*
Stephanie Shroyer, MFA, *Associate Dean*

Faculty

Distinguished Professor: Velina Hasu Houston, PhD
Professors: Sharon M. Carnicke, PhD; Meiling Cheng, DFA; Oliver Mayer, MFA
Associate Professors: Luis Alfaro; Takeshi Kata, MFA; Oliver Mayer, MFA; Sibyl Wickersheimer, MFA
Assistant Professors: Alexandra Billings, MFA; Elizabeth Harper, MFA
Professors of Theatre Practice: Andrei Belgrader, MFA; Brent Blair, PhD; Kate Burton (*Master Artist*), MFA; Joseph Hacker, MFA; Duncan Mahoney; Kenneth Noel Mitchell; Natsuko Ohama; Stephanie Shroyer, MFA
Associate Professors of Theatre Practice: Philip G. Allen; Paula Cizmar; Elsbeth M. Collins; Anita Dashiell-Sparks, MFA; John DeMita, MFA; Kathleen Dunn-Muzingo, MFA; Melinda C. Finberg, PhD; Laura Flanagan, MFA; Christina Haatainen-Jones; Mary-Joan Negro; David Warshofsky, MFA
Assistant Professors of Theatre Practice: Scott Faris; Rena Heinrich; Dan Shaner; Christopher Shaw, MFA; Zachary Steel; Lauren Murphy Yeoman, MFA
Adjunct/Part-Time Faculty of Theatre Practice: Bayo Akinfemi; Emily Alpren, MFA; Boni B. Alvarez, MFA; Robert Bailey; Christopher Bange; Ahmed Best; Tom Buderwitz; Frank Catalano, MPW; Tiffany Cole; Julián Juaquín Conde, MFA; Samuel Craven-Griffiths; Jeff Crockett; Susan Patterson Dalian; Tim Dang; Gregg T. Daniel, MFA; Fran de Leon; Debra De Liso, MFA; Gary Domasin; Kirstin Eggers; Josh Epstein; Wayne Federman; Laurie Fisher; Terry Gordon, MFA; Jenny Guthrie; Edward Haynes Jr.; Mireya Hepner; MaryAnn Hu; Paul Hungerford; Stevie Johnson; Hana S. Kim; Edgar Landa; Paul Lazarus; Jay Lee; Vicki Lewis; Babette Markus; Kevin McCorkle; Matthew Montgomery, MFA; Jonathan Muñoz-Proulx; Ntare Guma Mbaho Mwine, MFA; Jeremiah O'Brian, MFA; Tanya Orellana; Kaitlyn Pietras; Larry Powell; Kosta Potamianos; Andy Robinson; Tamara Ruppart; Gabriella Santinelli; Sim Sarna; Kenneth Sawyer; Judith Shelton; Jason Thompson; Camille Thornton-Alson; Rodney To; Inger Tudor; Paul Urcioli; KcWayland; Sabra Williams; Charlayne Woodard; Stephen Zuckerman
Courtesy Joint Appointments: Thomas G. Cummings, PhD; Larry E. Greiner, PhD *(Emeritus);* Bruce Smith, PhD
Emeritus Professors: Don Llewellyn, MFA; Eve Roberts, MFA; Andy Robinson; Robert R. Scales, PhD; Eric Trules; James Wilson, MFA

General Information

Degree Programs

The School of Dramatic Arts offers professional and academic degrees at the Bachelor and Master of Fine Arts levels. USC offers two degree programs to undergraduate students interested in the study of theatre arts. The professional degree programs — the Bachelor of Fine Arts (BFA) in Acting Stage, Screen and New Media; Design; Musical Theatre; Sound Design; Stage Management; and Technical Direction — offer a conservatory approach to training for students committed to pursuing careers in the professional theatre, film and television industries. The Bachelor of Arts degree program (BA) incorporates a broad, general education in addition to a thorough study of drama. The Bachelor of Arts in Visual and Performing Arts Studies provides students with a broad understanding of the various disciplines. The School of Dramatic Arts also offers minor programs in theatre, musical theatre , performing arts studies, performing leadership, performing social change, comedy (performance) and playwriting.

Bachelor of Arts

The Bachelor of Arts (BA) degree is ideal for students who want a broad education in addition to production and performance experience. The degree is offered in cooperation with the USC Dornsife College of Letters, Arts and Sciences.

Bachelor of Fine Arts

Acting for Stage, Screen and New Media: The BFA acting degree is a four-year professional training program that connects the foundation of classical theatre with innovative training for the contemporary performing artist, including on-camera techniques, voice over, motion capture, the digital landscape for actors and much more. An emphasis on professional development and networking culminates this groundbreaking new degree offering in the heart of Hollywood, which promises to be the standard-bearer for the next generation of acting programs. An audition is required for admission. The BFA acting program is highly competitive.

Design: The BFA program in design incorporates study in scenic, lighting and costume design. An interview is required for admission.

Musical Theatre: The BFA program in musical theatre is a four-year, professional training program focusing on providing students with the foundational skills needed to be healthy and expressive artists.

Sound Design: The BFA program in sound design offers the student a combination of technical, management and design training in sound design. The student is also introduced to sound recording and mixing through a series of courses offered by the USC Thornton School of Music. Students begin using this training as early as the second semester of the second year of enrollment. The skills acquired in the classroom are further explored through sound design assignments on School of Dramatic Arts public productions in each subsequent semester of the student's program. Students in the sound design program build and design the sound component for the majority of the School of Dramatic Arts' productions under the supervision of a professional staff of designers and theatre technicians. An interview is required for admission.

Stage Management: The BFA program in stage management offers the student a combination of technical, management and design training. Students begin using this training as early as the first year of enrollment. The skills acquired in the classroom are further explored through stage management assignments in each year of the student's program. An interview is required for admission.

Technical Direction: The BFA program in technical direction incorporates the study of theatrical design with training in the professional skills needed to execute stage designs. An interview is required for admission.

Students in the design, stage management, and technical direction programs design, stage manage, and build the majority of the School of Dramatic Arts' productions under the supervision of a professional staff of designers and theatre technicians.

Bachelor of Arts in Visual and Performing Arts Studies

The Bachelor of Arts in Visual and Performing Arts Studies is an interdisciplinary degree offered jointly by the School of Dramatic Arts, the School of Architecture, the School of Cinematic Arts, the Roski School of Art and Design, the Thornton School of Music, and the Dornsife College of Letters, Arts and Sciences.

Minor Programs

Theatre: This general minor in theatre invites students to explore the many facets of this exciting field. Students have the opportunity to take a variety of classes in acting, applied theatre arts, applied theatre arts/education, playwriting, literature, stage management, directing, costume design and production. The curriculum is very flexible and encourages students to develop a primary interest for upper-division course work. All minor students are eligible to participate in performance and production projects.

Comedy: The minor in comedy (performance) is a 20-unit minor that focuses on the theory and practice of comedy-making from the performer's perspective. Beginning with a foundation in the history of comic performance, and supplemented by courses in the fundamentals of acting and performance, the progression of the minor offers students a comprehensive theoretical and experiential education in the many differing disciplines of comedy.

Musical Theatre: The minor in musical theatre, interdisciplinary in nature, is a 27-unit program incorporating the study of acting, dance or movement, vocal arts and related musical subjects presented in association with the USC Thornton School of Music.

Performing Arts Studies: The minor in performing arts provides an interdisciplinary inquiry into the nature and aesthetics of the performing arts. It combines the disciplines of cinematic arts, dance, music and theatre. The minor is a unique course of study that looks at how the performing arts contribute to a culturally literate society.

Performing Leadership: The minor in performing leadership is the study and practice of embodied communication, collaboration and storytelling, creating pathways to authentic, dimensional, empathic leadership.

Performing Social Change: This minor creates opportunities for exploration of social change through performance and theatrical practice.

Playwriting: The minor in playwriting presents undergraduate students who are not theatre majors with a concentration in the discipline of playwriting as a means for broadening and deepening expression using the literary and performing arts. This minor offers a foundation for extended expression in dramatic writing and creative writing genres in general.

Master of Fine Arts

The Master of Fine Arts (MFA) with a major in theatre requires 48–64 units of course work at the 400 or 500 level. The areas of emphasis include acting, theatrical design, dramatic writing and directing. These programs provide a high level of practical experience. To ensure this, the number of students accepted in each area of emphasis is strictly limited. An interview is required for admission.

Master of Arts, Applied Theatre Arts

The Master of Arts in Applied Theatre Arts explores the intersection of theatre arts and cultural fieldwork, encompassing the fields of theatre and therapy, theatre in education and theatre for social change/community-based theatre. Practitioners of applied theatre arts supplement their work as classroom teachers, therapists, social workers, case managers, community organizers and social activists.

Auditions and Entrance to the Degree Programs

Admission to the various degree programs offered through the USC School of Dramatic Arts is granted through the university's regular admission procedures in conjunction with the school's supplementary application process. See the Admission section of this catalogue, Undergraduate and Graduate.

Admission to the BA in Theatre program is determined by academic record, expressed interest in theatre, and information required on the USC application for admission and the USC School of Dramatic Arts supplementary application. The supplementary application is accessible through the school's website.

In addition to submitting a USC application for admission and a dramatic arts supplementary application, an audition is required from applicants to the BFA in Acting for Stage, Screen and New Media, the BFA in Musical Theatre and the MFA in Acting. Applicants to our MFA in Dramatic Writing will be expected to provide a writing supplement. For the latest details on the audition process and requirements, please visit the school's website. Please note that the BA Emphasis programs and the BA in Visual and Performing Arts Studies major are only available to current USC students. If you're interested in any of these major options, please connect with your academic adviser once you're at USC.

Students wishing to transfer from a community college or another four-year college or university into any of our Bachelor of Fine Arts programs must follow the same application and audition process as first-year applicants. If admitted to a Bachelor of Fine Arts program, it is possible that transfer applicants will begin the curriculum as first-year students.

Applicants to any of the Bachelor of Fine Arts production programs (Design, Sound Design, Stage Management, Technical Direction) must also participate in a portfolio review with our production faculty. For the latest details on the portfolio review process and requirements, please visit the school's website.

More information on the admissions process and requirements may be obtained through the school's website or by contacting the Office of Admissions and Student Services, School of Dramatic Arts, University of Southern California, Los Angeles, CA 90089-0791 or via email at sdainfo@usc.edu.

International Study

In conjunction with Sarah Lawrence College and the British American Drama Academy, USC students have the opportunity to study theatre in London. For additional information, see International Study Options.

Bachelor's Degree

Acting for the Stage, Screen and New Media (BFA)

The BFA degree is a four-year, 132-unit, professional training program offering a vital and contemporary approach to the study of acting. The program comprises an integrated sequence of training in acting, voice, movement, camera, motion capture, the Web, voice-over, games and new media, and includes multiple opportunities for performance on stage, screen and new media platforms. The curriculum is based on the belief that an actor's emotional, imaginative, vocal and physical resources must be developed and prepared with maximum experience and flexibility for a fast-changing and challenging modern workplace. This training is combined with course work in critical and historical studies and technical theatre. An audition is required for

admission. The BFA in Acting for Stage, Screen and New Media program is unique and highly competitive.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Acting Courses for Emphasis (80 Units)

- THTR 105 Introduction to Screen Acting Units: 2
- THTR 115a Movement I Units: 2
- THTR 115b Movement I Units: 2
- THTR 120aL Acting I Units: 2
- THTR 120b Acting I Units: 2
- THTR 130 Introduction to Theatrical Production Units: 2
- THTR 140a Voice I Units: 2
- THTR 140b Voice I Units: 2
- THTR 215a Movement II Units: 2
- THTR 215b Movement II Units: 2
- THTR 220a Intermediate Acting I Units: 2
- THTR 220b Intermediate Acting I Units: 2
- THTR 240a Voice II Units: 2
- THTR 240b Voice II Units: 2
- THTR 250 Camera and Improvisation Units: 2
- THTR 305a Directing Units: 4
- THTR 315a Physical Theatre I Units: 2
- THTR 315b Physical Theatre I Units: 2
- THTR 320a Intermediate Acting II Units: 2
- THTR 320b Intermediate Acting II Units: 2
- THTR 340a Intermediate Voice Units: 2
- THTR 340b Intermediate Voice Units: 2
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 **(6 units required)**
- THTR 412 Performing Content Units: 4
- THTR 416 Creating Content for the Actor Units: 2.0
- THTR 420 Senior Project Units: 2
- THTR 427 Audition Technique for Film, Television and New Media Units: 2
- THTR 440 Advanced Voice: Voice-Over Acting Units: 2
- THTR 457 Film Acting Practicum Units: 4.0
- THTR 464 An Actor's Reel Units: 2
- THTR 467 Going Viral: Performance for New Media Units: 2
- THTR 471 Industry Landscape Units: 4
- THTR 480a Performance for Camera Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2 **(2 units required)**

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A Courses

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B Courses

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Total Units: 132

Musical Theatre (BFA)

The BFA degree in Musical Theatre is a four-year, professional training program focusing on providing students with the foundational skills needed to be healthy and expressive artists. Through an immersion into each school's training, culture and critical studies (USC School of Dramatic Arts, USC Glorya Kaufman School of Dance and USC Thornton School of Music), the student will be exposed to both traditional and innovative practices. This will be implemented via a growing emphasis on contemporary and classic material. This will be explored in all appropriate classes and projects with an emphasis on the continuing integration of skills and the expansion of range including but not limited to: heighten language, period style, comedy, pop rock/contemporary styles, new works, on camera training and entrepreneur skills. The collaboration between the schools will be manifested in team teaching within the classroom.

All BFA theatre majors are required to earn a minimum grade point average of 2.75 (A= 4.0) in their theatre courses each semester. BFA students that fail to earn a minimum GPA of 2.75 in their theatre classes will be placed on probation the following semester. Students who remain on probation for a second consecutive semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring to the BA program.

Required Courses for the Musical Theatre Program: 100 units

Dance

- DANC 170 Choreography and Performance Units: 2
- DANC 200L Dance Technique for Musical Theatre Units: 2, 3 **(16 units required)**
- DANC 342gp International and Historical Perspectives on Dance Units: 4

Music

- MPVA 140 Vocal Production for Musical Theatre Units: 2
- MPVA 150 Musical Theatre Song Interpretation: Tin Pan Alley Era Units: 2

- MPVA 301 Individual Instruction Units: 1, 2
  (12 units required)
- MPVA 422 Musical Theatre Vocal Book Preparation Units: 2
- MUCO 142 Aural Skills and Musicianship for Musical Theatre I Units: 2
- MUCO 143 Aural Skills and Musicianship for Musical Theatre II Units: 2
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4

Dramatic Arts

- THTE 201aL Acting for Musical Theatre Units: 2
- THTE 201b Acting for Musical Theatre Units: 2
- THTE 203 Speech Units: 2
- THTE 300L Script and Score Units: 2
- THTE 301L Script, Score and Choreography Units: 2
- THTE 403L Contemporary Scene Into Song Units: 2
- THTE 406 New Musical Theatre Workshop Units: 2
- THTE 407 Building Your Cabaret Units: 2
- THTE 408L Movie Musical Development Units: 2
- THTR 105 Introduction to Screen Acting Units: 2
- THTR 120aL Acting I Units: 2
- THTR 120b Acting I Units: 2
- THTR 125 Text Studies for Production Units: 4
- THTR 130 Introduction to Theatrical Production Units: 2
- THTR 320a Intermediate Acting II Units: 2
- THTR 320b Intermediate Acting II Units: 2
- THTR 340a Intermediate Voice Units: 2
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4
  6.0 units required
- THTR 411 The Business of Acting Units: 2
- THTR 427 Audition Technique for Film, Television and New Media Units: 2
- THTR 471 Industry Landscape Units: 4
- THTR 480a Performance for Camera Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2

Required General Education Units: 32

Total Units: 132

Theatre (BA)*

The Bachelor of Arts with a major in theatre is a comprehensive theatre degree offered in cooperation with the USC Dornsife College of Letters, Arts and Sciences. Candidates for the degree must complete the university general education requirements in addition to the courses in the major prescribed by the School of Dramatic Arts. A total of 128 units is required for completion of the degree.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses (13 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 130 Introduction to Theatrical Production Units: 2

One course (4 units) from:

- THTR 305a Directing Units: 4
- THTR 309 Dramaturgy Units: 4

One course (3 units) from:

- THTR 230 Communicating Theatrical Design Concepts Units: 3
- THTR 231 Costume Construction Units: 3
- THTR 232 Stage Lighting Units: 3
- THTR 233 Historic Costumes for the Theatre Units: 3
- THTR 335 Scenic Construction Units: 3

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

Required Upper-Division Theatre Electives: 25

General Education Units: 36

Elective Units: 38

Total Units: 128

Theatre, Acting Emphasis (BA)*

The BA Theatre, Emphasis in Acting is designed specifically to increase the versatility of its students so they are better educated, prepared and equipped to enter the professional arena of stage, film, television and new media.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Acting/Production Courses for Emphasis (51 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 105 Introduction to Screen Acting Units: 2
- THTR 130 Introduction to Theatrical Production Units: 2

- THTR 152 Introduction to Scene Study: Contemporary Plays Units: 2
- THTR 250 Camera and Improvisation Units: 2
- THTR 252a Intermediate Acting I: Drama/Comedy Units: 2
- THTR 252b Intermediate Acting I: Drama/Comedy Units: 2
- THTR 342a Basic Voice Units: 2
- THTR 352a Intermediate Acting II Units: 2
- THTR 354 Acting Shakespeare Units: 2

One Course (4 units):

- THTR 305a Directing Units: 4
- THTR 309 Dramaturgy Units: 4

One course in Design and Production (3 units) from:

- THTR 230 Communicating Theatrical Design Concepts Units: 3
- THTR 231 Costume Construction Units: 3
- THTR 232 Stage Lighting Units: 3
- THTR 233 Historic Costumes for the Theatre Units: 3
- THTR 333 Stage Management I Units: 3
- THTR 335 Scenic Construction Units: 3
- THTR 437 Scene Painting Units: 3
- THTR 439 Stage Properties Units: 3

Select 12 units in Practice from the following:

- THTR 316 Advanced Movement for Actors Units: 2
- THTR 342b Basic Voice Units: 2
- THTR 352b Intermediate Acting II Units: 2
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4
- THTR 408a Dialects Units: 2
- THTR 408b Dialects Units: 2
- THTR 417 Stage Combat Units: 2
- THTR 419 Alexander Technique for Performers Units: 2
- THTR 442 Voice-over Acting Units: 2
- THTR 454 Acting Shakespeare II Units: 2
- THTR 475 Acting on Camera: The Collaborative Process Units: 4
- THTR 480a Performance for Camera Units: 2
- THTR 480b Performance for Camera Units: 2
- THTR 484 Acting in Television Commercials Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2

Select 8 units in Career Preparation from the following:

- THTR 410 The Digital Actor Units: 2
- THTR 411 The Business of Acting Units: 2
- THTR 424 The Stage Artist as Entrepreneur Units: 2
- THTR 427 Audition Technique for Film, Television and New Media Units: 2
- THTR 464 An Actor's Reel Units: 2
- THTR 472 Professional Preparation for Actors Units: 2
- THTR 489 Theatre Internship Units: 2, 3, 4, 5, 6

One course in Movement (2 units) from:

- THTR 216 Movement for Actors Units: 2
- THTR 290 Introduction to Medical Clowning Units: 2
- THTR 317 Theatre Clown Units: 2

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

Required General Education Units: 36

Elective Units: 25

Total Units: 128

Theatre, Comedy Emphasis (BA)*

This emphasis encourages students to engage with the structure and practice of comedy through theoretical lenses and through practical exploration. All students are required to take a range of courses that will help them develop fundamental skills and experience in a range of different comic styles and forms. Some of the required courses are common to other SDA emphases and these courses (Introduction to Acting, Improvisation and Theatre Games, Introduction to Technical Theatre and Basic Voice) give students a grounding in understanding basic theatre techniques and processes. Students following the emphasis must then take a range of specialist comedy courses. Comedy and Performance and How Comedy Works introduce students to the history and development of comedy and equips them with a vocabulary for discussing comedy. They then take a range of courses to develop skills across a range of comedy styles including improvisation, clowning and stand-up comedy. A further required course, Comedy in LA, helps the students to understand the comedy scene in Los Angeles. Students also take 16 elective units, which might include performance in SDA shows, Acting for Sitcoms, Camera and Improvisation and other courses designed to help them develop their skills in writing, performing and understanding the comedy industry.

Required Comedy/Production Courses for Emphasis (64 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 130 Introduction to Theatrical Production Units: 2
- THTR 197g Comedy and Performance Units: 4
- THTR 202 The Fundamentals of Comedy Units: 2
- THTR 307 Comedy in LA Units: 2
- THTR 322 Improv 2: Advanced Improv Units: 2
- THTR 413 Writing Your Own Material Units: 2
- THTR 422 Improv 3: Long Form Improvisation Units: 2
- THTR 470 Sketch Comedy for Theatre Units: 2
- THTR 474 Introduction to Stand Up Comedy Units: 2
- THTR 482 Stand Up 2: Becoming A Pro Units: 2

Select 2 units from the following:

- THTR 290 Introduction to Medical Clowning Units: 2
- THTR 317 Theatre Clown Units: 2

Select 16 units from the following:

- THTR 250 Camera and Improvisation Units: 2
- THTR 342a Basic Voice Units: 2
- THTR 355 Acting for Sitcoms Units: 2
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (4 units required)
- THTR 410 The Digital Actor Units: 2
- THTR 423 Magic Units: 2
- THTR 424 The Stage Artist as Entrepreneur Units: 2
- THTR 467 Going Viral: Performance for New Media Units: 2
- THTR 469 Satire and Parody in Performance Units: 2
- THTR 473 Sketch Comedy in Performance Units: 2
- THTR 479 Solo Performance Units: 4

- THTR 483 Characters of Comedy Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2

Required Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either list A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

Required General Education Units: 36

Elective Units: 28

Total Units: 128

Theatre, Design Emphasis (BA)*

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses For Design Emphasis (38-39 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 130 Introduction to Theatrical Production Units: 2
- THTR 230 Communicating Theatrical Design Concepts Units: 3
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (2 Units Required)

One course (4 units)

- THTR 305a Directing Units: 4
- THTR 309 Dramaturgy Units: 4

Select two courses (5-6 units) from:

- THTR 231 Costume Construction Units: 3
- THTR 232 Stage Lighting Units: 3
- THTR 233 Historic Costumes for the Theatre Units: 3
- THTR 236 Stage Sound Units: 2

Select 18 units from the following:

- THTR 303 Projection Design I Units: 3
- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 336 Introduction to Sound Design Units: 3
- THTR 402 Projection Design II Units: 3
- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2
- THTR 432a Scene Design II Units: 3
- THTR 432b Scene Design II Units: 3
- THTR 433a Costume Design II Units: 3
- THTR 433b Costume Design II Units: 3
- THTR 434a Lighting Design II Units: 3
- THTR 434b Lighting Design II Units: 3
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 436 Sound for Theatre Units: 3
- THTR 441 Advanced Sound Design Units: 3
- THTR 409 Advanced Drafting: Vectorworks Units: 3

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take onc course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

Required General Education Units: 36

Elective Units: 37-38

Total Units: 128

Theatre, Design Emphasis (BFA)

Bachelor of Fine Arts

The Bachelor of Fine Arts in Theatre provides four years of intensive training at the undergraduate level including design, sound design, stage management and technical direction. A total of 128 units of course work is required for the degree, including a 16-unit Critical Studies core in addition to a minimum of 60-74 Theatre units depending on the requirements for each emphasis.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses for the Design Emphasis (74 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 131a Advanced Theatrical Production Units: 2
- THTR 131b Advanced Theatrical Production Units: 2
- THTR 132a Art of Theatrical Design Units: 2
- THTR 132b Art of Theatrical Design Units: 2
- THTR 241 Methods and Materials Units: 2
- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (6 units required)
- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2
- THTR 431 Seminar in Theatre Design Units: 2
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2 (4 units required)

One Course (4 units) from:

- THTR 305a Directing Units: 4
- THTR 309 Dramaturgy Units: 4

One course (3 units) from:

- THTR 231 Costume Construction Units: 3
- THTR 409 Advanced Drafting: Vectorworks Units: 3

Three courses (9 units) from:

- THTR 213 Corset Construction Units: 3
- THTR 233 Historic Costumes for the Theatre Units: 3
- THTR 303 Projection Design I Units: 3
- THTR 308 Programming for Lighting Units: 3
- THTR 437 Scene Painting Units: 3
- THTR 439 Stage Properties Units: 3

Two courses (6 units) from:

- THTR 432a Scene Design II Units: 3
- THTR 433a Costume Design II Units: 3
- THTR 434a Lighting Design II Units: 3
- THTR 402 Projection Design II Units: 3

One course (3 units) from:

- THTR 432b Scene Design II Units: 3
- THTR 433b Costume Design II Units: 3
- THTR 434b Lighting Design II Units: 3

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Electives Units: 2

Total Units: 128

Theatre, Sound Design Emphasis (BFA)

Bachelor of Fine Arts

The Bachelor of Fine Arts in Theatre provides four years of intensive training at the undergraduate level including design, sound design, stage management and technical direction. A total of 128 units of course work is required for the degree, including a 16-unit Critical Studies core in addition to a minimum of 60-74 Theatre units depending on the requirements for each emphasis.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses for the Sound Design Emphasis (71 units)

- MTEC 175 Fundamentals of Audio Recording Units: 2
- MTEC 176 Critical Listening Units: 2
- MTEC 275 Fundamentals of Audio Engineering Units: 4
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MUIN 340 Introduction to Sound Reinforcement Units: 4
- THTR 101 Introduction to Acting Units: 4

- THTR 131a Advanced Theatrical Production Units: 2
- THTR 131b Advanced Theatrical Production Units: 2
- THTR 132a Art of Theatrical Design Units: 2
- THTR 132b Art of Theatrical Design Units: 2
- THTR 236 Stage Sound Units: 2
- THTR 241 Methods and Materials Units: 2
- THTR 332 Lighting Design I Units: 4
- THTR 333 Stage Management I Units: 3
- THTR 336 Introduction to Sound Design Units: 3
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (5 Units Required)
- THTR 409 Advanced Drafting: Vectorworks Units: 3
- THTR 431 Seminar in Theatre Design Units: 2
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 436 Sound for Theatre Units: 3
- THTR 441 Advanced Sound Design Units: 3
- THTR 497 Advanced Theatre Practicum Units: 2 **(4 Units Required)**

One course (4 units) from:

- THTR 305a Directing Units: 4
- THTR 309 Dramaturgy Units: 4

One course (4 units) from:

- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Electives Units: 5

Total Units: 128

Theatre, Stage Management Emphasis (BFA)

Bachelor of Fine Arts

The Bachelor of Fine Arts in Theatre provides four years of intensive training at the undergraduate level including design, sound design, stage management and technical direction. A total of 128 units of course work is required for the degree, including a 16-unit Critical Studies core in addition to a minimum of 60-74 Theatre units depending on the requirements for each emphasis.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses for the Stage Management Emphasis (60 units)

- MPKS 150a Beginning Piano Units: 2
- THTR 101 Introduction to Acting Units: 4
- THTR 131a Advanced Theatrical Production Units: 2
- THTR 131b Advanced Theatrical Production Units: 2
- THTR 132a Art of Theatrical Design Units: 2
- THTR 132b Art of Theatrical Design Units: 2
- THTR 232 Stage Lighting Units: 3
- THTR 333 Stage Management I Units: 3
- THTR 336 Introduction to Sound Design Units: 3
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (6 Units Required)
- THTR 430 Stage Management II Units: 3
- THTR 443 Production Management Units: 4
- THTR 453 Taking it on the Road and Beyond Units: 4
- THTR 491 Theatre Organization and Administration Units: 4
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2

One course (4 units) from:

- THTR 305a Directing Units: 4
- THTR 309 Dramaturgy Units: 4

One course (4 units) from:

- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4

- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Electives Units: 16

Total: 128

Theatre, Technical Direction Emphasis (BFA)

Bachelor of Fine Arts

The Bachelor of Fine Arts in Theatre provides four years of intensive training at the undergraduate level including design, sound design, stage management and technical direction. A total of 128 units of course work is required for the degree, including a 16-unit Critical Studies core in addition to a minimum of 60-74 Theatre units depending on the requirements for each emphasis.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses for the Technical Direction Emphasis (68 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 131a Advanced Theatrical Production Units: 2
- THTR 131b Advanced Theatrical Production Units: 2
- THTR 132a Art of Theatrical Design Units: 2
- THTR 132b Art of Theatrical Design Units: 2
- THTR 232 Stage Lighting Units: 3
- THTR 236 Stage Sound Units: 2
- THTR 241 Methods and Materials Units: 2
- THTR 303 Projection Design I Units: 3

  or
- THTR 336 Introduction to Sound Design Units: 3
- THTR 330 Scene Design I Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 333 Stage Management I Units: 3
- THTR 335 Scenic Construction Units: 3
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (6 Units Required)
- THTR 409 Advanced Drafting: Vectorworks Units: 3
- THTR 425 Dynamics of Technical Theatre Units: 3
- THTR 431 Seminar in Theatre Design Units: 2
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 437 Scene Painting Units: 3
- THTR 438 Technical Theatre Units: 3
- THTR 439 Stage Properties Units: 3
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2 (2 Units Required)

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Elective Units: 8

Total Units: 128

Visual and Performing Arts Studies (BA)*

The Bachelor of Arts in Visual and Performing Arts Studies is an interdisciplinary degree offered jointly by the Kaufman School of Dance, the School of Dramatic Arts, the School of Architecture, the School of Cinematic Arts, the Roski School of Art and Design, the Thornton School of Music, and the Dornsife College of Letters, Arts and Sciences. Candidates for the degree must complete the university general education requirements in addition to the courses in the major. Students in this major complete a core of required courses that provides them with a broad understanding of the various disciplines. The work in the major is completed by choosing courses from a wide array of course offerings from all the participating schools. A total of 128 units is required for completion of the degree.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major may also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Core Courses (Survey of the Arts)

- AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance Units: 4
- ARCH 304x Intensive Survey: Prehistory to the Present Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- DANC 280g Introduction to Dance as an Art Form Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- THTR 125 Text Studies for Production Units: 4

Total: 28

Case Studies in the Arts:

12 units of upper division course work from the following:

Architecture:

- ARCH 314 History of Architecture: Contemporary Issues Units: 3
- ARCH 440m Literature and the Urban Experience Units: 4
- ARCH 444 Great Houses of Los Angeles Units: 4
- ARCH 454 Contemporary Asian Architecture Units: 4
- ARCH 465 The Landscape Imaginary Units: 4
- ARCH 549 Fundamentals of Heritage Conservation Units: 3

Cinematic Arts:

- CTAN 451 History of Animation Units: 2
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- PHIL 446 Aesthetics and the Film Units: 4

Fine Arts:

- AHIS 319 Mesoamerican Art and Culture Units: 4
- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4
- AHIS 330 Medieval Art Units: 4
- AHIS 343 Renaissance Art Units: 4
- AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present Units: 4
- AHIS 368 Modern Art I: 1700–1850 Units: 4
- AHIS 369 Modern Art II: 1851–1940 Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AHIS 373g History and Theory of Photography Units: 4
- AHIS 384 Early Chinese Art Units: 4
- AHIS 385 Later Chinese Art Units: 4
- ART 362 Ideas in Intermedia Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
- DES 323g Design Theory Units: 4

Music:

- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Dramatic Arts:

- COLT 354 Revolutions in Theater Units: 4
- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4
- THTR 481 From The Border to Broadway Units: 4
- THTR 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Dance:

- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4
- DANC 352g Dancing with Words Units: 4
- DANC 363g Dancing on the Screen Units: 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4

Other Courses:

- COLT 381 Psychoanalysis and the Arts Units: 4
- PHIL 445 Philosophy of the Arts Units: 4

Overseas Study Opportunities:

- FREN 432 French Theatre Units: 4 (Paris Semester)
- SPAN 464 Introduction to Contemporary Spanish Theatre Units: 4 (Madrid Center)

Minor

Comedy (Performance) Minor

The minor in comedy (performance) is a 20-unit minor that focuses on the theory and practice of comedymaking from the performer's perspective. Beginning with a foundation in the history of comic performance, and supplemented by courses in the fundamentals of acting and performance, the progression of the minor offers students a comprehensive theoretical and experiential education in the many differing disciplines of comedy.

Required Courses (16 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 197g Comedy and Performance Units: 4
- THTR 202 The Fundamentals of Comedy Units: 2
- THTR 474 Introduction to Stand Up Comedy Units: 2

One Course (2 units) from:

- THTR 290 Introduction to Medical Clowning Units: 2
- THTR 317 Theatre Clown Units: 2

Required Elective Courses (4 units)

- THTR 307 Comedy in LA Units: 2
- THTR 310 Comedy and Diversity Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 355 Acting for Sitcoms Units: 2
- THTR 413 Writing Your Own Material Units: 2
- THTR 422 Improv 3: Long Form Improvisation Units: 2
- THTR 423 Magic Units: 2

- THTR 467 Going Viral: Performance for New Media Units: 2
- THTR 469 Satire and Parody in Performance Units: 2
- THTR 470 Sketch Comedy for Theatre Units: 2
- THTR 473 Sketch Comedy in Performance Units: 2
- THTR 482 Stand Up 2: Becoming A Pro Units: 2
- THTR 483 Characters of Comedy Units: 2

Total Units: 20

Performing Arts Studies Minor

The minor in performing arts provides an interdisciplinary inquiry into the nature and aesthetics of the performing arts. It combines the disciplines of cinematic arts, dance, music and theatre. The minor is a unique course of study that looks at how the performing arts contribute to a culturally literate society. The minor in performing arts studies is a 20-unit program.

Required Courses

Choose one capstone course:

- THTR 395m Drama as Human Relations Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 405m Performing Identities Units: 4

Plus four to six courses (16 units) from the following list

The additional 16 units must be completed outside of the student's school. At least 4 units must be selected from each school.

- CTCS 190g Introduction to Cinema Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- DANC 170 Choreography and Performance Units: 2
- DANC 280g Introduction to Dance as an Art Form Units: 4
- DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 342gp International and Historical Perspectives on Dance Units: 4
- DANC 352g Dancing with Words Units: 4
- DANC 363g Dancing on the Screen Units: 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 2
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4
- THTR 481 From The Border to Broadway Units: 4
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2

Total units required: 20

Performing Leadership Minor

The study and practice of embodied communication, collaboration and storytelling, creating pathways to authentic, dimensional, empathic leadership.

Required Courses (10 units)

- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 421 Public Speaking as Performance: A Course for Non-Actors Units: 2
- THTR 426 Being on Screen: A Class for Presenters, Hosts, and Others Units: 2
- THTR 479 Solo Performance Units: 4

Select 10 units from the following:

- THTR 105 Introduction to Screen Acting Units: 2
- THTR 318 Creating the Hit Podcast Units: 2
- THTR 322 Improv 2: Advanced Improv Units: 2
- THTR 405m Performing Identities Units: 4
- THTR 414 Secrets of Storytelling Units: 2
- THTR 419 Alexander Technique for Performers Units: 2
- THTR 445 Developing Your Speaking Voice Units: 2
- THTR 467 Going Viral: Performance for New Media Units: 2
- THTR 474 Introduction to Stand Up Comedy Units: 2
- THTR 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Total Units: 20

Performing Social Change Minor

Performing social change brings the language and practice of Dramatic Arts into communities and events that seek to redress power imbalances, create healing and dialogue and develop new systems of interaction, communication, well-being and governance. This minor creates opportunities for exploration of social change through performance and theatrical practice.

Required Courses (12 Units)

- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 395m Drama as Human Relations Units: 4
- THTR 488mw Theatre in the Community Units: 4
- THTR 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 **(2 units of Directed Research is required)**

Elective Units (8 units from the following):

- THTR 290 Introduction to Medical Clowning Units: 2
- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 322 Improv 2: Advanced Improv Units: 2
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 421 Public Speaking as Performance: A Course for Non-Actors Units: 2
- THTR 456 Latinx Theatre Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4
- THTR 479 Solo Performance Units: 4

Total Units: 20

Playwriting Minor

The minor in playwriting presents undergraduate students who are not theatre majors with a concentration in the discipline of playwriting as a means for broadening and deepening expression using the literary and performing arts. This minor

offers a foundation for extended expression in dramatic writing and creative writing genres in general; fostering skills in research, development, communication, collaboration and craftsmanship in the process of preparing a play for its realization on stage. The minor in playwriting is a 20-unit program.

Required Courses

- THTR 101 Introduction to Acting Units: 4 or
- THTR 125 Text Studies for Production Units: 4
- THTR 365 Playwriting I Units: 4
- THTR 366 Playwriting II Units: 4
- THTR 479 Solo Performance Units: 4

One course (4 units) from:

- THTR 305a Directing Units: 4
- THTR 309 Dramaturgy Units: 4

Theatre Minor

The general minor in theatre invites students to explore the many facets of this exciting field. Students have the opportunity to take a variety of classes in acting, playwriting, literature, stage management, directing, costume design and production. The curriculum is flexible and encourages students explore theatre through a broad combination of introductory and upper-division course work. All minor students are also eligible to participate in performance and production projects.

Required Courses

- THTR 101 Introduction to Acting Units: 4
- THTR 125 Text Studies for Production Units: 4
- THTR 130 Introduction to Theatrical Production Units: 2

One of the following:

- THTR 225g Theatre Across History and Cultures Units: 4
- THTR 230 Communicating Theatrical Design Concepts Units: 3
- THTR 231 Costume Construction Units: 3
- THTR 233 Historic Costumes for the Theatre Units: 3
- THTR 252a Intermediate Acting I: Drama/Comedy Units: 2
- THTR 305a Directing Units: 4
- THTR 333 Stage Management I Units: 3
- THTR 336 Introduction to Sound Design Units: 3
- THTR 365 Playwriting I Units: 4

Required upper-division THTR electives: 10-12 units

Required theatre units: 24

Master's Degree

Applied Theatre Arts (MA)

The Master of Arts in Applied Theatre Arts explores the intersection of theatre and cultural fieldwork, encompassing the fields of theatre and therapy, theatre in education and theatre for social change/community-based theatre. This combined area of study weaves all three disciplines together under the aegis of training practitioners in the *art* of popular theatre with primarily marginalized communities. Practitioners of applied theatre arts supplement their work as classroom teachers, therapists, social workers, case managers, community organizers and social activists to engage public groups to obtain their goals and desires by using the tools of theatre to expedite dialogue and foster an atmosphere of greater critical consciousness and increased agency. A written and oral examination is required upon completion of course work.

International Study

All students will participate in an international externship during the summer following their academic year. This externship takes place in an approved overseas site where the practice of applied theatre arts is well established, with whom the university has a contractual agreement for supervised observation. This externship intends to provide a supervisory, logistical and theoretical container for students to explore cultural fieldwork in the international arena.

Curricula for the Master of Arts Degree

Applied Theatre Arts

- THTR 505 Staging Community-based Theatre Units: 3
- THTR 521 Engaging Community Narratives Units: 3
- THTR 544 Embodied Poetics Units: 2
- THTR 568 Popular Theatre for Education and Development Units: 3
- THTR 577 Theatre and Therapy for Cultural Fieldwork Units: 3
- THTR 578 Theatre of the Oppressed: Theory, Games, and Techniques Units: 4
- THTR 579 Writing Culture Units: 3
- THTR 586a Applied Theatre Arts: Los Angeles Residency Units: 2
- THTR 586b Applied Theatre Arts: Los Angeles Residency Units: 2
- THTR 587 Liberation Arts and Community Engagement — Theory Units: 4
- THTR 588 Liberation Arts and Community Engagement — Praxis Units: 3
- THTR 592a Participatory Action Research for Community-based Theatre Units: 2
- THTR 592b Participatory Action Research for Community-based Theatre Units: 2
- THTR 598 Applied Theatre Arts: International Externship Units: 2

Total Required Units: 38

Theatre (MFA)

The Master of Fine Arts in theatre allows the choice of an area of emphasis in theatre performance studies including acting, directing, dramatic writing or theatrical design.

Seventy-two units of study at the 400- or 500-level are required for the acting emphasis, 72 units for the dramatic writing emphasis and 48 units for the directing and theatrical design emphases. Regardless of the emphasis, at least two-thirds of the units must be at the 500 level or higher. In design, instead of a conventional thesis, the MFA student completes a final project in the area of design and defends it orally before the design faculty. A grade point average of 3.0 must be achieved in all graduate work taken in the School of Dramatic Arts. Graduate candidates whose undergraduate degrees are in disciplines other than theatre may be required to satisfy undergraduate prerequisites in theatre as determined by School of Dramatic Arts faculty.

Curricula for the Master of Fine Arts Degree

Acting Emphasis

- THTR 507 Casting Director Workshop Units: 2.0
- THTR 515a Advanced Movement Units: 2
- THTR 515b Advanced Movement Units: 2
- THTR 515c Advanced Movement Units: 2
- THTR 515d Advanced Movement Units: 2
- THTR 516 Filmmaking for Actors Units: 2
- THTR 520a Advanced Acting Units: 4
- THTR 520b Advanced Acting Units: 4
- THTR 520c Advanced Acting Units: 2
- THTR 520d Advanced Acting Units: 4
- THTR 520e Advanced Acting Units: 2
- THTR 529a Textual Studies for Performance Units: 4
- THTR 529b Textual Studies for Performance Units: 4
- THTR 540a Advanced Voice Diction Units: 2
- THTR 540b Advanced Voice Diction Units: 2
- THTR 540c Advanced Voice Diction Units: 2
- THTR 540d Advanced Voice Diction Units: 2
- THTR 540e Advanced Voice Diction Units: 2
- THTR 540f Advanced Voice Diction Units: 2
- THTR 541 Diction and Dialects Units: 2
- THTR 542 Singing for Actors Units: 2

- THTR 571 Professional Seminar Units: 2
- THTR 575 Creative Production Projects Units: 6
- THTR 580a Performance with Camera Units: 2
- THTR 580b Performance with Camera Units: 2
- THTR 597 Theatre Practicum Units: 1, 2, 3, 4 (8 Units Required)

Total units: 72

Directing Emphasis

- THTR 520a Advanced Acting Units: 4
- THTR 520b Advanced Acting Units: 4
- THTR 525 Seminar in Contemporary Theatre Units: 4
- THTR 528 Seminar in Dramatic Analysis Units: 4
- THTR 555 Directing Fundamentals Units: 2
- THTR 556a Directing Units: 2
- THTR 556b Directing Units: 2
- THTR 558a Design for Directors Units: 2
- THTR 558b Design for Directors Units: 2
- THTR 567a Studies in Playwriting Units: 4
- THTR 591 Seminar in Producing Theatre Units: 4
- THTR 593 MFA Project Units: 2
- Electives by advisement Units: 10

Total units: 48

Theatrical Design Emphasis

Two courses from:

- THTR 550a Seminar in Scene Design Units: 3
- THTR 552a Seminar in Costume Design Units: 3
- THTR 553a Seminar in Lighting Design Units: 3

Two continuing courses from:

- THTR 550b Seminar in Scene Design Units: 3
- THTR 552b Seminar in Costume Design Units: 3
- THTR 553b Seminar in Lighting Design Units: 3

One remaining course from:

- THTR 550a Seminar in Scene Design Units: 3
- THTR 552a Seminar in Costume Design Units: 3
- THTR 553a Seminar in Lighting Design Units: 3

All of the following:

- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2
- THTR 593 MFA Project Units: 2

Two seminars, one of which must be

- THTR 528 Seminar in Dramatic Analysis Units: 4 (8 Units Required)

400- or 500-level electives

- 400- or 500-level electives by advisement, 5 units of which must be at the 500 level Units: 10

Total units: 48

Dramatic Writing Emphasis

- CTWR 513 Writing the Short Script Units: 2
- CTWR 514a Basic Dramatic Screenwriting Units: 2
- CTWR 514b Basic Dramatic Screenwriting Units: 2
- CTWR 521 Advanced Hour-Long Television Drama Units: 2
- THTR 500 Dramaturgical Perspectives and Approaches Units: 2 (10 units required)
- THTR 501 Poetry and Prose into Drama Units: 4 **(12 units required)**
- THTR 506 Advanced Creating Characters Units: 2
- THTR 527 Writing the Pacific Rim: Global and Western Dramatic Writing Units: 4
- THTR 529a Textual Studies for Performance Units: 4
- THTR 566 Dramatic Writing Studio Units: 4 (24 units required)
- THTR 596 Thesis Development and Attainment Units: 2 (4 units required)
- THTR 574a Dramatic Writing Across Media for Playwrights Units: 2
- THTR 574b Dramatic Writing Across Media for Playwrights Units: 2

Total units: 72

A minimum of 72 units of graduate course work must be completed prior to the degree being granted. Thesis Requirement: The student is required to complete a thesis portfolio consisting of four theatre projects: (1) a full-length original play, (2) a full-length original play or an adaptation, (3) a full-length screenplay, (4) a project that is either a play of any length, or a short subject or feature length script, a set of television speculative scripts (either in three half-hour short form of drama from the same TV program or a set of characters; or one-hour long form) or an interdisciplinary/multimedia project (approved in advance by the dramatic writing faculty.) An oral defense and review by program faculty and the developing portfolio is required when the student has completed two-thirds of the program, generally in the fall term of the student's third year.

USC Rossier School of Education

The USC Rossier School of Education is one of the world's premier schools of education. It is committed to preparing teachers, researchers, counselors, administrators and curricular specialists for leadership positions, and to having a positive impact on the field of education locally, throughout our nation and throughout the world.

The mission of the USC Rossier School of Education is to prepare leaders to advance educational equity through practice, research and policy. We work to improve learning opportunities and outcomes in urban settings and other educational settings and to address disparities that undermine the educational opportunities of historically marginalized groups. We teach our students to value and respect the cultural and linguistic resources in which they work and to interrogate the systems of power that shape policies and practices. Through innovative thinking and research, we strive to solve the most intractable educational problems.

Our vision is a world in which every student, regardless of personal circumstance, is able to learn and succeed. We believe that USC Rossier, as a top-tier research institution, has the responsibility and the ability to prepare educational leaders, researchers and practitioners so that they will have the knowledge and skills needed to realize this vision.

The USC Rossier School of Education is committed to our four academic themes of leadership, diversity, learning and accountability that guide all academic, research and service efforts within our school.

The USC Rossier Commitment

At USC Rossier, we stand by our students and graduates and are prepared to support them long after they leave us. From our classrooms to your career, our commitment to your success is unwavering. We prepare our graduates to be change agents, and equip them with the critical thinking and problem-solving skills necessary to assess challenges and implement creative solutions. If at any point in your career you're faced with an issue in which you could benefit from the professional guidance of our expert faculty, we encourage you to take advantage of the USC Rossier Commitment. A dedicated team of faculty members will work with you to identify the issue and develop a strategic plan of action to facilitate your success.

USC Rossier School of Education
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Administration

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Darline Robles, PhD, *Associate Dean of Equity and Inclusion*
Kathy Stowe, EdD, *Associate Dean for Academic Programs*
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Emeritus Adjunct Professor: Raymond J. Pat Gallagher, PhD
Stoops Dean and Cooper Chair Emeritus: Guilbert C. Hentschke, PhD
Emeritus Associate Professor of Clinical Education: William Maxwell, PhD
Research Professor Emeritus of Education: Allen Munro, PhD

Degree and Minor Programs

The USC Rossier School of Education offers the following degree programs: Master of Arts, Teaching; Master of Arts, Teaching: Teaching English to Speakers of Other Languages; Master of Education, Educational Counseling; Master of Education, Learning Design and Technology; Master of Education, Postsecondary Administration and Student Affairs; Master of Education, School Counseling; Master of Education, Enrollment Management and Policy; Master of Science, Marriage and Family Therapy; Doctor of Philosophy, Urban Education Policy/Master of Public Policy (PhD/MPP); Educational Leadership (EdD); Global Executive (EdD); Organizational Change and Leadership (EdD); and Doctor of Philosophy (PhD) in Urban Education Policy.

The USC Rossier School of Education also offers minors in Education and Computing, Education and Society, The Dynamics of Early Childhood, Education Policy (with the Price School of Public Policy), Mathematics Education, and Multilingualism and Multiculturalism.

Graduate Degrees

Admission

Applicants for admission to graduate degree programs must have a bachelor's degree or its equivalent from an accredited institution. Admission to graduate programs in the USC Rossier School of Education is highly selective and competitive. A grade point average of 3.0 (A = 4.0) is usually expected as well as letters of recommendation and personal statements. The Graduate Record Examinations (GRE) is accepted but not required. Specific prior degree, testing and recommendation requirements vary by program. For specific information on admission and application procedures, contact the Office of Admission and Scholarships, (213) 740-0224 or info@rossier.usc.edu.

For more details on how to apply, please visit: rossier.usc.edu/admissions/.

Satisfactory Academic Progress

Students must maintain a grade point average of 3.0 (A = 4.0) or better to stay in good academic standing. Consistent with USC's overall policies for graduate students, factors other than satisfactory grades may also be taken into consideration in decisions regarding a student's continuation in a graduate degree program. These factors include satisfactory performance in fieldwork or credentialing requirements, or meeting program-defined professional standards, which are communicated to students at the beginning of the program.

Students who do not earn or maintain a 3.0 (A = 4.0) grade point average in an academic term may be given an academic warning in the following term. Students may also be given an academic warning if they have not fulfilled non-GPA related requirements, as defined by their degree program. The academic warning provides notification that the student is subject to dismissal. A student who is not in good academic standing is subject to dismissal, and may be dismissed from a program whenever, in the judgment of the associate dean for academic programs and the program director of the program in question, it is unlikely that the student will successfully complete his or her program.

Time Limit for Degree Completion

The time limit for completing a master's degree is five years. The time limit for completing a doctoral degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctorate, the time limit for completion is six years.

The time limit begins with the first course at USC applied toward a specified degree and ends the semester during which all requirements are met.

A primary consideration of the setting of time limits is the currency of the course work and research with respect to the date the degree is to be conferred. Equally important is the concern that the faculty members serving as advisers or committee members be available to the student for the duration of graduate studies at USC.

Occasionally a student finds it impossible to comply with prescribed time limits for completion of a degree. If a significant delay is likely to occur, the student must make arrangements in advance by petitioning for an extension of time. Such petitions will be considered when there is clear justification based on sound academic or critical personal reasons. An academic department may grant an extension of up to one year at a time for a maximum of two years.

Doctoral Degrees

The USC Rossier School of Education offers the Doctor of Philosophy in Urban Education Policy (PhD) and the Doctor of Education (EdD). Both doctoral degrees place strong emphasis on the acquisition of inquiry skills and on the collaborative and interdisciplinary study of issues mutually engaging to both students and the USC Rossier School of Education faculty members. Both degrees emphasize the acquisition of appropriate research and inquiry skills, but the application of these skills is expected to differ. The EdD student is trained to use inquiry skills to solve contemporary problems, while the PhD student is trained to contribute to the general and theoretical knowledge about educational issues. The EdD is administered by the USC Rossier School of Education; the PhD is administered by the Graduate School.

PhD students must *also* consult The Graduate School section of this catalogue for regulations and requirements pertaining to the degree.

Credential Programs

A credential is a license issued by the California Commission on Teacher Credentialing (CCTC) to persons wishing to legally teach or perform certain other professional services in California's public schools. USC is one of several institutions authorized to recommend qualified persons to the CCTC for receipt of credentials.

There are two categories of credentials offered in the USC Rossier School of Education: teaching and service. Requirements for these credentials may be obtained by calling the appropriate phone number listed below. *Credential requirements may change due to state law*. Students are advised to consult periodically with the USC Rossier School of Education Credential office or the California Commission on Teacher Credentialing (CCTC) ctc.ca.gov/ for current credential requirements.

Teaching Credentials

California has a two-tier credential structure. A five-year Preliminary Credential is the first credential issued after an individual meets basic credential requirements. Upon successful completion of the MAT program candidates are recommended for a Preliminary Credential. Internships and Induction programs that lead to Clear Credentials can be satisfied under the purview of your district of employment. All Preliminary Credentials from the MAT include the English Language Learner Authorization (previously known as a CLAD certificate) and authorization of specialized use of technology in educational settings as mandated by the State of California.

Multiple Subject Teaching (MS) authorizes the holder to teach in a self-contained classroom such as the classrooms in most elementary schools. A teacher authorized for multiple subject instruction may be assigned to teach in any self-contained

classroom (preschool, grades K–12 or many subjects within a self-contained classroom). This classroom situation is generally found in preschool and elementary grades or in classes organized primarily for adults. In addition, the holder of a Multiple Subject Teaching Credential may serve in a core or team teaching setting.

Single Subject Teaching (SS) authorizes the holder to teach a specific subject(s) named on the credential in departmentalized classes such as those in most middle schools and high schools, in grades preschool, K-12, or in classes organized primarily for adults.

Education Specialist Credential (ES) authorizes the holder to conduct Educational Assessments related to student's access to the academic core curriculum and progress toward meeting instructional academic goals, provide instruction and Special Education Support to individuals in the area of specialization listed on the credential. Currently the ES curriculum in the MAT program prepares candidates to work with students who have Mild/Moderate Disabilities (M/M). This preliminary ES credential will also include the state mandated additional autism authorization, which authorizes candidates to provide instructional services to students with autism within the M/M specialty area setting.

All Preliminary Credential teacher candidates must meet the following requirements in order to be recommended/endorsed for a teaching credential: Basic Skills Competency, Content Subject Matter Competency, successful completion of all MAT course work, evidence of successful completion and passing of a TPA (Teaching Performance Assessment)--USC MAT program uses the EdTPA, U.S. Constitution requirement, and verification of training in cardiopulmonary resuscitation (CPR) that covers infant, child and adult CPR skills according to the American Heart Association (AHA) and/or the American Red Cross (ARC).

Teacher certification rules and requirements vary greatly by state. Completion of a CCTC-approved program does not guarantee certification or licensure in another state. Prospective teacher candidates are strongly advised to learn about their state's requirements. The USC Credential Office will provide support and program verification information as appropriate and necessary during the direct licensure application process to states outside of California. See online.usc.edu/state-disclosures/.

For inquiries, contact the MAT@USC office at (213) 743-2127.

Services Credentials

The *Administrative Services Credential* authorizes the holder to provide a variety of services in grades 12 and below, including preschool, and in classes organized primarily for adults. USC recommends candidates for the Preliminary Administrative Services Credential. This credential is offered through the School Leadership Academy. For more information please contact professional.development@rossier.usc.edu.

The *Clear Pupil Personnel Services Credential:*

Candidates for both the Master of Education in Educational Counseling, Master of Science in Marriage and Family Therapy and Master of Education in School Counseling have the option to earn a Clear Pupil Personnel Services Credential, which authorizes the holder to provide the following services:

- School Counseling authorizes the holder to perform the following duties in a K-12 environment: develop, plan, implement, and evaluate a school counseling and guidance program that includes academic, career, personal and social development; advocate for the high academic achievement and social development of all students; provide schoolwide prevention and intervention strategies and counseling services; provide consultation, training, and staff development to teachers and parents regarding students' needs; and, supervise a district-approved advisory program as described in California Education Code, Section 49600.

Candidates in the Master of Social Work program have the option to earn a Clear Pupil Personnel Services Credential, which authorizes the holder to provide both of the following services:

- School Child Welfare and Attendance in grades 12 and below, including preschool, and in programs organized primarily for adults: access appropriate services from both public and private providers, including law enforcement and social services; provide staff development to school personnel regarding state and federal laws pertaining to due process and child welfare and attendance laws; address school policies and procedures that inhibit academic success; implement strategies to improve student attendance; participate in school-wide reform efforts; and promote understanding and appreciation of those factors that affect the attendance of culturally diverse student populations.
- School Social Work in grades 12 and below, including preschool, and in programs organized primarily for adults: assess home, school, personal and community factors that may affect a student's learning; identify and provide intervention strategies for children and their families, including counseling, case management, and crisis intervention; consult with teachers, administrators and other school staff regarding social and emotional needs of students; and coordinate family, school and community resources on behalf of students.

For inquiries, contact the USC Suzanne Dworak-Peck School of Social Work at 1.877.700.4MSW (1.877.700.4679).

Special Programs

Professional Development

The Office for Professional Development offers a variety of credential, non-degree and certificate programs for aspiring and current professional educators and administrators in both fully customized and open enrollment programs.

Areas of expertise include English Language Development; Literacy; Differentiated Curriculum; Gifted Education; School Site Leadership Development; School District Leadership and School Business Management.

Certificate programs are offered in online, face-to-face, and blended formats and include:

- Reading and Literacy Added Authorization Program
- Differentiated Curriculum for Gifted Students Certificate Program
- School Business Management Certificate Program
- AASA-USC Urban Superintendents Academy
- School Leadership Academy: Preliminary Administrative Services Credential

Professional Development also offers the annual in-person:

- Summer Gifted Institute and Teacher Demonstration School

The office also offers national programs customized specifically for districts, including personalized coaching, classroom demonstration lessons incorporating educational technology, curriculum instruction and consultation responding to standards (Common Core, NGSS, ELD, VAPA) and International Teacher Training Institutes customized for student teachers, faculty, administrators and scholars seeking immersion in an American education environment. Many of our professional development programs offer Continuing Education Units (CEUs) upon successful completion.

For further information, contact the Office for Professional Development at (213) 740-8536. You can also visit rossier.usc.edu/programs/pd/.

Minor

Education and Computing Minor

The Education and Computing minor aims to apply skills and knowledge of computer programing and STEM pedagogy to issues in education and society. The Education and Computing minor will support students who plan to enter research, policy and teaching in STEM education. The minor requires 18 units.

Core Courses

- EDUC 435 Education and Society Units: 4
- EDUC 436 Applications of Mathematics Curriculum and Pedagogy Units: 4

- ITP 115 Programming in Python Units: 2 *
- ITP 330 Computational Thinking Through Programming Units: 4
- ITP 430 Computational Education Capstone Units: 4

*Note: Students with prior programming experience may request to take a placement test. Students who pass this placement test will have their ITP 115 requirement waived. Students who have completed ITP 165 or CSCI 102L may have their ITP 115 requirement substituted in consulation with an adviser.

Education and Society Minor

The education and society minor seeks to examine education and its role in society. The minor is intended to help students develop broad perspectives on the purposes and forms of education and schooling, including the purpose and history of schooling; the provision of equitable opportunities for all; the factors impacting teaching, learning and achievement; and the development of engaged citizenship for more just societies through education. Students enrolled in this minor will gain multiple perspectives on education locally, nationally and internationally, including technology's role in educational outcomes. The minor provides resources for students who may want to pursue careers in education after graduation — teaching, educational advocacy through nonprofits or non-governmental organizations, university research, policymaking or educational entrepreneurship.

Upper-Division Requirements

- EDUC 421 Global Issues: Impact on Educational Outcomes Units: 4
- EDUC 422 Education for Social Change Units: 4
- EDUC 423 Unrealized Promise and Hope for Education in 21st Century Units: 4
- EDUC 426 Educational Inquiry Units: 4

Mathematics Education Minor

The minor in mathematics education is intended for all students interested in the nature of mathematical thought and argumentation, and in how people learn mathematics. It gives students the opportunity to deepen their knowledge of mathematics while simultaneously exploring a career in K-12 education. It is designed so any undergraduate student can complete it by taking 16 units in addition to his or her major.

Required Courses

- EDUC 433 Elementary Mathematics for Teaching Units: 4 or
- EDUC 434 Secondary Mathematics for Teaching Units: 4
- EDUC 436 Applications of Mathematics Curriculum and Pedagogy Units: 4
- EDUC 437 Research in Teaching and Learning Mathematics Units: 4
- EDUC 438 Truth in Mathematics Units: 4

Multilingualism and Multiculturalism Minor

The multilingualism and multiculturalism minor seeks to examine the role of language and culture in education and society. The minor is intended to help students develop broad perspectives on the considerable personal, sociocultural, economic and political significance of developing and sustaining competence in two or more languages and cultures. Multilingualism and multiculturalism is key for children to thrive socially, cognitively academically, and professionally in the 21st century. In this minor, we will interrogate current linguistic inequities that are rooted in a legacy of cultural, racial and linguistic domination, which have resulted in the long-lasting negative impact on linguistically minoritized students and communities. Students enrolled in this minor will learn how language is intimately bound to identity, culture, and power and gain multiple perspectives on multilingual and multicultural education locally, nationally and internationally. With this minor, students will be prepared for further study toward a career as a teacher, project director, community organizer in non-profits, case manager, community liaison, educational entrepreneur, policy maker or researcher in multilingual and multicultural community and state contexts.

Required Courses

- EDUC 411 Sociopolitical and Raciolinguistic Contexts of Language Units: 4
- EDUC 412 Linguistically and Culturally Sustaining Teaching Units: 4
- EDUC 420 Technology, Media and Culturally Sustaining Education Units: 4
- EDUC 426 Educational Inquiry Units: 4

Teaching English to Speakers of Other Languages (TESOL) Minor

The Rossier School of Education offers an interdisciplinary minor in Teaching English to Speakers of Other Languages (TESOL). This minor is targeted to those undergraduates who wish to gain expertise in the field of English as a Second Language (ESL) or English as a Foreign Language (EFL) teaching. The minor in TESOL also prepares students for short- and long-term careers in ESL and EFL teaching in both U.S. and international contexts.

While students can combine the TESOL courses with any major, the curriculum will particularly benefit students in linguistics, English, foreign languages, communication, international studies and other related fields. However, with its emphasis on language and culture, as well as its focus on effective teaching and inquiry, the minor in TESOL will complement almost any field of study.

Units required to complete minor: 16

Upper-Division Requirements (12 Units)

- EDUC 411 Sociopolitical and Raciolinguistic Contexts of Language Units: 4
- EDUC 412 Linguistically and Culturally Sustaining Teaching Units: 4
- EDUC 426 Educational Inquiry Units: 4

Required Elective Course (4 Units)

At least one of the following upper-division courses needs to be completed:

- LING 375 Sociolinguistics Units: 4 *
- LING 405 Child Language Acquisition Units: 4
- LING 410 Second Language Acquisition Units: 4 *
- EDUC 421 Global Issues: Impact on Educational Outcomes Units: 4
- EDUC 422 Education for Social Change Units: 4
- EDUC 423 Unrealized Promise and Hope for Education in 21st Century Units: 4

Note:

*LING 210 is a prerequisite for LING 375 and LING 410. Please contact the program office with any questions at nelsonmm@rossier.usc.edu.

The Dynamics of Early Childhood Minor

The Dynamics of Early Childhood minor is intended to facilitate students' understanding of the historical implications that guide what we know and how we use the information we know related to the development of young children. The noted ideologies of theorists such as Dewey, Froebel, Pestalozzi and others will be examined from the perspectives of professions such as journalist, cinematographer, sociologist and psychologist. The effects of sources of entertainment such as children's books, films and television programs as well as consumer products such as toys will be studied in order to determine the "power" and effects they have on our developmental understandings and designs of educational needs for young children. Students will be encouraged to pursue a self-selected investigation of early childhood in order to be able to contribute as a professional, a family member, and an educator to address the roles and importance of young children in our society.

Four-Course Program:

- EDUC 427 Vectors that Influence Early Childhood Development Units: 4
- EDUC 428 The Effects of Curriculum and Institution on Early Childhood Units: 4
- EDUC 429 Early Childhood and Contemporary Society Units: 4
- EDUC 430 Early Childhood: Action Research Focus Units: 4

Master's Degree

Alternative Certification Master of Arts in Teaching, Multiple Subject

The Alternative Certification Master of Arts in Teaching is designed for individuals who wish to complete requirements for a California preliminary teaching credential while teaching full-time in an approved K-12 school district. Two programs are available: Multiple Subject and Single Subject. The Multiple Subject and Single Subject emphases are available online.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 675 Literacy Development and Instruction in Elementary Education Units: 3
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Alternative Certification Master of Arts in Teaching, Single Subject

The Alternative Certification Master of Arts in Teaching is designed for individuals who wish to complete requirements for a California preliminary teaching credential while teaching full-time in an approved K-12 school district. Two programs are available: Multiple Subject and Single Subject. The Multiple Subject and Single Subject emphases are available online.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 676 Literacy Development and Instruction in Secondary Education Units: 3
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Educational Counseling (MEd)

The Master of Education degree in Educational Counseling is designed for individuals seeking a career or advancement opportunities in postsecondary education as an academic or outreach counselor. The degree includes a theoretical and practical background in student affairs and counseling.

The program meets current requirements for postsecondary counseling positions in the California state system, particularly for those who wish to work in the public community college system. A minimum of 48 units is required.

For Admission Requirements, refer to USC Rossier Graduate Degree Requirements.

Required Courses

- EDCO 503 Ethical and Legal Issues in Counseling Units: 3
- EDCO 541 Theories in Counseling Units: 3
- EDHP 500 Foundations of Higher, Adult, and Professional Education Units: 3
- EDHP 552 The Politics of Difference Units: 3
- EDHP 580 The Community College Units: 3
- EDHP 587 Fieldwork in Higher, Adult, and Professional Education Units: 1, 2, 3, 4, 5, 6, 7, 8 (3 Units Required)

- EDHP 593a Master's Seminar Units: 2 and
- EDHP 593b Master's Seminar Units: 2

or

- EDHP 594a Master's Thesis Units: 2 and
- EDHP 594b Master's Thesis Units: 2

- EDHP 687 Student Development in Higher Education Units: 3
- EDPT 502 Learning and Individual Differences Units: 3
- EDUC 500 The Counseling Process Units: 3
- EDUC 508 Interrogating Systems of Inequity in Professional Practice Units: 2
- EDUC 547 Career Development: Theory and Process Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 609 Academic Advising in Postsecondary Education Units: 3
- EDUC 637 Group Counseling: Theory and Process Units: 3
- EDUC 661 Equity in College and Career Access Units: 3

Enrollment Management and Policy (MEd)

The Master of Education in Enrollment Management and Policy will focus on the preparation of graduates to assume positions within the field of enrollment management at two- and four-year postsecondary educational institutions, at professional graduate school programs, and at private preparatory schools. Our focus is on preparing candidates for both early to mid-career positions as well as for leadership positions within enrollment management organizations. The program consists of 30 units taught over 23 months and is delivered primarily on-line but with convergence seminars, thus this will be a hybrid program. The curriculum will cover a range of subjects including exploration of admissions models, legal issues in admissions and financial aid, institutional and public policy issues in student financial aid, theories and models of student retention, marketing, and enrollment management research. The final capstone experience will ask students to prepare a five-year strategic enrollment management plan. Students will develop a plan for the institution at which they are currently employed or a university or school selected with the assistance from faculty in the program.

Required Courses

- EDUC 687 Capstone Seminar Units: 3
- EDUC 690 Framing and Enrollment Management Units: 3
- EDUC 691 Admission Policy and Practice Units: 3
- EDUC 692 Role of Diversity in Admissions Units: 3
- EDUC 693 Institutional Positioning in Student Recruitment Units: 3
- EDUC 694 Legal Issues in Enrollment Management Units: 3
- EDUC 695 Organizations and Leadership in Education Units: 3
- EDUC 696 Financial Aid in Enrollment Management Units: 3

- EDUC 697 Research, Planning, and Accountability Units: 3
- EDUC 698 Enhancing Student Retention Units: 3

Learning Design and Technology (MEd)

The Master's in Learning Design and Technology program is designed for people who want to significantly improve learning and performance outcomes within their organization. Graduates will be prepared to design, implement, and evaluate learning environments and outcomes for various formal (e.g., K-12 and higher education), non-formal (e.g., corporate, military and government organizations) and informal settings (e.g., museums, science centers and public spaces). The program draws from learning and motivation research, as well as knowledge of how to leverage technology, to design face-to-face, technology-enabled, and blended learning experiences. Through the project-based capstone, students will gain practical experience by designing a learning experience or evaluating an existing learning design. The program consists of 30 units and is delivered online only.

Required Courses

- EDUC 508 Interrogating Systems of Inequity in Professional Practice Units: 2
- EDUC 503 Learning and Motivation Units: 3
- EDUC 589 Human Lifespan Development Units: 3
- EDUC 591 Diversity: Power, Equity and Inclusion Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 582 Assessment and Evaluation Units: 2
- EDUC 595 Instructional Design Units: 3
- EDUC 579 Media Selection and Evaluation Units: 2
- EDUC 586 Design of Learning Environments Units: 3
- EDUC 587 Master's Studio A Units: 2
- EDUC 588 Master's Studio B Units: 4

Marriage and Family Therapy (MS)

The Master of Science in Marriage and Family Therapy is offered for those students seeking to prepare for the practice of marriage and family therapy. Students who complete this specialized professional degree program and who fulfill the additional state-mandated requirements are eligible for the State of California's Marriage and Family Therapy license. A minimum of 60 units is required.

Required Courses

- EDCO 541 Theories in Counseling Units: 3
- EDUC 500 The Counseling Process Units: 3
- EDUC 507 Professional Identity, Law and Ethics for Counselors Units: 3
- EDUC 508 Interrogating Systems of Inequity in Professional Practice Units: 2
- EDUC 515 Theories of Marriage and Family Therapy Units: 3
- EDUC 544 Psychological Assessment Units: 3
- EDUC 546 Psychopathology for Marriage and Family Therapy Units: 3
- EDUC 547 Career Development: Theory and Process Units: 3
- EDUC 553 Psychopharmacology and the Effects of Substance Abuse Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 583 Counseling through the Lifespan Units: 3
- EDUC 633 Child and Elder Abuse and Domestic Violence Units: 2
- EDUC 634 Couples Counseling Units: 3
- EDUC 635 Psychotherapy with Children and Adolescents Units: 3
- EDUC 636 Perspectives on Human Sexuality Units: 3
- EDUC 637 Group Counseling: Theory and Process Units: 3
- EDUC 638 Multicultural Counseling: Research and Practice Units: 3
- EDUC 644 Practicum in Counseling Units: 3
- EDUC 645a Fieldwork in Counseling Units: 3
- EDUC 645b Fieldwork in Counseling Units: 3
- EDUC 646 Marriage and Family Therapy Capstone: Leadership Project Units: 2

Multiple Subject (MAT)

The Master of Arts in Teaching degree prepares Teacher Candidates to pursue careers as teachers. Subject Matter Concentrations of the program are offered at the Elementary (Multiple Subjects) and Secondary (English, Mathematics, Science, and Social Science) levels. The curriculum focuses on preparing teachers to work with diverse K-12 populations. Teacher Candidates enrolled in the MAT Program will engage in supervised field experiences throughout the curriculum. MAT course work provides Teacher Candidates with theoretical foundations, teaching strategies and practical field-based experiences necessary to make a difference in schools across the State of California, the United States and the world. The Gifted Education Certificate may be obtained for additional course work.

The Education Specialist Mild/Moderate credential recommendation may also be earned by completing the Special Education pathway in EDUC 677. Bilingual authorization in Spanish is available through the completion of the MAT program and passage of additional exams and fieldwork requirements.

Multiple Subject

The MAT Multiple Subject is designed for those interested in teaching at the elementary level. The MAT Multiple Subject program requires a minimum of 28 units.

The Multiple Subject emphasis is available online.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Multiple Subject Concentration

- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 675 Literacy Development and Instruction in Elementary Education Units: 3
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4

Note:

Completion of the MAT program will prepare all candidates for the Education Specialist credential. All standards have been integrated into the MAT program of study. Students who are interested in being recommended for the Education Specialist Mild/Moderate credential will be placed in EDUC 677 with placement in an approved Education Specialist supported classroom for half of their guided practice requirements.

The Education Specialist Mild/Moderate credential provides current MAT credential candidates with the competencies to respond to the needs, interests and abilities of special needs students in either regular classrooms or specific school classrooms defined for students who need Mild/Moderate support with documented learning differences. It widens the range of the students' knowledge about teaching and learning allowing them to compete in the contemporary professional marketplace. A credential in special education may be mandatory in some states for consideration to teach special needs students in any type of learning environment.

In addition to the master's degree, a recommendation for a California Bilingual Authorization in Spanish, may be earned. Candidates must: 1) Complete all requirements for the Single Subject (MAT) degree and Preliminary Single Subject Teaching Credential; 2) Pass CSET: Spanish Subtest III (test code 147) and

Spanish Subtest V (test code 258); and 3) Successfully conduct Spanish lessons as part of EDUC 677: Applications of Curriculum and Pedagogy, Part B, that meet the BILA fieldwork competencies.

California Bilingual Authorization in Spanish will allow graduates to work with Spanish-speaking students and their families to support their primary language and develop academic English in a range of bilingual settings.

Postsecondary Administration and Student Affairs (MEd)

The Master of Education, Postsecondary Administration and Student Affairs provides current and prospective professionals working in various capacities within two-year, four-year and professional postsecondary institutions with the theoretical foundation and practical applications to excel in a variety of higher education administrative and students services positions (academic advising and support services). Students will have an opportunity to develop an area of proficiency such as student affairs or athletic administration. A minimum of 30 units of graduate-level course work is required.

Required Courses

- EDUE 560 Identity and Diversity Units: 3
- EDUE 563 History of Higher Education Units: 3
- EDUE 571 Research Methods and Applied Educational Ethnography Units: 3
- EDHP 657 Leadership and Management in Student Affairs Units: 3
- EDHP 679 Legal Issues in the Administration of Higher Education Units: 3
- EDHP 687 Student Development in Higher Education Units: 3
- EDUC 616 Higher Education Capstone Units: 3

Approved electives

- Units: 9

School Counseling (MEd)

The Master of Education, School Counseling is geared toward socially responsible individuals who are aware that many of the issues pupils confront have societal origins. Designed to prepare educators interested in becoming school counselors in grades pre-K through grade 12, successful candidates will obtain the Master of Education, School Counseling degree along with USC recommendation for the Pupil Personnel Services School Counseling Credential. Forty-nine units of course work, 100 clock hours in a practicum experience and 700 clock hours of supervised field experience are required.

Required Courses

- EDCO 503 Ethical and Legal Issues in Counseling Units: 3
- EDCO 541 Theories in Counseling Units: 3
- EDCO 574 School Counseling Practicum Units: 1, 2 (2 Units Required)
- EDCO 575 School Counseling Field Experience Units: 1, 2, 3, 4 (4 Units Required)
- EDPT 502 Learning and Individual Differences Units: 3
- EDUC 500 The Counseling Process Units: 3
- EDUC 508 Interrogating Systems of Inequity in Professional Practice Units: 2
- EDUC 511 Introduction to Counseling Units: 3
- EDUC 520 Career and College Readiness Counseling Units: 3
- EDUC 540 Assessment in Counseling Units: 3
- EDUC 542 Substance Abuse Counseling Units: 3
- EDUC 543 Family Counseling Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 608 School Connectedness, Climate, and Classroom Management Units: 2
- EDUC 612 Application of Human Development Theory in School Counseling Units: 3
- EDUC 637 Group Counseling: Theory and Process Units: 3
- EDUC 638 Multicultural Counseling: Research and Practice Units: 3

School Leadership (MEd)

School leadership matters. The Master of Education in School Leadership will prepare educational leaders with the knowledge and skills to lead effectively in urban school settings and to accelerate student achievement. Graduates will demonstrate that they can create a high achievement school culture and solve complex performance problems in K–12 schools by being able to advocate for a shared community-driven vision; create a high performance school culture and educational goals; collect data to diagnose causes of achievement gaps; plan appropriate research-based solutions; gather and manage resources; effectively communicate the plan to school administration, faculty, staff and community; and provide support for implementing, monitoring and evaluating progress toward achieving school improvement. All courses are taught through field-based experiences where problems are solved in real work settings, applying research to practice. Students who graduate from the program will be ready to work within the constantly evolving educational landscape of California and other states. A national trip is integrated into the program's curriculum.

The program is open to teachers, counselors, psychologists and other school-based personnel who have worked for a minimum of two years in such positions. Two letters of recommendation are required.

The program is only available online.

Required Courses

- EDUC 508 Interrogating Systems of Inequity in Professional Practice Units: 2
- EDUC 533 School Leadership: Theory and Practice Units: 3
- EDUC 537 Leading with the Community and Culture in Context Units: 3
- EDUC 538 Entrepreneurial School Leadership Units: 2
- EDUC 548 Data-Driven Leadership for Schools Units: 3
- EDUC 549 Supervising Instruction for Optimal Learning Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 604 National Perspective on School Leadership Units: 1
- EDUC 641 Human Capital and School Organization Units: 3
- EDUC 643 Advancing Community Support through Social Media Units: 2
- EDUC 647 School Leadership Seminar Units: 2
- EDUC 648a Apprenticeship in School Administration and Leadership Units: 2
- EDUC 648b Apprenticeship in School Administration and Leadership Units: 2

Single Subject (MAT)

The Master of Arts in Teaching degree prepares teacher candidates to pursue careers as teachers. Subject Matter Concentrations of the program are offered at the Elementary (Multiple Subjects) and Secondary (English, Mathematics, Science and Social Science) levels. The curriculum focuses on preparing teachers to work with diverse K-12 populations. Teacher candidates enrolled in the MAT program will engage in supervised field experiences throughout the curriculum. MAT course work provides teacher candidates with theoretical foundations, teaching strategies and practical field-based experiences necessary to make a difference in schools across the State of California, the United States and the world. The Gifted Education Certificate may be obtained for additional course work.

The Education Specialist Mild/Moderate credential recommendation may also be earned by completing the Special Education pathway in EDUC 677. Bilingual authorization in Spanish is available through the completion of the MAT program and passage of additional exams and fieldwork requirements.

Single Subject

The MAT Single Subject is designed for those interested in teaching at the secondary level. The emphasis offers specializations in English, Science (Biological Sciences, Chemistry, Geoscience or Physics), Mathematics and Social Science. The MAT Single Subject program requires a minimum of 28 units.

The Single Subject emphasis is available online.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Single Subject Concentration

- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 676 Literacy Development and Instruction in Secondary Education Units: 3
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4

Note:

Completion of the MAT program will prepare all candidates for the Education Specialist credential. All standards have been integrated into the MAT program of study. Students who are interested in being recommended for the Education Specialist Mild/Moderate credential will be placed in EDUC 677 with placement in an approved Education Specialist supported classroom for half of their guided practice requirements.

The Education Specialist Mild/Moderate credential provides current MAT credential candidates with the competencies to respond to the needs, interests and abilities of special needs students in either regular classrooms or specific school classrooms defined for students who need Mild/Moderate support with documented learning differences. It widens the range of the students' knowledge about teaching and learning allowing them to compete in the contemporary professional marketplace. A credential in special education may be mandatory in some states for consideration to teach special needs students in any type of learning environment.

In addition to the master's degree, a recommendation for a California Bilingual Authorization in Spanish, may be earned. Candidates must: 1) Complete all requirements for the Single Subject (MAT) degree and Preliminary Single Subject Teaching Credential, 2) Pass CSET: Spanish Subtest III (test code 147) and Spanish Subtest V (test code 258), and 3) Successfully conduct Spanish lessons as part of EDUC 677: Applications of Curriculum and Pedagogy, Part B, that meet the BILA fieldwork competencies.

California Bilingual Authorization in Spanish will allow graduates to work with Spanish-speaking students and their families to support their primary language and develop academic English in a range of bilingual settings.

Teaching English to Speakers of Other Languages (World Masters in Language Teaching) (MAT)

The USC Rossier School of Education partners with three premier international universities to offer an innovative dual master's degree program in teaching English and another language (Chinese, Korean or Spanish) as part of its World Master in Language Teaching Program.

Chinese and English track: School of Humanities and Social Sciences at the Hong Kong University of Science and Technology (UST)

Korean and English track: Yonsei University's Department of Korean Language and Literature

Spanish and English track: Universidad Iberoamericana, Ciudad de Mexico-Tijuana in Tijuana, Mexico (IBERO)

Qualified students will complete course work both at USC and at one of the partner universities, spending part of their time at UST, Yonsei University or IBERO and part of their time at USC. Upon satisfying all program requirements at the two institutions, two master's degrees will be awarded, one degree conferred by USC in the areas of English teaching and one conferred by UST in teaching Chinese by Yonsei University in Korean language and literature or by IBERO in education and teaching in Spanish.

Admissions

Students wishing to pursue this dual master's program must satisfy all application requirements for both the USC Rossier School of Education and the selected partner university.

Program Completion

Once candidates apply and are accepted to the program, they must complete all requirements for both degrees. Upon completion of both degree requirements, the two degrees will be conferred. For this dual degree, the equivalent of 6 units of pre-approved course work taken at UST, Yonsei University or IBERO may be transferred and applied to the degree requirements at USC. Students who elect to receive only the USC degree must change their degree objective from this dual degree program to a different degree objective in the Rossier School of Education.

Residence

This is a two-year campus based program during which students spend part of their time at UST, Yonsei University or IBERO and part of their time at USC.

Language Requirements

USC: All courses at USC will be taught in English. Minimum TOEFL/ELTS scores are required for admission.

UST: All courses at UST will be taught in English, Minimum TOEFL/ELTS scores are required for admission. For the Teaching Chinese as a Second Language concentration at UST, minimum proficiency in Chinese must be demonstrated.

Yonsei University: While some courses will be taught in Korean, accommodations will be provided for non-Korean speakers who wish to complete the degree. Minimum TOEFL/ELTS scores are required for admission. Those students pursuing the additional option to obtain a Korean Language Teaching license at Yonsei must demonstrate academic proficiency in Korean.

IBERO: All courses at IBERO will be taught in Spanish. To be admitted, applicants must demonstrate academic proficiency in the Spanish language by passing CSET Spanish Subtest III.

Program of Study

The USC Master of Arts in Teaching English to Speakers of Other Languages is a 24-unit degree (28 units for the credential track). Students in the World Masters in Language Teaching program may transfer in the equivalent of 6 units of pre-approved course work from UST, Yonsei University or IBERO and therefore reduce the requirement at USC to 18 units (22 units for credential track).

Students must also complete the required number of units at the selected partner university: 18 units at UST, 15 units at Yonsei University (18 units for those pursuing the Korean language teaching license) or 58 units at IBERO. In the UST and Yonsei University tracks, students begin with a semester at UST or Yonsei University, then complete two semesters at USC (spring and fall), before returning to UST or Yonsei University for their final Spring semester. In the IBERO track, students will spend the first two semesters at the USC. During this time they will take one online course at IBERO. They will then complete two terms at the

Universidad Iberoamericana, Ciudad de Mexico-Tijuana in Tijuana, Mexico. Finally, they will end the program with a final semester at USC Rossier.

USC Required Courses

- EDUC 510 Theories of Language Learning and Teaching Units: 3
- EDUC 521 Assessment and Instruction for Diverse Language Learners Units: 3
- EDUC 596 English Language Learning Design, Teaching and Technology Units: 3
- EDUC 639 Approaches and Strategies for Language Teaching Units: 4
- EDUC 649 Teaching Practice to Support Language Learners Units: 4
- EDUC 655 Social Foundations of Language Education Units: 4
- EDUC 656 Applied Linguistics for English Language Educators Units: 3

USC Required Courses for Credential Track Only

- EDUC 660a Clinical Practice Seminar in Language Teaching Units: 2
- EDUC 660b Clinical Practice Seminar in Language Teaching Units: 2

Note:

Students in the World Masters in Language Teaching program may transfer in the equivalent of 6 units of pre-approved coursework from UST, Yonsei University or IBERO.

Teaching, Teaching English to Speakers of Other Languages (MAT)

The Master of Arts in Teaching English to Speakers of Other Languages (MA TESOL) is designed to equip aspiring and practicing English language teachers, domestic and international, to successfully provide English language instruction for children, youth or adults in the United States or abroad. The degree has a non-credential track (minimum of 24 units) and a credential option (minimum of 28 units). The program may be completed on campus or online.

Required Courses

- EDUC 510 Theories of Language Learning and Teaching Units: 3
- EDUC 521 Assessment and Instruction for Diverse Language Learners Units: 3
- EDUC 596 English Language Learning Design, Teaching and Technology Units: 3
- EDUC 639 Approaches and Strategies for Language Teaching Units: 4
- EDUC 649 Teaching Practice to Support Language Learners Units: 4
- EDUC 655 Social Foundations of Language Education Units: 4
- EDUC 656 Applied Linguistics for English Language Educators Units: 3

Credential Option

- EDUC 660a Clinical Practice Seminar in Language Teaching Units: 2
- EDUC 660b Clinical Practice Seminar in Language Teaching Units: 2

Graduate Certificate

Gifted Education Certificate

Aligned with USC Rossier's mission to serve high-need students in urban centers, the certificate in Gifted Education was designed to provide candidates concurrently enrolled in MAT programs with the competencies to respond to the needs, interests and abilities of gifted students in either homogeneous or heterogeneous regular classrooms or specific school environments defined for gifted and high-ability students.

The certificate in Gifted Education enables MAT candidates to recognize the manifestations of giftedness among cultural, linguistic and economically diverse students in urban schools, to facilitate the identification of underrepresented students as gifted and to provide differentially appropriate curriculum for them.

Required Courses

- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4
- EDUC 686 Responding to Gifted Students Units: 4

Learning Design and Technology Graduate Certificate

The Certificate in Learning Design and Technology equips individuals with skills to significantly improve learning and performance outcomes within their professional setting. The courses focus on building skills related to the design, development, implementation and evaluation of learning experiences in a diverse range of learning contexts. Individuals learn to align media and technologies to support learning and motivation, and design and develop assessment and evaluation practices.

Required Courses

- EDUC 503 Learning and Motivation Units: 3

Must take one of the following two courses:

- EDUC 579 Media Selection and Evaluation Units: 2
- EDUC 582 Assessment and Evaluation Units: 2

Must take two of the following three courses:

- EDUC 586 Design of Learning Environments Units: 3
- EDUC 589 Human Lifespan Development Units: 3
- EDUC 591 Diversity: Power, Equity and Inclusion Units: 3
- EDUC 595 Instructional Design Units: 3

Pupil Personnel Services Certificate

The Pupil Personnel Services Certificate program is designed for students enrolled in the Master of Science in Marriage and Family Therapy program or the Master of Education in Educational Counseling program who wish to complete additional requirements to earn USC recommendation for a Pupil Personnel Services: School Counseling Credential. Application information is available in the Master's program office.

The certificate requires a minimum of 20 units.

Required Courses

- EDCO 574 School Counseling Practicum Units: 1, 2
- EDCO 575 School Counseling Field Experience Units: 1, 2, 3, 4 (4 Units Required)
- EDUC 511 Introduction to Counseling Units: 3
- EDUC 520 Career and College Readiness Counseling Units: 3
- EDUC 542 Substance Abuse Counseling Units: 3
- EDUC 608 School Connectedness, Climate, and Classroom Management Units: 2

Marriage and Family Therapy Students

- EDPT 502 Learning and Individual Differences Units: 3

Educational Counseling Students

- EDUC 543 Family Counseling Units: 3

Doctoral Degree

Educational Leadership (EdD)

The purpose of the Doctorate of Education (EdD) in Educational Leadership program is to build critically conscious leaders who can take actions to eliminate inequities that affect educational and learning opportunities and outcomes for children and adults in urban contexts. This three-year degree program is geared toward

working professionals who aspire to be leaders in urban education. Admission requires an earned master's degree and a minimum of three years of work experience in a related field; other earned terminal degrees may be considered in lieu of a master's degree if they are eligible for advanced standing within the University.

Areas of Concentration

Students are admitted to the program under one of four areas of concentration: K-12 Leadership in Urban School Settings, Educational Psychology, Higher Education Administration, or Leading Instructional Change. Concentrations are not indicated on the diploma, which will read "Doctor of Education in Educational Leadership" for all concentrations.

Preliminary Review

The EdD in Educational Leadership preliminary review must be completed before the student has earned 21 units. Passing the preliminary review is a prerequisite to continuing in the program. The faculty governance committee will determine the preliminary review requirements and the process will be administered by the program office.

Dissertation in Practice Advisement Committee

Each student selects a three-member advisement committee in consultation with the adviser upon applying to take the qualifying examination.

The committee chair must have a full-time faculty appointment in the Rossier School of Education. A second member of the committee must also have a full-time faculty appointment in the Rossier School of Education. One member of the committee may be external to the Rossier School of Education, such as a faculty member elsewhere or a full-time professional educator who holds a doctorate and brings strength to the committee in the area of the dissertation topic or methodology. If an external member is to be on the committee, this person must be nominated by the committee chair and approved by the director of the EdD program.

Admission to Candidacy

Admission to candidacy is a formal action taken by the faculty of the Rossier School of Education. This action is based on passing the qualifying examination as part of the dissertation in practice.

Unit Requirement

The EdD requires completion of 60 units of course work. Students admitted with Advanced Standing complete a minimum of 43 units.

Core Program

EdD in Educational Leadership students are required to complete 18 units of core course work.

- EDUE 700 Foundations in Urban Education Units: 3
- EDUE 701 Foundations in Leadership in Education Units: 3
- EDUE 702 Foundations in Learning Units: 3
- EDUE 703 Power, Diversity and Equity Units: 3
- EDUE 704 Leadership Enactment Units: 3
- EDUE 705 Communicating as Leaders Units: 3

Research Methods

- EDUE 726 Research Methods 1 Units: 3
- EDUE 727 Research Methods 2 Units: 3

Electives

In consultation with advisers, students must complete 12 units of elective course work aligned with their areas of concentration.

Dissertation in Practice

The dissertation in practice is a doctoral capstone designed for practitioner-scholars to identify and address a problem of practice in the candidate's domain of focus. An acceptable dissertation in practice must show technical mastery of a special field and skills of a practitioner-scholar. The student must be enrolled in EDUE 784a (or EDUE 784b, EDUE 784c, EDUE 784d, EDUE 784z) each fall and spring semester after admission to candidacy until the dissertation in practice has been approved. **Seven units of dissertation in practice course work, including 2 units of EDUE 784a, is required.**

- EDUE 780a Dissertation in Practice Units: 3
- EDUE 780b Dissertation in Practice Units: 2
- EDUE 784a Dissertation in Practice, Data Analysis Units: 2
- EDUE 784b Dissertation in Practice, Data Analysis Units: 2
- EDUE 784c Dissertation in Practice, Data Analysis Units: 2
- EDUE 784d Dissertation in Practice, Data Analysis Units: 2
- EDUE 784z Dissertation in Practice, Data Analysis Units: 0

Global Executive (EdD)

The Global Executive EdD prepares tomorrow's transformational educational leaders, policy makers, administrators and change agents for their challenging task of improving individual and national educational outcomes. The curriculum is designed to enhance the professional experience of senior educational leaders and policy makers by:

- Increasing their understanding of global trends and the implications of those trends for their work;
- Challenging them to utilize evidence and theory-based approaches in problem solving;
- Developing their capacity to effectively use complex data in decision making; and
- Providing access to key leaders and leading education scholars.

The program will focus on achieving large-scale improvements across educational systems through strategic use of policy, innovative practice and assessment. The curriculum stresses the examination of educational solutions from around the world as participants work with their own, local challenges.

Classes are delivered in Los Angeles and international locations. The total units required for the degree is 60. A maximum of 4 project units (EDUC 764a, EDUC 764b, EDUC 764c, EDUC 764d) may be applied toward the degree. Students admitted with advanced standing complete a minimum of 50 units.

Preliminary Review:

The Global Executive EdD preliminary review must be passed before the student has completed more than 18 units. Passing the preliminary review is prerequisite to continuing in the program.

Required Courses

- EDUC 619 Framing Educational Leadership in a Global Context Units: 4
- EDUC 620 Fundamentals of Creativity, Innovation, and Entrepreneurship Units: 2
- EDUC 623 Understanding Research That Informs Leadership Units: 3
- EDUC 624 Educational Organizations: Governance and Finance I Units: 2
- EDUC 627 Education Performance Problems: Role of Learning Units: 3
- EDUC 628 Educational Organizations: Governance and Finance II Units: 2
- EDUC 629 Consulting Practicum Context Analysis Units: 3
- EDUC 631 Locating Educational Performance Problems Units: 3
- EDUC 723 Evaluating and Assessing Educational System Outcomes Units: 3
- EDUC 724 Creating Policy Alternatives for Educational Settings Units: 3
- EDUC 726 Making Choices: Deciding Among Policy Alternatives Units: 3
- EDUC 727 Implementing Policy in Educational Systems Units: 3
- EDUC 728 Global Trends: Emerging Ideas, Emerging Markets Units: 3
- EDUC 729 Assessing Policy Impact in Educational Settings Units: 3
- EDUC 733 Analyzing Data and Identifying Solutions Units: 3
- EDUC 764a Dissertation in Practice Units: 1
- EDUC 764b Dissertation in Practice Units: 1

- EDUC 764c Dissertation in Practice Units: 1
- EDUC 764d Dissertation in Practice Units: 1
- EDUC 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (3 Units Required)
- Additional course work to be approved by program faculty Units: 10

Organizational Change and Leadership (EdD)

The Education Doctorate in Organizational Change and Leadership is a three-year degree program that prepares current and future leaders to create conditions that foster continuous improvement in themselves and their organizations. It emphasizes how learning occurs informally and formally in workplaces and serves as a mechanism for change and innovation in organizations and systems. Arranged by four topical streams – problem solving, leadership, dispositions of leaders and reflection – the program seeks to attract a diverse student body of current and emerging leaders who are interested in fostering learning that leads to systemic improvement in their workplaces. The primary emphasis will be on those individuals who currently hold or are seeking leadership positions within colleges/universities, traditional and non-traditional K-12 environments, chief learning officers and their related human resources staff, non-profits and governmental organizations. The degree is not linked to the credentials typically needed to become an administrator in a K-12 environment, including becoming a principal or superintendent. The degree requires a minimum of 60 units. Students with a prior master's may enter with Advanced Standing, reducing their units to 43. It is delivered only online.

Required Courses

- EDUC 522 Challenges in Urban Education: Accountability Units: 3
- EDUC 523 Challenges in Urban Education: Diversity Units: 3
- EDUC 524 Challenges in Urban Education: Leadership Units: 3
- EDUC 532 Inquiry Methods I Units: 3
- EDUC 536 Inquiry Methods II Units: 3
- EDUC 603 Framing Organizational Change and Leadership Units: 4
- EDUC 620 Fundamentals of Creativity, Innovation, and Entrepreneurship Units: 2
- EDUC 627 Education Performance Problems: Role of Learning Units: 3
- EDUC 652 Inquiry Methods III Units: 3
- EDUC 725 Analyzing Organizational Change and Its Effectiveness Units: 3
- EDUC 730 Using Communication to Facilitate Organizational Change Units: 2, 3 (2 units)
- EDUC 731 Economics of Organizational Change and Learning Environments Units: 3
- EDUC 732 Building Capacity for Organizational Change Units: 3
- EDUC 764a Dissertation in Practice Units: 1
- EDUC 764b Dissertation in Practice Units: 1
- EDUC 764c Dissertation in Practice Units: 1
- EDUC 764d Dissertation in Practice Units: 1
- EDUC 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (1 unit)

Urban Education Policy (PhD)

Program Requirements

The PhD program requires a minimum of 63 units of course work, comprising the following elements: Core Block (16 units), Concentration Block (15 units), Research Block (15 units), Cognate Block (12 units) and Dissertation Proposal and Dissertation Block (5 units).

Core Block

The core represents the essential knowledge that serves as the groundwork for later course work and for other research and scholarly activities within the program and beyond with a particular focus on urban education. This work is completed in the first year.

Required Courses

- EDUC 630 Organizations and Policy: Current Issues Units: 4
- EDUC 642 Controversies in Learning and Instruction Units: 4
- EDUC 681 Research, Policy and Practice in Urban Education Units: 4
- EDUC 665 Foundations and Design of Educational Research Units: 4

Additional Requirements

Concentration Block

Courses in this block are linked to the concentrations available in the Rossier School of Education PhD program. Courses in this block permit students to consider applied problems in collaboration with students in other programs.

Research Block

Courses in this block provide the basic tools to pursue systematic, programmatic, empirical investigation. It includes qualitative and quantitative elements with the understanding that complex educational problems require a variety of investigative approaches. Areas include research design, analysis of variance/multiple regression, qualitative methods, measurement, advanced qualitative or quantitative analysis, or other related areas. Courses may be taken inside or outside the Rossier School of Education.

Cognate Block

This block is designed for students to pursue interdisciplinary approaches to educational issues, and may consist of courses inside or outside the Rossier School of Education. The specific courses are determined in conjunction with the adviser.

Dissertation Block

This block includes preparation for the qualifying examination and initial dissertation proposal. It is taken during the semester of the qualifying examination and EDUC 794a Doctoral Dissertation, EDUC 794b Doctoral Dissertation (minimum of 4 units taken after a student passes the qualifying examination and has advanced to candidacy). The dissertation block is designed to prepare students for their dissertation research and continues through the writing and defense of the dissertation. The process involves intensive collaboration with the adviser and the qualifying exam committee.

Transfer of Course Work

The maximum number of transfer credits that can be applied toward the degree is 20 units. The faculty of the student's degree program determines whether transfer credit is applicable toward a specific graduate degree.

Faculty Adviser

A designated faculty member provides the academic advisement for entering graduate students at the point of admission. A faculty member is appointed to serve as the adviser until an approved qualifying exam committee is established.

Screening Process

When students have completed the core course work, the doctoral screening committee assesses their performance and makes a decision about their readiness to continue in the program. Students are notified of the results by the PhD program chair and director.

Additionally, students will be assessed each year based on adviser input, coursework and research progress. If student progress is not satisfactory as determined by the student's faculty adviser, warnings will be issued in accordance with USC Graduate School policies.

Qualifying Exam Committee

The qualifying exam committee is composed of five members. The committee chair and at least two additional members must have an appointment in the student's program. One member

must be from outside of Rossier, whether internal to USC (outside member) or external to USC (external member). The fifth member can be from Rossier, USC or outside of USC.

Qualifying Examinations

As a prerequisite to candidacy for the PhD, students must pass written and oral qualifying examinations. The written qualifying examination is designed to assess a student's readiness to undertake dissertation research and to assess the student's ability to critically analyze and synthesize theoretical and methodological knowledge. The oral portion consists, in part, of a teaching and research portfolio. The teaching portfolio documents and reflects the student's development and productivity in thinking about course content and instructional delivery. The research portfolio documents and reflects the student's development and productivity in research and writing from the point of entry into the program. Please see the The Graduate School page for policies regarding committees and pass/fail results.

Admission to Candidacy

Admission to candidacy is a formal action taken by the faculty that is based upon passing the qualifying examination and completing all PhD course requirements (with the exception of EDUC 794a, EDUC 794b, EDUC 794d, EDUC 794z Doctoral Dissertation). Notification of admission or denial of admission to candidacy is by letter from the associate vice provost for graduate programs.

Dissertation Committee

The dissertaton committee is composed of at least three and no more than five members. The committee chair must have an appointment in the student's program. All committees must have a majority of members from the student's home program. One member must be from outside of Rossier, whether internal to USC (outside member) or external to USC (external member).

Doctoral Dissertation

After the qualifying examination is passed, students must enroll in EDUC 794a, EDUC 794b, EDUC 794d, EDUC 794z Doctoral Dissertation each semester, except summer session, after admission to candidacy until all degree requirements have been completed. A minimum of two semesters (4 units) is required. A maximum of 4 dissertation units may be applied to satisfy the degree requirement. While enrolled in EDUC 794a, students will develop a dissertation proposal in collaboration with the adviser. The dissertation committee grants final approval for the proposal. Credit for EDUC 794a and permission to enroll in EDUC 794b will only be given after the dissertation proposal is approved. IRB (Human Subjects Institutional Review Board) approval is required for all dissertation studies.

Teaching Skills Development

All doctoral students must teach for at least one semester before they graduate. This program requirement may be fulfilled by co-teaching, serving as a teaching assistant, or solo teaching. International students must meet the English proficiency standards set forth by the American Language Institute and participate, if necessary, in specialized training offered through the Center for Excellence in Teaching. Proposals for meeting this requirement must be reviewed and approved by the PhD Governance Committee.

Graduate School Policies and Requirements

The PhD is administered by the Graduate School so PhD students must also consult with The Graduate School sections of the catalogue for regulations and requirements pertaining to the PhD degree. Students should also refer to Graduate and Professional Education and The Graduate School, Academic and University Policies and other sections of this catalogue for general regulations and policies including but not limited to time limits, leave of absence, scholarship standing, academic warnin, and other issues not directly addressed in this section.

USC Viterbi School of Engineering

The USC Viterbi School of Engineering is innovative, elite and internationally recognized for creating new models of education, research and commercialization that are firmly rooted in real-world needs. The school's first priorities are the education of outstanding students and the pursuit and publication of new research.

As the school's faculty and students extend the frontiers of engineering knowledge through their research, they also apply engineering and technology to address societal challenges. The school stimulates and encourages qualities of scholarship, leadership, ambition and character that mark the true academic and professional engineer — to serve California, the nation and the world. At USC Viterbi, we call this the enabling power of Engineering+.

Courses in engineering were first offered at USC in the 1905-06 academic year in the basement of one of the oldest buildings on campus. Today, more than 300 full-time faculty, including 188 tenure-track faculty, serve about 2,700 undergraduate majors; over 600 students in minor programs; and about 5,900 graduate students, utilizing extensive and technically advanced laboratories, classrooms and live interactive high-speed Internet broadcast systems. Government and industry annually fund nearly $208 million worth of research.

Viterbi undergraduate support programs complement and strengthen the academic experience, enhancing both depth and scope. Viterbi graduate education is outstanding preparation for advanced research and professional careers. The PhD program is built around fellowships, teaching assistantships and research appointments, and produces a steadily growing core of doctoral graduates across the disciplines. The master's and professional programs are national and global leaders in advanced training for professional engineers.

Administration

Yannis C. Yortsos, PhD, *Dean*
Gaurav Sukhatme, PhD, *Executive Vice Dean*
Kimberly Bregenzer, MA, *Vice Dean*
Erik A. Johnson, PhD, *Vice Dean*
Craig Knoblock, PhD, *Vice Dean*
Ellis Meng, PhD, *Vice Dean*
Assad Oberai, PhD, *Vice Dean*
Timothy Pinkston, PhD, *Vice Dean*
Cauligi Raghavendra, PhD, *Vice Dean*
Kelly Goulis, MS, *Senior Associate Dean*
Mary Ann Schwartz, MA, *Senior Associate Dean*
Chris James, MS, *Chief Financial Officer*

Degrees and Accreditation

The Viterbi School of Engineering offers the following undergraduate curricula leading to the Bachelor of Science in: Aerospace Engineering; Astronautical Engineering; Biomedical Engineering; Biomedical Engineering (Electrical Engineering); Biomedical Engineering (Mechanical Engineering); Biomedical Engineering (Molecular and Cellular Engineering); Chemical Engineering; Chemical Engineering (Biochemical Engineering); Chemical Engineering (Environmental Engineering); Chemical Engineering (Nanotechnology); Chemical Engineering (Petroleum Engineering); Chemical Engineering (Polymer/Materials Science); Chemical Engineering (Sustainable Energy); Civil Engineering; Civil Engineering (Building Science); Civil Engineering (Construction Engineering and Management); Civil Engineering (Environmental Engineering); Civil Engineering (Structural Engineering); Civil Engineering (Water Resources Engineering); Computer Engineering and Computer Science; Computer Science; Computer Science/Business Administration (with the Marshall School of Business); Computer Science Games; Electrical and Computer Engineering; Environmental Engineering; Industrial and Systems Engineering; Mechanical Engineering; Mechanical Engineering (Petroleum Engineering); and Physics/Computer Science (with the Dornsife College of Letters, Arts and Sciences). The school also offers undergraduate curricula leading to the Bachelor of Arts in Data Science (with the Dornsife College of Letters, Arts and Sciences).

Minor programs are offered in: 3-D Computer Graphics and Modeling; Applied Analytics; Applied Computer Security; Astronautical Engineering; Blockchain; Cloud Computing with DevOps; Computer and Digital Forensics; Computer Programming; Computer Science; Connected Devices and Making; Construction Planning and Management (with the Price School of Public Policy); Craniofacial and Dental Technology (with the Herman Ostrow School of Dentistry and the Dornsife College of Letters, Arts and Sciences); Engineering Management; Enterprise Information Systems; Foundations of Data Science; Innovation: The Digital Entrepreneur (with the USC Marshall School of Business); Internet of Things (IoT) Engineering; Mobile App Development; Nanotechnology; Petroleum Engineering; Technical Game Art; Technology Commercialization (with the Marshall School of Business); Video Game Design and Management; Video Game Programming; and Web Technologies and Applications.

Graduate curricula leading to the Master of Science in: Aerospace Engineering; Aerospace and Mechanical Engineering (Computational Fluid and Solid Mechanics); Aerospace and Mechanical Engineering (Dynamics and Control); Analytics; Applied Data Science; Applied Physics; Astronautical Engineering; Biomedical Data Analytics; Biomedical Engineering; Biomedical Engineering (Medical Imaging and Imaging Informatics); Chemical Engineering; Civil Engineering; Civil Engineering (Advanced Design and Construction Technology); Civil Engineering (Construction Engineering); Civil Engineering (Structural Engineering); Civil Engineering (Transportation Engineering); Civil Engineering (Transportation Systems); Civil Engineering (Water and Waste Management); Communication Data Science; Computer Engineering; Computer Science; Computer Science (Computer Networks); Computer Science (Computer Security); Computer Science (Data Science); Computer Science (Game Development); Computer Science (High Performance Computing and Simulations); Computer Science (Intelligent Robotics); Computer Science (Multimedia and Creative Technologies); Computer Science (Scientists and Engineers); Computer Science (Software Engineering); Cyber Security Engineering; Electrical and Computer Engineering (Analog, Mixed-Signal and Radio-Frequency Integrated Circuits); Electrical and Computer Engineering (Machine Learning and Data Science); Electrical Engineering; Electrical Engineering (Computer Architecture); Electrical Engineering (Computer Networks); Electrical Engineering (Electric Power); Electrical Engineering (VLSI Design); Electrical Engineering (Wireless Health Technology); Electrical Engineering (Wireless Networks); Engineering Management; Environmental Engineering; Environmental Data Science; Financial Engineering; Global Supply Chain Management (with the Marshall School of Business); Green Technologies; Health Systems Management Engineering (with the Price School of Public Policy); Healthcare Data Science; Industrial and Systems Engineering; Manufacturing Engineering; Materials Engineering; Materials Science; Mechanical Engineering; Mechanical Engineering (Energy Conversion); Medical Device and Diagnostic Engineering; Operations Research Engineering; Petroleum Engineering; Petroleum Engineering (Geoscience Technologies); Petroleum Engineering (Digital Oilfield Technologies); Product Development Engineering; Public Policy Data Science (with the Price School of Public Policy); Spatial Data Science (with the Viterbi School Engineering); and Systems Architecting and Engineering.
Graduate curricula leading to the Master of Construction Management.

Graduate curricula leading to dual degrees in: Master of Science Aerospace Engineering / Master of Science Engineering Management; Master of Science Electrical Engineering / Master of Science Engineering Management; Master of Science Industrial and Systems Engineering / Master of Business Administration;

Master of Science Mechanical Engineering / Master of Science Engineering Management; Master of Science Systems Architecting and Engineering / Master of Business Administration; and Master of Science Petroleum Engineering / Master of Science Engineering Management.

Graduate curricula leading to the Engineer degree in: Aerospace Engineering; Astronautical Engineering; Chemical Engineering; Civil Engineering; Electrical Engineering; Environmental Engineering; Industrial and Systems Engineering; Materials Science (not currently accepting applications); Mechanical Engineering; and Petroleum Engineering.

Through the Graduate School, graduate curricula leading to the Doctor of Philosophy in: Aerospace Engineering; Astronautical Engineering; Biomedical Engineering; Chemical Engineering; Civil Engineering; Computer Engineering; Computer Science; Electrical Engineering; Engineering (Environmental Engineering); Industrial and Systems Engineering; Materials Science; Mechanical Engineering; and Petroleum Engineering.

Graduate certificates in: Astronautical Engineering; Data Science Foundations; Digital Oilfield Technologies; Health Systems Operations (with the USC Price School of Public Policy); Health, Technology and Engineering (with the Keck School of Medicine); Network Centric Systems; Optimization and Supply Chain Management (with the Marshall School of Business); Software Architecture; Systems Architecting and Engineering; and Transportation Systems (with the Price School of Public Policy).

Undergraduate Program Accreditation

The Bachelor of Science degrees in aerospace engineering, astronautical engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering and computer science, electrical engineering, environmental engineering, industrial and systems engineering, and mechanical engineering are accredited by the Engineering Accreditation Commission of ABET, abet.org. The Bachelor of Science degrees in computer engineering and computer science and in computer science are accredited by the Computing Accreditation Commission of ABET, abet.org.

Undergraduate Program Student Outcomes

By the time of graduation from Bachelor of Science degree programs accredited by the Engineering Accreditation Commission of ABET, students will develop at least the following abilities:

1. an ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

By the time of graduation from Bachelor of Science degree programs accredited by the Computing Accreditation Commission of ABET, students will develop the ability to perform the following:

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

Viterbi Admission and Student Engagement (VASE)

The mission of Viterbi Admission and Student Engagement (VASE), located in Ronald Tutor Hall of Engineering (RTH) 110 and Olin Hall of Engineering (OHE) 106, is to support the lifecycle of all Viterbi students (bachelor's, master's, doctoral and executive education), providing exceptional service to students from the time they are first considering the Viterbi School, to the time of completion and beyond.

The office is responsible for working with both prospective and continuing students. It directs special services and programs, provides a variety of support services, sponsors student organizations, is involved with student government and acts as a liaison with other university offices.

The office works closely with faculty and staff across our Viterbi departments and programs to coordinate admission and a range of student services and engagement programs including Viterbi Career Connections and the Center for Engineering Diversity.

Undergraduate Degrees and Requirements

Change of Major to Engineering

USC undergraduate students interested in adding an engineering major must go through the pre-engineering process (viterbiundergrad.usc.edu/pre-engineering/). Approval is granted on the basis of academic performance at USC and in the required prerequisite courses in the Viterbi School.

Non-engineering students may complete a maximum of five engineering courses. No further engineering courses may be taken unless admission has been approved.

Common Requirements

Certain general requirements are common to all undergraduate curricula for Bachelor of Science degrees in Engineering.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires eight courses in six Core Literacies, plus writing and two courses in Global Perspectives (which may double-count with courses in the Core Literacies). See the General Education Program for more information.

Students in the Viterbi School of Engineering must satisfy the general education requirements. Students satisfy Core Literacy requirements in life sciences, physical sciences, and quantitative reasoning with the basic science and mathematics elements of their undergraduate engineering programs.

Students in the engineering "3-2" program are not required to satisfy general education requirements or the lower-division writing requirement for USC; these students are understood to have satisfied USC's general education requirements when they have satisfied the general education requirements and lower-level writing requirement at their previous institution. All students must, however, complete the WRIT 340 requirement.

Mathematics

Sixteen units or more, including three semesters of calculus, are required. Computer Science/Business Administration and

Computer Science Games require two semesters of calculus.

Basic Sciences

Twelve units or more of biology, chemistry or physics are required.

The Computer Science major and Computer Engineering/ Computer Science major require 8 units of basic science. Computer Science/Business Administration and Computer Science Games require 4 units of basic science.

Residence Requirement

All students must complete a minimum of 64 units at USC in order to receive a USC degree. In addition, the Viterbi School of Engineering requires that students complete all upper-division units required for the major in residence.

For students in the Viterbi School of Engineering "3-2" Program, at least 48 units must be earned in courses taken at USC.

Scholarship Requirement in Major Subject

For graduation with a bachelor's degree, a grade point average of C (2.0) or higher is required in all upper-division courses applied toward the major including any approved substitutes for these courses taken at USC. Additional scholarship requirements for the various majors are listed under the departmental headings.

Grade Point Requirement

A grade point average of at least 2.0 is required on all course work attempted at USC.

Transfer students must meet these averages, both on residence work attempted and on combined transferred and residence courses attempted.

Probation/Disqualification

A student whose overall GPA falls below 2.0 is placed on academic probation. Continued enrollment requires clearance from an academic review counselor.

Each semester, students on academic probation are required to receive academic advisement. Proof of advisement must be filed with the Academic Review Department before any registration requests will be processed. The only acceptable proof of advisement is an official academic review advisement record signed by the student's academic adviser and a representative from the Viterbi Admission and Student Engagement Office. Academic review advisement forms may be obtained from Tutor Hall of Engineering (RTH) 110 or John Hubbard Hall 113.

Students on probation are encouraged to utilize the academic services (advisement and free tutoring) provided by the Viterbi Admission and Student Engagement Office.

Students on academic probation who do not raise their overall GPA to 2.0 after two semesters of enrollment (excluding summers) will be academically disqualified from the university. However, if a student earns a minimum semester GPA of 2.3 in the second or any subsequent probation semester but has not yet reached an overall 2.0 GPA, the student will not be disqualified and will be allowed to enroll an additional semester.

Petitions for readmission after academic disqualification are initiated by the student through the Academic Review Department. All grade issues (IN, MG, etc.) must be resolved prior to the submission of such a petition. Before petitioning for readmission, a student must complete a minimum of 12 semester units of transferable course work (applicable to USC degree requirements) with a minimum 3.0 GPA. University residency requirements will determine whether these units are accepted as transfer credit.

As readmission to the university is never guaranteed, any indication of strong academic performance beyond the 12 unit minimum would strengthen a readmission petition.

Students must petition for readmission by December 30 for the spring semester, by May 1 for the summer session and by August 15 for the fall semester. Late petitions will not be accepted. A non-refundable fee determined by the Academic Review Office must accompany all readmission petitions.

Special Educational Opportunities

W.V.T. Rusch Undergraduate Engineering Honors Program

The W.V.T. Rusch Undergraduate Engineering Honors Program (EHP) recognizes select undergraduate engineering students who have excelled in their studies and completed a substantive project in engineering research or innovation. This project will result in a senior thesis or a commercialization plan, and will be pursued under the supervision of a faculty mentor, either curricularly (e.g., via a department directed research, senior thesis course, ENGR 400 Engineering Honors Project, etc.) or extracurricularly (through volunteer or compensated research). To apply for the EHP, students must have earned at least a 3.5 USC GPA after at least one semester of USC course work and have at least three semesters remaining at USC. To graduate with Engineering Honors, and for it to be noted on their academic transcripts, students must meet certain requirements, including: earn at least a 3.5 cumulative USC GPA, complete two semesters of ENGR 100 Engineering Honors Colloquium, and complete an accepted senior thesis, or commercialization plan. Additional details are available from the Viterbi Admission and Student Engagement (VASE) office.

NAE Grand Challenges Scholars Program

The National Academy of Engineering (NAE) Grand Challenges Scholars Program (GCSP), co-founded by USC Viterbi in 2009, encourages students to develop mindsets and competencies that will enable them to pursue solutions to pressing problems, as articulated in the NAE's 14 Grand Challenges for Engineering. Such Grand Challenges span four wide areas, from sustainability (e.g., making solar energy economical) to security (e.g., securing cyberspace), health (e.g., reverse engineering the brain) and joy of living (e.g., engineering the tools of scientific discovery).

A Viterbi student may graduate with Designation as an NAE Grand Challenge Scholar (GCS), which would be noted on academic transcripts by submitting an application that documents the student's involvement related to one of the 14 NAE Grand Challenges, and the development of mindsets and competencies in the following five areas: talent/research, multidisciplinarity, viable business and entrepreneurship, multicultural awareness, and societal consciousness. Students typically begin their GCSP involvement during their first years at USC, developing the competencies over the course of study in Viterbi and submit, during their senior year, a formal application for the GCS Designation. For more information, please visit: viterbiundergrad.usc.edu/gcsp/.

Viterbi Fellows Program

Every year, a select group of promising incoming first-year students is invited to join the Viterbi Fellows Program. The program provides pathways and opportunities to maximize their potential and develop as community leaders starting in their first semester. Fellows engage in a combination of opportunities and experiences, both academic and co-curricular.

Each Viterbi Fellow receives a Merit Research Award to get involved in research with our faculty from their first semester. In addition to giving students excellent first-hand experience, these awards can help offset the cost of education since each participant earns wages for his or her work. In addition, Viterbi Fellows receive a small living stipend to support their educational expenses. Viterbi Fellows are also granted priority consideration for many of the Viterbi School programs, including iPodia, international maymester and fall-lead programs, and career-related programs. Fellows also receive special invitations to events such as the Fellows' Dinner with the Dean, and co-curricular events.

Honor Societies

The Viterbi School of Engineering has established a variety of honor societies to recognize academic excellence, creativity, and service. These are: Alpha Pi Mu (industrial and systems

engineering), Chi Epsilon (civil engineering) and Tau Beta Pi (engineering honor society).

3+2 Program

The Viterbi School of Engineering has developed agreements with more than 20 liberal arts colleges nationwide in which a student attends a liberal arts institution for their first three years of college, pursuing pre-engineering courses in addition to a solid program in the liberal arts or sciences. At the end of the three years, upon recommendation from the liberal arts college, the student applies to the Viterbi School of Engineering as a transfer student. If admitted, they can complete the remaining requirements for a BS degree typically within two years. After degree requirements for both schools are complete, the student will receive two degrees — a BA from the liberal arts college and a BS in engineering or computer science from USC.

International Exchange Programs

The Viterbi School of Engineering International Exchange Program gives undergraduate students the opportunity to broaden their exposure to the global context of engineering theory and practice by spending a semester abroad in a challenging academic environment at an international host institution. The International Exchange Program allows students to satisfy technical electives and/or approved degree requirements by attending approved partner institutions. This program is open to students entering their junior or senior year. Students apply at the Viterbi Student Engagement Office. Candidates must meet all admission requirements of both the Viterbi School of Engineering as well as those of the international host institution. Contact the Viterbi Admission and Student Engagement (VASE) Office for a complete list of international exchange partners.

Viterbi Maymester and Fall Lead Programs

The Viterbi School of Engineering Maymester and Fall Lead programs allow students to go abroad for 2-3 weeks before the fall semester begins or after the spring semester ends. Students will complete the majority of the course on-campus during the semester and use the two weeks abroad to inform the course content and assignments by looking at specific engineering topics from a global perspective.

Center for Undergraduate Research in Viterbi Engineering

The Center for Undergraduate Research in Viterbi Engineering (CURVE) provides a centralized resource for undergraduate students to explore research opportunities in Viterbi early on in their undergraduate career. The goals of CURVE are to engage Viterbi students in research and mentoring communities, prepare students with skills to access the field of engineering or computer science, and provide students funding while they gain experience on a faculty-led research project.

VASE Academic Services and Engagement

Center for Engineering Diversity

Established in 1975, the Center for Engineering Diversity (CED) strives to increase the representation of African-American, Latino and Native American engineers who are equipped to be ethical, global-minded, innovative leaders.

Our mission is to build a community of authentic engineers through programs and services that promote professional development, support academic excellence and develop leadership skills.

Visit the website for the Center for Engineering Diversity.

Women in Engineering Program (WIE)

The Women in Engineering Program (WIE) offers professional, academic and co-curricular support to the women of the Viterbi School. The goal of the Viterbi Women in Engineering Program is to recognize the unique challenges that women engineering students face, provide resources and overall support to address these challenges. WIE's mission is to recruit and retain women engineers and to empower our female students to find academic and personal success during their Viterbi career and beyond.

Contact the Women in Engineering Program at (213) 740-4530 for more information.

Klein Institute for Undergraduate Engineering Life

The Klein Institute for Undergraduate Engineering Life (KIUEL) was established to provide Viterbi undergraduates with a variety of personal and professional activities designed to enhance student life experiences outside the classroom. The KIUEL Programming Board implements programs around community, leadership, engagement, and service. Past KIUEL events include: KIUEL Viterbi Presidents Council Leadership Retreat, Engineers Week (E-Week), KIUEL Down to Finals and Professor Coffee Hours.

Viterbi Career Connections

The Viterbi School of Engineering provides extensive career services to all students. We recommend that students frequently engage in co-curricular activities combined with their academic programs to compete in the job market more successfully. Students are encouraged to update their profile information and career interests with Viterbi Career Connections at least once per year via the Viterbi Career Gateway portal. By doing so, they will be kept informed of all career-related events such as company information sessions, career and internship expos, job and internship postings, professional development workshops, industry luncheons, networking events, and more. Additionally, with an updated profile, students can participate in the Viterbi School's extensive on-campus recruitment activities.

Viterbi graduates go places! USC's Viterbi School of Engineering attracts employers from Southern California and across the country and the world. Find out more about where Viterbi students find employment by visiting viterbicareers.usc.edu/firstdestination/. A small sample of the many companies that have recently hired co-ops, interns, and full-time employees from the Viterbi School include: Abbott Laboratories; Accenture; Adobe Systems Inc.; Amazon Corp. LLC; Apple; Bloomberg L.P.; Blue Origin; The Boeing Company; Chevron; Citrix Systems, Inc.; Deloitte Financial Advisory Services; Edwards Lifesciences Corp.; Ernst & Young, Facebook, Inc., General Atomics-Aeronautical System Inc., General Electric, Goldman Sachs; Google, Intel Corp., IBM, Intuit, Inc., Jet Propulsion Laboratory, Juniper Networks, Inc., KPMG; LinkedIn, Lockheed Martin Corporation, Medtronics, Inc., Microsoft Corporation; NASA; Northrop Grumman Corporation; Oracle Corp.; Qualcomm; Raytheon Company; Salesforce.com, Inc.; Snapchat; SpaceX; Symantec Corp.; Tesla; The Aerospace Corp.; TikTok; Turner Construction; U.S. Air Force; Verizon Media, Visa Inc.; Walt Disney Imagineering.

Cooperative Education

Students can earn degree credit and industry work experience by participating in the Co-op/Internship Program before they graduate. Co-ops and internships improve students' understanding of the relationship between theory and practice, helps them fine-tune their career goals, and aids in acquiring essential engineering skills. Students' work assignments are closely related to their specific degree program and are appropriate to their current academic level.

Participation in co-op and internship programs is open to all bachelors, master's, and doctoral engineering students. Undergraduate students are eligible to apply for the co-op course in the second semester of their sophomore year. Master's and Doctoral students are typically eligible for an internship course after maintaining full-time student status for one regular academic year. While on assignment, students enroll in a 1–2 unit course (ENGR 395ax, ENGR 596, ENGR 597x or ENGR 598) that aids in integrating on-campus and off-campus learning. With departmental approval, students may earn credit toward a degree upon completion of this course.

Graduate Degrees and Requirements

General Requirements

The Viterbi School of Engineering recommends candidates for the Master of Science degree in: aerospace engineering, analytics, astronautical engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering, computer science, cyber security engineering, data science, electrical engineering, engineering management, environmental engineering, financial engineering, green technologies, health systems management engineering, industrial and systems engineering, manufacturing engineering, materials engineering, materials science, mechanical engineering, medical device and diagnostic engineering, operations research engineering, petroleum engineering, product development engineering, and systems architecting and engineering; and the Master's degree in construction management. Several areas of emphasis and specialization are available within these disciplines.

All graduate work in the Viterbi School of Engineering is under the jurisdiction of the Viterbi School except the Doctor of Philosophy degree, which is under the jurisdiction of the USC Graduate School. All prospective graduate engineering students should apply to the USC Office of Graduate Admission.

Admission

Two classes of students are admitted to take courses for graduate credit: admitted and conditionally admitted students. These classifications are determined by the Office of Graduate Admission on the recommendations of the appropriate department in the Viterbi School of Engineering.

Admitted Students

This is the status of a graduate student pursuing work leading toward an advanced degree. The student has been accepted into the degree program without any conditions.

Conditionally Admitted

The chair of a major department in the Viterbi School of Engineering may recommend that a student be admitted under certain conditions. Conditional admission is granted when a student's admission records are incomplete or when deficiency courses must be taken but the student appears to be otherwise admissible. The conditions must be met before the completion of two semesters of enrollment or 12 units of course work, whichever comes first. If the conditions on admission are not met within the given time period, the student may not be allowed to register for course work in subsequent semesters. When the conditions have been met, the academic department will remove the restrictions that have been placed on the student's registration.

Criteria

To qualify for admission, applicants are expected to present strong academic records and show superior accomplishment in their engineering and related courses. Admission decisions will be based on Graduate Record Examinations test scores and transcripts of previous school work. Individual departments may set higher admission standards than the Graduate School. Some programs also require letters of recommendation and a statement of purpose. Doctor of Philosophy applicants who have published professional papers in their field may forward copies to the department, and they will be considered together with the other credentials submitted.

Procedure

Applicants to graduate programs must present credentials to the Office of Graduate Admission showing that they have completed an acceptable curriculum for the bachelor's degree. In some departments, students with outstanding records will be admitted for the doctoral program without first receiving the Master of Science degree. If the previous degree is not in the field in which the student wishes to pursue graduate study, it may be necessary to make up undergraduate deficiencies in the area of the desired specialty. Applicants must take the Graduate Record Examinations. Satisfactory scores on the general test are required for admission to full graduate standing in most programs. Consult the department office for further information.

Once the application for admission has been sent, arrangements should be made immediately to have official transcripts of all previous undergraduate and graduate school work forwarded directly to the Office of Graduate Admission from the schools attended. If the Graduate Record Examinations general and subject tests, as well as the TOEFL or IELTS exams, have been taken the scores should be sent to the Office of Graduate Admission by the educational testing service. If the tests have not been taken, the applicant should register to take them on the earliest available date. The departments will review the application files and select for admission those students offering the greatest promise for completing graduate studies.

Progressive Degree Programs

The progressive degree program allows qualified undergraduate students the opportunity to complete an integrated program of study joining a bachelor's degree program and a master's degree program in the same or different departments. Applicants for a progressive degree program must have completed 64 units of course work applicable to their undergraduate degree since graduating from high school. (Credit by exam and course work taken prior to high school graduation are excluded). Applicants can submit their application at any time after completion of 64 units but it is highly recommended that applications are submitted in the fall semester of the third year of enrollment at USC. The application for admission to a progressive master's program must be accompanied by a departmentally approved course plan proposal. Letters of recommendation may be required for some applicants depending upon their GPA at the time of application. Comprehensive information including how to apply can be found at viterbiundergrad.usc.edu/future/pdp/.

Progressive degree program students must fulfill all the requirements for both the bachelor's degree and the master's degree. The total number of units for the master's degree, however, may be reduced by a maximum of one-third. A minimum of two-thirds of the units required for the master's degree must be at or above the 500 level. Students will be subject to undergraduate academic progress standards and policies while in undergraduate status and master's academic progress standards and policies while in graduate status. The degrees may be awarded separately, but the master's degree will not be awarded before the undergraduate degree. The time limit for completing a progressive degree program is 12 semesters. For more information, refer to the Requirements for Graduation page.

General Requirements for the Master of Science

Residence Requirements

Viterbi students are allowed up to five years to earn a master's degree. Depending on the specific degree, the typical time required varies from between one and one-half to two years for students in MS programs on campus to three years for MS students completing their degrees online via DEN@Viterbi. Master's degrees other than the Master of Science typically require more course work and may take more time to complete.

Students entering the Viterbi School of Engineering with course or credit deficiencies require a correspondingly longer period. A candidate must complete the last four semester units of course work at USC. No more than 25 percent of the minimum units required for the program will be accepted from another engineering school upon verification by the Office of Degree Progress and the approval of the major department.

Prerequisites

Prerequisite is a bachelor's degree in engineering, allied fields or science. If the graduate field is different from the field of the bachelor's degree, there may be undergraduate deficiencies assigned by the major department, and these must be made up by taking and passing the assigned courses before proceeding with the graduate courses.

Deficiency Courses

New students may be required to demonstrate satisfactory preparation for the graduate program with previously completed course work. In cases where preparation is not demonstrated, up to 9 units of deficiency course work may be required in addition to the normal degree requirements.

Credit for required deficiency courses may not be applied toward a graduate degree. A deficiency course within the same discipline taken after the higher-level course has been passed will not be available for unit or grade point credit.

Placement Examinations

Enrollment in certain 500- and 600-level courses in the disciplines of computer engineering and electrical engineering will require a student to either take and pass the corresponding 400-level prerequisite at USC, or pass a placement exam in the corresponding course.

Not all 400-level prerequisite courses taken instead of a placement exam are available for degree credit. No unit or grade point credit is given for placement exams. Please consult with an academic adviser or refer to the department website for information on specific courses and placement exam details.

Grade Point Average Requirements

A grade point average (GPA) of 3.0 (A = 4.0) is required for the master's degree in all engineering programs. The minimum GPA must be earned on all course work applied toward the master's degree and on all 400-level and above course work attempted at USC beyond the bachelor's degree. A minimum grade of C (2.0) is required in a course to receive graduate credit. Work graded C- or below is not acceptable for subject or unit credit toward any graduate degree. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

Course Selection

There are two program options for the master's degree, one with a thesis and the other without. Courses are selected to fit the special needs of individual students, must form an integrated program leading to a definite objective and must be approved in advance by the department. Only courses numbered 400 and above may be applied for degree credit.

Program without Thesis

The minimum requirement is 27 units; 18 of these units must be at the 500 level and at least 18 units must be in the major department and closely related departments. Prior department approval is required for all non-major courses. Specific requirements are listed under each department.

Program with Thesis

The minimum requirement is 27 units; 4 of these units are to be thesis. At least 16 units, not including thesis, must be at the 500 level or higher, and at least 18 units must be in the major department. Two units of 594a and 2 units of 594b are required. No more than 4 units of 590 Directed Research is permitted.

Master's Thesis

The thesis, when it is required, is regarded as an important part of the work of the candidate for a master's degree. It must be a serious, considerable and publishable piece of work demonstrating the writer's power of original thought, thorough grasp of the subject matter and ability to present material in a scholarly manner and style.

The thesis presents the results of an investigation of an approved subject in the major department. It is supervised throughout by a thesis committee, appointed by the chair of the student's major department. The committee is usually composed of two members of the major department and one other member of the faculty.

The student will register in courses 594a and b respectively during the final two semesters of the master's program as determined by discussion with an adviser. (Concurrent registration for 594a and b during the same semester is permitted when a student's progress makes completion of all requirements likely within one semester.) If the thesis has not been completed within these two semesters, the candidate must register for 594z each semester until the thesis has been accepted but no additional unit credit will be earned. Units of 594ab Master's Thesis may not be converted to units of 590 Directed Research.

A student readmitted to candidacy by petition to the Graduate School must reregister for 594a and 594b. Final acceptance of the thesis is based upon the recommendation of all members of the thesis committee. For requirements concerning format of master's thesis see The Graduate School section of this catalogue.

Candidates who find it necessary to be excused from registration in 594a or 594b for a semester must formally report before the beginning of the semester to the Viterbi Admission and Student Engagement Office that they will be inactive during that semester and request a leave of absence. During a leave of absence, a candidate will not be entitled to assistance from the thesis committee or to the use of university facilities. The granting of a leave of absence does not change the candidate's responsibility for meeting the time schedule for the completion of degree requirements. Leave will be granted only under exceptional circumstances.

Progress Toward the Degree

Graduate students are expected to make regular progress toward their degrees as defined by the faculty of their respective departments and within the time limits allowed. Graduate students' progress and performance are reviewed each semester. Students making unsatisfactory progress receive a formal written warning and are placed on a semester of academic warning with specific conditions to be met for continuation in the program. Please refer to catalogue sections Academic Warning and Dismissal of Graduate Students; Grade Point Average Requirements; and the website of the Viterbi Admission and Student Engagement (VASE) at viterbigrad.usc.edu/.

Department Approval for Non-major Courses

Prior departmental approval is required for non-major courses to be taken and applied toward a graduate degree. Students must consult with the faculty adviser for formal written permission to take courses outside the major department for degree credit.

A copy of the faculty adviser's written approval must be kept in the department file and retained by the student until graduation.

Time Limit

It is expected that work for a Master of Science in Engineering will be completed within a maximum of five calendar years. An academic department may grant an extension of up to one year at a time for a maximum of two years. Courses taken more than seven years prior to the date upon which the degree is to be awarded cannot be included for the degree.

Admission to Candidacy

Application for admission to candidacy for the Master of Science is a separate step from admission to graduate standing. The requirements for admission to candidacy are: (1) the applicant must be admitted to regular graduate standing and must have removed all undergraduate deficiencies, and (2) the applicant must submit a complete program approved by the major department showing the course work, research and thesis (if required).

Application for graduation should be made at the beginning of the semester in which the requirements for the master's degree are to be completed. Students are strongly advised to file for graduation as soon as the registration process has been completed so that their names may appear in the printed Commencement program and so that any discrepancies in their records may be resolved. Late filing may delay conferral of the degree.

Application forms for graduation with the master's degree may be obtained from the student's academic department. This application should be returned to the student's academic department. Changes in the program after admission to candidacy are made by petition to the student's academic department.

Second Master's Degree

A graduate student who already holds a master's degree from

USC may apply a limited number of previously earned units toward the second master's degree.

The maximum number of units that may be applied toward the second master's degree for course work taken from a first master's degree at USC is no more than 25 percent of the minimum units required for the program. In all cases, the permission of the chair of the major department is required. All credit, including the units from the first master's degree, must be earned within seven calendar years.

For students who earned their first master's degree at another institution, no course work may be repeated from the first program of study and no unit credit from the first program of study may be counted toward the second master's degree.

General Requirements for the Master of Engineering Degree

The Viterbi School does not currently offer degree programs with the Master of Engineering designation.

General Requirements for the Engineer Degree

The Engineer degree is awarded under the jurisdiction of the Viterbi School of Engineering. This degree is granted upon completion of a comprehensive curriculum beyond the general course requirements for the Master of Science and after successfully passing an engineer's qualifying examination. The required curriculum is intended to give students broad preparation in two areas of engineering, together with a minimum number of units in these areas to prepare them for the interdisciplinary nature of the many complex problems they will encounter in practice today. The degree is also intended to fulfill a growing need in industry for students with comprehensive advanced engineering training, but not necessarily with the research orientation developed by the PhD student.

The Engineer degree is a terminal degree. Students who complete the Engineer degree will not be considered for admission to the PhD program.

The Engineer degree is offered in aerospace engineering, astronautical engineering, chemical engineering, civil engineering, electrical engineering, environmental engineering, industrial and systems engineering, materials science, mechanical engineering and petroleum engineering.

Prerequisites

There are three basic prerequisites for the Engineer Degree Program: a Master of Science degree or completion of 27 units of acceptable course work, application for admission to the Viterbi School of Engineering and acceptance to the program by the appropriate department.

Course Requirements

The Engineer degree requires a minimum of 30 units of graduate course work beyond the Master of Science degree; up to 6 units at the 400 level may be counted at the discretion of the student's qualifying exam committee if the committee finds them necessary for the student's program. The course work must form a balanced program of study leading to a definite concentration in two fields of engineering, a minimum of 12 units in one field, nine in another; nine units are elective and may be taken outside the Viterbi School of Engineering, but must be acceptable for graduate credit. The distribution of course work will be governed by the student's qualifying exam committee and should be considered in conjunction with the course work done for the Master of Science degree. A candidate for the Engineer degree may substitute a project under the supervision of a faculty member for 6 units of course work. To have the project credited toward the degree, the student must register in 690 Directed Research during the course of the project; total 690 Directed Research registration should not exceed 6 units. A student wishing to work on a project must make arrangements with a member of the faculty to supervise and evaluate work, and obtain the approval of the committee chair prior to completing more than 15 units of course work. In many cases, the project may be related to the candidate's work outside the university but must still be supervised by a faculty member. Distribution of the course work should take into account the nature of the project.

Grade Point Average Requirement

A minimum grade point average of 3.0 must be earned on all course work applied toward the Engineer degree. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree. A minimum grade of C (2.0) is required in a course to receive graduate credit. Work graded C- or below is not acceptable for subject or unit credit toward any graduate degree. Transfer units count as credit (CR) toward the Engineer degree and are not computed in the grade point average.

Residence Requirements

A candidate must complete the last 4 units of course work at USC. At least 26 units must be taken in residency at USC. A maximum of 4 transfer units not counted toward a previous degree may be allowed with adviser approval.

Guidance Committee

After being granted graduate standing, the student must form a guidance committee. The committee is made up of three full-time faculty members who are specialists in the student's areas of concentration, with at least two from the major department. Forms to appoint the committee are available from the student's academic department. The student is responsible for finding a faculty member from one area of concentration who will act as the chair of the guidance committee. The chair will assist in selection of the other members. Advisement of the student after formation of the committee will be by the committee chair.

Qualifying Examination

The student must satisfactorily complete an engineer's qualifying examination administered by his or her guidance committee. This examination will cover both areas of concentration and will consist of at least one written and one oral examination. This examination is normally taken during the last semester of course work toward the degree. Students who choose to take the examination in the semester following the completion of course requirements may do so up until the end of the third week of classes without registering. After that date, they must register for GRSC 810 to maintain continuous enrollment in the program. Results of the examination are reported to the Viterbi Office of Graduate and Professional Programs and forwarded to the Office of Academic Records and Registrar.

Transfer Credits

Up to 4 units of graduate course work may be transferred from an accredited institution to be applied toward the Engineer degree. Transfer work must have been done after receipt of the Master of Science degree and must be approved by the qualifying exam committee.

Reserving Course Credit

A student who receives the Master of Science degree at USC may reserve a limited number of units taken prior to the receipt of the Master of Science degree for credit toward the Engineer degree. To reserve credit, the course must have been taken during the last semester as a Master of Science candidate, not used toward the Master of Science degree, be acceptable to the student's committee, and approved by the Office of Degree Progress.

Time Limit

The student must complete all requirements within five calendar years.

Admission to Candidacy

After satisfactorily completing the qualifying examination, and no later than the beginning of the last semester of course work, the student must file for candidacy. This is a separate and distinct step which sets forth the entire academic program fulfilling the degree requirements and is used as a working basis for awarding the degree.

General Requirements for the Doctor of Philosophy

This degree is granted under the jurisdiction of The Graduate School. Students should also refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Thirteen Doctor of Philosophy (PhD) programs are offered: aerospace engineering, astronautical engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering, computer science, electrical engineering, engineering (environmental engineering), industrial and systems engineering, materials science, mechanical engineering and petroleum engineering.

Deficiency Courses

New students may be required to demonstrate satisfactory preparation for the graduate program with previously completed course work. In cases where preparation is not demonstrated, up to 9 units of deficiency course work may be required in addition to the normal degree requirements.

Credit for required deficiency courses may not be applied toward a graduate degree. A deficiency course within the same discipline taken after the higher-level course has been passed will not be available for unit or grade point credit.

Placement Examinations

Enrollment in certain 500- and 600-level courses in the disciplines of computer engineering and electrical engineering will require a student to either take and pass the corresponding 400-level prerequisite at USC, or pass a placement exam in the corresponding course.

Not all 400-level prerequisite courses taken instead of a placement exam are available for degree credit. No unit or grade point credit is given for placement exams. Please consult with an academic adviser or refer to the department Website for information on specific courses and placement exam details.

Foreign Language Requirements

There is no foreign language requirement for engineering majors.

Course Requirements

Satisfactory completion of at least 60 units of approved graduate-level course work with a cumulative grade point average of at least 3.0 is required of all PhD students in engineering. A minimum grade of C (2.0) is required in a course to receive graduate credit. Work graded C- or below is not acceptable for subject or unit credit toward any graduate degree. Undergraduate prerequisites and graduate course work will be required in accordance with the regulations of the major department or program and the recommendations of the student's qualifying exam committee. Transfer units are subject to approval by the Office of Degree Progress (for course work taken at institutions in the United States) or by the Office of Graduate Admission (for course work taken at institutions outside the United States) and by the qualifying exam committee.

Screening Procedure

The original admission decision admitting a student to the PhD program is based on the student's previous academic records, Graduate Record Examinations scores and other evidence of scholastic abilities indicating promise for completing graduate studies. It is also a prerequisite that all PhD students successfully complete the screening procedures designated by the department. These usually consist of a written and an oral examination administered by the faculty. Students who fail the screening procedure will be advised that they are not recommended to continue in the PhD program and that any additional work may not be counted toward the degree.

Qualifying Exam Committee

The PhD student's program of study is supervised by the qualifying exam committee, which is formed immediately after passing the screening examination. The committee consists of five members, composed of the following: at least three USC faculty members (the committee chair plus at least two others) with appointments in the student's major department, of which at least one must be tenured; and at least one USC faculty member—denoted the "outside member"—with primary appointment outside the major department. These four committee members must have, and the fifth committee member usually has, a USC appointment (tenured/tenure-track faculty or approved research faculty) that makes them eligible to chair a PhD committee. Upon written request of the committee chair, and with a curricula vita that demonstrates a professional profile suitable for supervising PhD research, the fifth member may be a USC researcher or an "external member" from outside USC. The forms to appoint the committee are obtainable from the VASE website.

Qualifying Examinations

The qualifying examinations are taken during the last semester of the second year of graduate study or, at the latest, in the fifth semester or equivalent. The request to take the Qualifying Examinations must be filed in the semester prior to taking the examinations and at least 30 days before beginning the examinations. The examinations are intended to determine the extent of the student's knowledge in basic science and engineering areas as well as the ability to do original and scholarly research. The qualifying exam committee decides the nature of the qualifying examinations (both oral and written portions) according to the policies applicable in each department.

If not otherwise enrolled, a student must enroll in GRSC 800 during the semester in which the qualifying examination is to be taken. Students are strongly encouraged to take the qualifying examination during the first semester in which they are enrolled in Studies for the Qualifying Examination, and may not enroll in more than two semesters of Studies for the Qualifying Examination before taking the qualifying examination.

The examinations may be scheduled at any time during the semester provided that all members of the committee are available to administer them. All portions of the examinations must be completed within 60 days. After passing the qualifying examinations the PhD student is admitted to candidacy by the Graduate School and the dissertation committee is established. After this step, students will normally engage in at least one year of full-time graduate study and research on campus.

Doctoral Dissertation

An acceptable dissertation based on original investigation and supervised directly by the dissertation committee is required. The dissertation must show mastery of a special field, capacity for independent research and a scholarly result. Candidates are expected to keep all members of the dissertation committee informed of their progress at all stages of the dissertation.

Dissertation Committee

The dissertation committee must include: at least two USC faculty members (the committee chair plus one other) with appointments in the student's major department, of which at least one must be tenured; and at least one USC faculty member—called the "outside member"—with primary appointment outside the major department. These three committee members must have a USC appointment (tenured/tenure-track faculty or approved research faculty) that makes them eligible to chair a PhD committee. Additional committee members who do not meet that criterion (other USC faculty or researcher, or an external member from outside USC) may be included, upon written request of the committee chair and with a curricula vita that demonstrates a professional profile suitable for supervising PhD research. The dissertation committee may include the same five members as the PhD qualifying exam committee.

Defense of the Dissertation

After satisfactorily meeting all other requirements and after the research and writing of the dissertation are substantially complete, the PhD candidate must pass a general final oral examination devoted to the major field and to the topic of the dissertation. The examination will be conducted in such a manner as to determine to the satisfaction of the dissertation committee that the candidate

has attained the stage of scholarly advancement and power of investigation demanded by the university for final recommendation to the doctorate. The faculty are invited to attend and to participate in the final oral examination. However, only the dissertation committee may vote. Unanimous approval of the committee is required for the student to upload the dissertation to the Graduate School.

Departmental Requirements

The requirements and regulations set forth in this portion of the catalogue are to be construed as the minimal requirements only as established by the Graduate School. In addition, students must meet all the requirements established by their department.

Progress Toward the Degree

Graduate students are expected to make regular progress toward their degrees as defined by the faculty of their respective departments and within the time limits allowed. Graduate students' progress and performance are reviewed each semester. Students making unsatisfactory progress receive a formal written warning and are placed on a semester of academic warning with specific conditions to be met for continuation in the program. Please refer to catalogue sections Academic Warning and Dismissal of Graduate Students; Grade Point Average Requirements; and the website of the Office of Viterbi Admission and Student Engagement (VASE) at viterbigrad.usc.edu.

Special Educational Opportunities

DEN@Viterbi

Established in 1972, DEN@Viterbi, the USC Viterbi School of Engineering's online delivery system is a pioneer in the distance learning arena, using cutting-edge technology to enable professional engineers to take USC engineering courses for graduate degree credit without coming to the campus. DEN@Viterbi students enrolled around the world are pursuing over 40 graduate degree programs online — more choices than at any other research university. DEN@Viterbi breaks down geographical and scheduling barriers, allowing students to take classes anytime and anywhere, with the option for live interactivity. DEN@Viterbi students receive support from administrative and technical staff, and enjoy access to all services the Viterbi School has to offer.

The Viterbi School has made it possible for on-campus students enrolled in DEN@Viterbi (online) courses to receive free access to the archived online course lectures. This valuable study aid enables students to review lectures throughout the semester.

For more information about graduate programs available online via DEN@Viterbi, please visit viterbi.usc.edu/den.

Departments

- Engineering
- Aerospace and Mechanical Engineering
- Astronautical Engineering
- Biomedical Engineering
- Chemical Engineering – Mork Family Department of Chemical Engineering and Materials Science
- Materials Science – Mork Family Department of Chemical Engineering and Materials Science
- Petroleum Engineering – Mork Family Department of Chemical Engineering and Materials Science
- Civil Engineering – Sonny Astani Department of Civil and Environmental Engineering
- Environmental Engineering - Sonny Astani Department of Civil and Environmental Engineering
- Computer Engineering
- Computer Science
- Electrical and Computer Engineering – Ming Hsieh Department of Electrical and Computer Engineering
- Green Technologies
- Industrial and Systems Engineering – Daniel J. Epstein Department of Industrial and Systems Engineering
- Data Science Program
- Information Technology Program
- Manufacturing Engineering
- Product Development Engineering
- Sustainable Infrastructure Systems
- Systems Architecting and Engineering

Engineering

The courses listed in the following section have been designed for specific groups of students for various purposes as indicated in the course descriptions. Certain courses have restrictions related to their applicability for degree credit. Students should consult the academic adviser in the major department for further information.

Aerospace and Mechanical Engineering

Student Services Office
Olin Hall of Engineering
Room 500
(213) 740-4303
FAX: (213) 740-7774
Email: ame@usc.edu

Business Office
Olin Hall of Engineering
Room 400
(213) 740-8762
FAX: (213) 740-8071
Email: ame@usc.edu
ame.usc.edu
Chair: Paul Ronney, PhD

Faculty

Choong Hoon Cho Chair in Aerospace and Mechanical Engineering: Michael Kassner, PhD
Arthur B. Freeman Professorship in Engineering: Andrea Hodge, PhD
Hughes Professorship: Assad Oberai, PhD
Smith International Professor of Mechanical Engineering: Satyandra K. Gupta, PhD
William E. Leonhard Professor of Engineering: Fokion Egolfopoulos, PhD
Zohrab A. Kaprielian Fellow in Engineering: Eva Kanso, PhD
WiSE Gabilan Assistant Professors: Ananya Renuka Balakrishna, PhD; Alejandra Uranga, PhD
Professors: Julian Domaradzki, PhD**; Fokion Egolfopoulos, PhD*; Henryk Flashner, PhD; Satyandra K. Gupta, PhD; Yan Jin, PhD; Eva Kanso, PhD; Paul K. Newton, PhD; Assad Oberai, PhD; Carlos Pantano-Rubino, PhD; Paul Ronney, PhD; Satwindar S. Sadhal, PhD; Geoffrey Spedding, PhD*; Firdaus E. Udwadia, PhD *(Civil and Environmental Engineering, Data Science and Operations, Systems Architecting and Engineering and Mathematics)*; Bingen Yang, PhD
Associate Professors: Mitul Luhar, PhD; Geoffrey R. Shiflett, PhD*
Assistant Professors: Ivan Bermejo-Moreno, PhD; Quan Nguyen, PhD; Niema Pahlevan, PhD; Paul Plucinsky, PhD; Ananya Renuka Balakrishna, PhD; Alejandra Uranga, PhD; Hangbo Zhao, PhD
Professor of Engineering Practice: M. Oussama Safadi, PhD*
Associate Professors of Engineering Practice: Charles Radovich, PhD; Yann Staelens, PhD
Senior Lecturers: Inna Abramova, PhD; Matthew Gilpin, PhD; Takahiro Sakai, PhD

Lecturers: BoCheng Jin, PhD; Akshay Potnuru, PhD; Ramtin Sheikhhassani, PhD
Research Assistant Professor: Anita Penkova, PhD
Joint Appointments: Andrea Martin Armani, PhD (*Chemical Engineering and Material Science*); Yong Chen, PhD *(Industrial and Systems Engineering)*; Heather Culbertson, PhD (*Computer Science*); Daniel Erwin, PhD* *(Astronautics)*; Roger Georges Ghanem, PhD (*Civil and Environmental Engineering*); Mike Gruntman, PhD *(Astronautics)*; Andrea Hodge, PhD *(Chemical Engineering and Materials Science)*; Petros Ioannou, PhD *(Electrical and Computer Engineering — Systems)*; Mihailo Jovanovic, PhD (*Electrical and Computer Engineering*); Michael Kassner, PhD *(Chemical Engineering and Materials Science)*; Berok Khoshnevis, PhD *(Industrial and Systems Engineering);* Peter Kuhn, PhD (*Biological Sciences*); Stephen C-Y Lu, PhD *(Industrial and Systems Engineering)*; Sami F. Masri, PhD *(Civil and Environmental Engineering)*; Steven Nutt, PhD *(Materials Science)*; Feifei Qian, PhD (*Electrical and Computer Engineering)*; Constantinos Sioutas, PhD *(Civil and Environmental Engineering)*; Francisco Valero-Cuevas, PhD *(Biomedical Engineering*); Qiming Wang, PhD (*Civil and Environmental Engineering*)
Adjunct Associate Professor: Adam Fincham, PhD
Emeritus Professors: Ron Blackwelder, PhD*; Fred Browand, PhD; Charles Campbell, PhD; Clarke Howatt, MS; Terence Langdon, PhD; Larry G. Redekopp, PhD*; Donald E. Shemansky, PhD
**Recipient of university-wide or school teaching award.*
***Recipient of university-wide or school research award.*
Mechanical Engineering Honor Society: Pi Tau Sigma
Aerospace Engineering Honor Society: Sigma Gamma Tau

Degrees and Requirements

Educational Mission — The degree programs of the Department of Aerospace and Mechanical Engineering provide the educational foundation for success in all walks of life whether or not one's career path includes employment as a professional engineer, work in a field outside of engineering, or pursuit of further education.

Undergraduate Program Educational Objectives — Graduates of the undergraduate programs in Aerospace and Mechanical Engineering are expected to attain the following objectives within a few years after graduation:

- Work as professionals within engineering or a related area in both small- and large-scale businesses;
- Pursue further education through graduate school or professional development courses; and
- Become leaders within their chosen profession whether it be industry, academia or service.

Aerospace Engineering Degrees

Bachelor of Science in Aerospace Engineering: The program leading to a Bachelor of Science in Aerospace Engineering prepares graduates to have a knowledge of aerodynamics, aerospace materials, structures, propulsion, flight mechanics, and stability and control. The program also prepares graduates to have design competence that includes integration of aeronautical topics.

Master of Science in Aerospace Engineering: The program(s) leading to a Master of Science in Aerospace Engineering prepare the student to practice engineering at an advanced level in a specialization within aerospace engineering and to recognize the benefit of solving problems using expertise from other engineering disciplines. Students improve their skills in setting up and solving problems by using contemporary tools and leveraging interaction with peers.

PhD in Aerospace Engineering: See Aerospace Engineering (PhD)

Mechanical Engineering Degrees

Bachelor of Science in Mechanical Engineering: The department offers a Bachelor of Science degree in Mechanical Engineering that includes several tracks allowing for a certain amount of specialization. In addition to several tracks, petroleum engineering exists as an area of emphasis within the overall mechanical engineering program (note: an area of emphasis appears in parenthesis after the primary major name on the transcript; tracks do not appear on the transcript; neither tracks nor emphases appear on the diploma). The program leading to a Bachelor of Science in Mechanical Engineering requires students to apply principles of engineering, basic science and mathematics (including multivariate calculus and differential equations); to model, analyze, design and realize physical systems, components or processes; and prepares students to work professionally in both thermal and mechanical systems areas.

Minor in Music Recording: A minor in music recording is offered through the USC Thornton School of Music to provide undergraduate students with the background necessary to enter the field of recording engineering and to familiarize them with the design needs of modern recording equipment. The minor is recommended to mechanical engineering majors with extensive musical training who would like to combine their technical and musical abilities while learning the engineering applications of physical and mathematical principles to the art of music recording. See the listing under the USC Thornton School of Music.

Master of Science in Mechanical Engineering: The field of mechanical engineering is incredibly broad. To accommodate both the breadth of the field and students' interests, the department offers several options for students pursuing the MS in Mechanical Engineering. These options include several tracks through the general MS program as well as several named emphases. Tracks, both topical and traditional, through the general MS in Mechanical Engineering program are intended to guide students through a particular area of specialization.

Advanced manufacturing is one example of a topical specialization. The use of Advanced Manufacturing is key to increasing the competitiveness of manufacturing in the US. The Advanced Manufacturing Track within Mechanical Engineering educates and trains multidisciplinary professionals to pursue careers in manufacturing companies as designers, manufacturing engineers, and engineering managers. This program covers modeling of physical manufacturing processes, development and utilization of computational tools, and modeling and optimization of manufacturing systems. It includes recent developments in manufacturing such as collaborative robotics, additive manufacturing, smart manufacturing, and Industry 4.0. This degree provides the graduate student with a broad, well-rounded, advanced education that can be applied to many different industries in which advanced manufacturing plays a role. For more information about the Advanced Manufacturing track within the MS in Mechanical Engineering program, please contact the faculty adviser for this track, Prof. S.K. Gupta (guptask@usc.edu).

Master of Science in Mechanical Engineering (Energy Conversion): See Sustainable Infrastructure Systems Program.

Master of Science in Product Development Engineering (Technology Track): See the listing under Product Development Engineering.

PhD in Mechanical Engineering See Mechanical Engineering (PhD)

Bachelor's Degree

Aerospace Engineering (BS)

The requirement for this degree is 128-130 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied toward the major, regardless of the department in which the courses are taken. See the common requirements for undergraduate degrees section.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

General Education

General education Units: 24 +

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
  or
- MATH 127 Enhanced Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4
  or
- MATH 227 Enhanced Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4 *
- MATH 245 Mathematics of Physics and Engineering I Units: 4
  * The AME Department recommends that AME students enroll in the 129/229 sequence.

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
  or
- PHYS 161Lg Advanced Principles of Physics I Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
  or
- PHYS 162L Advanced Principles of Physics II Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4
  or
- PHYS 163L Advanced Principles of Physics III Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
  or
- MASC 110L Materials Science Units: 4

Major Requirements

Aerospace and Mechanical Engineering Core

- AME 105 Introduction to Aerospace Engineering Units: 4
- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 231L Mechanical Behavior of Materials Units: 3
- AME 261 Basic Flight Mechanics Units: 4
- AME 301 Dynamics Units: 3
- AME 302 Dynamic Systems Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 309 Dynamics of Fluids Units: 4
- AME 310 Engineering Thermodynamics I Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 341bL Mechoptronics Laboratory I and II Units: 3
- AME 436 Energy and Propulsion Units: 3
- AME 441aL Senior Projects Laboratory Units: 3
- AME 451 Linear Control Systems I Units: 3
- AME 481 Aircraft Design Units: 4

Astronautics

- ASTE 280 Foundations of Astronautical Engineering Units: 3

Information Technology Program

- ITP 168 Introduction to MATLAB Units: 2

Tracks (Choose one)

Standard Track (9 units)

- AME 404 Computational Solutions to Engineering Problems Units: 3
  Technical Electives*

Note:

*Technical electives consist of most upper-division courses in engineering, chemistry, physics, or mathematics.

Aeronautics Track (8 units)*

- AME 443 Control Systems Laboratory Units: 3
  or
- AME 459 Flight Mechanics Units: 3
- AME 460 Aerodynamic Theory Units: 3
  Free elective 2 units

Aerospace Structures Track (9 units)

- AME 403 Stress Analysis Units: 3
  or
- AME 420 Engineering Vibrations I Units: 3
- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
  or
- CE 458 Computational Structural Analysis Units: 4
- AME 485 Aerospace Structures I Units: 3
  or
- CE 358L Elementary Theory of Structures Units: 4

Aerospace Controls Track (9 units)

- AME 420 Engineering Vibrations I Units: 3
  or
- AME 453 Engineering Dynamics Units: 3
- AME 443 Control Systems Laboratory Units: 3
- AME 459 Flight Mechanics Units: 3
  or
- ASTE 480 Spacecraft Dynamics Units: 3

Aerospace Design Track (9 units)

- AME 459 Flight Mechanics Units: 3
  or
- ASTE 480 Spacecraft Dynamics Units: 3
  Choose two from the following:
- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 430 Thermal Systems Design Units: 3
- ASTE 421x Space Mission Design Units: 3

Thermal Systems Track (9-10 units)*

- AME 414 Engineering Thermodynamics II Units: 3
  or
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4
- AME 331 Heat Transfer Units: 3
- AME 430 Thermal Systems Design Units: 3

Note:

*Program will be 130 units if PHYS 316 is selected; program will be 128 units if Aeronautics track is selected.

Total units: 128-130

Mechanical Engineering (BS)

The requirement for the degree is 128 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied toward the major, regardless of the department in which the courses are taken. See the common requirements for undergraduate degrees section.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

General Education

- General education Units: 24

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
  or
- MATH 127 Enhanced Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4 *

- MATH 226g Calculus III Units: 4
  or
- MATH 227 Enhanced Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4 *
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Note:

*The AME Department recommends that AME students enroll in the 129/229 sequence.

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
  or
- PHYS 161Lg Advanced Principles of Physics I Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
  or
- PHYS 162L Advanced Principles of Physics II Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4
  or
- PHYS 163L Advanced Principles of Physics III Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
  or
- MASC 110L Materials Science Units: 4

Major Requirements

Aerospace and Mechanical Engineering Core

- AME 101L Introduction to Mechanical Engineering and Graphics Units: 3
- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 301 Dynamics Units: 3
- AME 302 Dynamic Systems Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 309 Dynamics of Fluids Units: 4
- AME 310 Engineering Thermodynamics I Units: 3
- AME 331 Heat Transfer Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 341bL Mechoptronics Laboratory I and II Units: 3
- AME 441aL Senior Projects Laboratory Units: 3

Materials Science

- MASC 310 Materials Behavior and Processing Units: 4

Information Technology

- ITP 168 Introduction to MATLAB Units: 2

Tracks (Choose one)

Standard Track (23 Units)

- AME 451 Linear Control Systems I Units: 3
- AME Core Electives Units: 12*
- AME Capstone Elective Units: 3**
- AME Design Elective Units: 3***
- Free Electives Units: 2

Note:

*Any upper-division course in AME.
**Any approved Capstone Elective course (select from AME 409, AME 415, AME 423, AME 430, AME 443 or other department-approved course).
***An approved AME design course (select from AME 408, AME 430 or any special topic design course).

Computational Track (23 Units)

- AME 405 Functional Approach to Computational Methods Units: 3
- AME 404 Computational Solutions to Engineering Problems Units: 3
- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 415 Turbine Design and Analysis Units: 3
- Technical Electives Units: 6
- Free Electives Units: 5

Note:

* Technical Electives must be upper-division engineering, MATH, PHYS or CHEM classes.

Design Track (23 Units)

- AME 305 Mechanical Design Units: 3
- AME 403 Stress Analysis Units: 3
- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 409 Senior Design Project Units: 4
- AME 410 Engineering Design Theory and Methodology Units: 3
- AME 420 Engineering Vibrations I Units: 3
- AME 451 Linear Control Systems I Units: 3
- Free Elective Units: 1

Dynamics/Controls Track (23 Units)

- AME 303 Dynamics of Machinery Units: 3
- AME 420 Engineering Vibrations I Units: 3
- AME 423L Loudspeaker and Sound System Design Units: 4
- AME 443 Control Systems Laboratory Units: 3
- AME 451 Linear Control Systems I Units: 3
- AME 453 Engineering Dynamics Units: 3
- Free Elective Units: 5

Thermo/Fluids Track (23 Units)

- AME 414 Engineering Thermodynamics II Units: 3
- AME 415 Turbine Design and Analysis Units: 3
- AME 430 Thermal Systems Design Units: 3
- AME 436 Energy and Propulsion Units: 3
- AME 457 Engineering Fluid Dynamics Units: 3
  or
- AME 460 Aerodynamic Theory Units: 3

- Technical Elective Units: 3*
- Free Elective Units: 5

Note:

* Technical Electives must be upper-division engineering, MATH, PHYS or CHEM classes.

Total units: 128

Mechanical Engineering, Petroleum Engineering (BS)

The requirement for the degree with an emphasis in petroleum engineering is 128 units. A cumulative GPA of 2.0 or higher is required for all upper division course work in engineering, science and mathematics. See the common requirements for undergraduate degrees section.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4 *
- MATH 226g Calculus III Units: 4
  or

- MATH 227 Enhanced Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4 *
- MATH 245 Mathematics of Physics and Engineering I Units: 4
  * The AME Department recommends that AME students complete the 129/229 sequence.

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
  or
- PHYS 161Lg Advanced Principles of Physics I Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
  or
- PHYS 162L Advanced Principles of Physics II Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4
  or
- PHYS 163L Advanced Principles of Physics III Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 or
- MASC 110L Materials Science Units: 4

Major Requirements

Aerospace and Mechanical Engineering

- AME 101L Introduction to Mechanical Engineering and Graphics Units: 3
- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 301 Dynamics Units: 3
- AME 302 Dynamic Systems Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 309 Dynamics of Fluids Units: 4
- AME 310 Engineering Thermodynamics I Units: 3
- AME 331 Heat Transfer Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 341bL Mechoptronics Laboratory I and II Units: 3
- AME 441aL Senior Projects Laboratory Units: 3

Materials Science

- MASC 310 Materials Behavior and Processing Units: 4
  Information Technology Program
- ITP 168 Introduction to MATLAB Units: 2

Petroleum Engineering Emphasis

- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 409 Senior Design Project Units: 4
- PTE 461 Formation Data Sensing with Well Logs Units: 4
- PTE 463L Introduction to Transport Processes in Porous Media Units: 4
- PTE 464L Modeling and Simulation of Subsurface Flow Systems Units: 4
- PTE 465L Drilling Technology and Subsurface Methods Units: 3

Technical Electives (4 units)

Technical electives must be upper-division engineering, MATH, PHYS or CHEM classes.

Total units: 128

Master's Degree

Aerospace and Mechanical Engineering (Computational Fluid and Solid Mechanics) (MS)

The program prepares students for professional careers in engineering companies that develop products using computational tools of fluid and solid mechanics. The program also provides the necessary background for pursuing higher degrees, Engineer and PhD, in aerospace and mechanical engineering with specializations in computational fluid mechanics, computational solid mechanics and computational heat transfer. The degree course work provides a necessary background in basic aerospace and mechanical engineering disciplines (solid mechanics, fluid mechanics, heat transfer), engineering mathematics and numerical methods. The advanced computational technical electives provide practical examples using existing numerical programs to simulate structures, heat transfer and fluid flows as well as commercial packages.

Admission requirements follow the general admission rules for aerospace and mechanical engineering graduate programs. For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering. The program requires completion of a minimum of 27 units, with at least 18 units at the 500 level, and a cumulative GPA of at least 3.0 for graduation. Students will be given advisement in the first semester of their study. A minimum of 15 units must be 500 level courses in major department. Four of the required units must be in engineering analysis AME 525. In addition to AME 525 students are required to take five core courses covering numerical methods, fluid dynamics, solid mechanics, computational fluid dynamics, and finite element analysis. Elective courses can be chosen in areas of specific interest to the student. Information on the current approved courses that comprise these core and elective requirements is available from the department Website *ame.usc.edu.*

Note:

Elective courses can be chosen in areas of specific interest to the student. Information on the current approved courses that comprise these core and elective requirements is available from the department Website *ame.usc.edu.*

Aerospace and Mechanical Engineering (Dynamics and Control) (MS)

The Master of Science in Aerospace and Mechanical Engineering with emphasis in Dynamics and Control educates and trains multidisciplinary professionals in the modeling, analysis, simulation and control of complex time-evolutionary systems. The program provides the graduate student with a broad, well-rounded, advanced education that can be applied to many specific, technologically advanced fields in which dynamics and control play a pivotal role. It is a program of study that encompasses advanced analytical dynamics, nonlinear dynamical systems, linear and nonlinear dynamics and vibrations, and linear and nonlinear control. The program equips students to apply their knowledge to a variety of complex systems encountered in nature and society, especially those in civil, mechanical and aerospace engineering and applied mechanics.

Admission requirements follow the general admission rules for aerospace and mechanical engineering graduate programs. For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering. The program requires completion of a minimum of 27 units, with at least 18 units at the 500 level, and a cumulative GPA of at least 3.0 for graduation. Students will be given advisement in the first semester of their study. In addition to engineering analysis (AME 525 or AME 526) students are required to take five core courses covering engineering vibrations, nonlinear dynamical systems and chaos, advanced engineering dynamics, linear control systems, and nonlinear control systems. Elective courses can be chosen in areas of specific interest to the student such as orbital dynamics, spacecraft control, aircraft dynamics and control, chaos and chaotic dynamics, random vibrations, computer control of mechanical systems and robotics. Information on the current approved courses that comprise these core and elective requirements is available from the department Website *ame.usc.edu.*

Aerospace Engineering (MS)

Admission requirements follow the general admission rules for aerospace and mechanical engineering graduate programs. For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering. The program of study depends upon the student's interests and background. The program requires completion of a minimum of 27 units, with at least 18 units at the 500 level, and a cumulative GPA of at least 3.0 for graduation. A minimum of 15 units must be 500 level courses in major department. Four of the required units must be in engineering analysis AME 525.

In addition to the general requirements listed in this catalogue, the department has identified requirements in the following areas of specialization: aerodynamics/fluid dynamics; aerospace controls; aerospace design; aerospace structures; computational fluid dynamics; hypersonics; and propulsion. Core requirements and elective requirements are defined for each area of specialization. Information on the current approved courses that comprise these core and elective requirements is available from the department Website *ame.usc.edu*.

Aerospace Engineering/Engineering Management (MS)

The department of Aerospace and Mechanical Engineering in conjunction with the Daniel J. Epstein Department of Industrial and Systems Engineering offers programs leading to the degree of Master of Science in Aerospace Engineering/Master of Science in Engineering Management. This program is designed for graduate aerospace engineers whose career objectives lead to increasing technical management responsibilities.

In addition to the general requirements of the Viterbi School of Engineering, the dual degree of Master of Science in Aerospace Engineering/Master of Science in Engineering Management is also subject to the following requirements:

1. All applicants must meet the admission requirements of both the Department of Aerospace and Mechanical Engineering and the Department of Industrial and Systems Engineering;
2. A minimum of 48 units is required;
3. A minimum of 18 units must be graduate-level course work in AME, approved by an AME graduate student adviser;
4. A minimum of 18 units must be graduate level course work in ISE, approved by the ISE Engineering Management graduate student adviser and chosen from the course list under Master of Science in Engineering Management;
5. A minimum additional 12 units of acceptable course work must be chosen with the consent of the ISE Engineering Management graduate student adviser to form a coherent program.

Mechanical Engineering (MS)

Admission requirements follow the general admission rules for aerospace and mechanical engineering graduate programs. For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering. The program of study depends upon the student's interests and background. The program requires completion of a minimum of 27 units, with at least 18 units at the 500 level, and a cumulative GPA of at least 3.0 for graduation. A minimum of 15 units must be 500-level courses in major department. Four of the required units must be in engineering analysis AME 525.

In addition to the general requirements listed in this catalogue, the department has identified requirements in the following areas of specialization: engineering design; thermal and fluid sciences; heat transfer; combustion; mechanics and materials; dynamics and control; solid and structural mechanics; and manufacturing. Core requirements and elective requirements are defined for each area of specialization. Information on the current approved courses that comprise these core and elective requirements is available from the department Website *ame.usc.edu*.

Mechanical Engineering (Nuclear Power) (MS)

Note: Applications for this degree are not currently being accepted.

The program prepares students for professional careers in nuclear power industry. The program also provides the necessary background for pursuing higher degrees, Engineer and PhD. Admission requirements follow the general admission rules for aerospace and mechanical engineering graduate programs. For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering. The program requires completion of a minimum of 27 units, with at least 18 units at the 500 level, and a cumulative GPA of at least 3.0 for graduation. Students will be given advisement in the first semester of their study. A minimum of 15 units must be 500-level courses in major department. Four of the required units must be in engineering analysis AME 525.

In addition to AME 525, students are required to take five core courses covering advanced engineering mathematics, nuclear thermal-hydraulics, nuclear reactor physics, nuclear physics relevant to human health, and nuclear safety and security. Elective courses can be chosen in areas of specific interest to the student. Information on the current approved courses that comprise these core and elective requirements is available from the department Website *ame.usc.edu*.

Mechanical Engineering/Engineering Management (MS)

The department of Aerospace and Mechanical Engineering in conjunction with the Daniel J. Epstein Department of Industrial and Systems Engineering offers programs leading to the degree of Master of Science in Mechanical Engineering/Master of Science in Engineering Management. This program is designed for graduate mechanical engineers whose career objectives lead to increasing technical management responsibilities.

In addition to the general requirements of the Viterbi School of Engineering, the dual degree of Master of Science in Mechanical Engineering/Master of Science in Engineering Management is also subject to the following requirements:

1. All applicants must meet the admission requirements of both the Department of Aerospace and Mechanical Engineering and the Department of Industrial and Systems Engineering;
2. A minimum of 48 units is required;
3. A minimum of 18 units must be graduate level course work in AME, approved by an AME graduate student adviser;
4. A minimum of 18 units must be graduate level course work in ISE, approved by the ISE Engineering Management graduate student adviser and chosen from the course list under Master of Science in Engineering Management;
5. A minimum additional 12 units of acceptable course work must be chosen with the consent of the ISE Engineering Management graduate student adviser to form a coherent program.

Doctoral Degree

Aerospace Engineering (PhD)

The PhD in Aerospace Engineering is awarded in strict conformity with the general requirements of the USC Graduate School. See general requirements for graduate degrees. The degree requires a concentrated program of study, research, and a dissertation. Each student wishing to undertake a doctoral program must first be admitted to the program and then take the screening examination. This examination will emphasize comprehension of fundamental material in the graduate course work. Further guidance concerning admission, the screening exam, and the full completion of courses, including those given outside the Department of Aerospace and Mechanical Engineering, can be obtained from the AME student adviser and program coordinators.

Mechanical Engineering (PhD)

The PhD in Mechanical Engineering is awarded in strict conformity with the general requirements of the USC Graduate

School. See general requirements for graduate degrees. The degree requires a concentrated program of study, research, and a dissertation. Each student wishing to undertake a doctoral program must first be admitted to the program and then take the screening examination. This examination will emphasize comprehension of fundamental material in the graduate course work. Further guidance concerning admission, the screening exam, and the full completion of courses, including those given outside the Department of Aerospace and Mechanical Engineering, can be obtained from the AME student adviser and program coordinators.

Astronautical Engineering

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Room 500
(213) 821-5817
FAX: (213) 821-5819
Email: aste@usc.edu
astronautics.usc.edu
Chair: Daniel A. Erwin, PhD*

Faculty

Professors: Daniel A. Erwin, PhD* *(Aerospace Engineering)*; Mike Gruntman, PhD *(Aerospace Engineering)*; Azad Madni, PhD; Joseph Wang, PhD *(Aerospace Engineering)*
Professor of Engineering Practice: Garrett Reisman, PhD
Adjunct Professors: Gerald Hintz, PhD; Michael Kezirian, PhD; William Tobiska, PhD; James Wertz, PhD
Adjunct Associate Professors: Keith Goodfellow, PhD; Ryan Park, PhD
Research Professor: David Barnhart, ME
Adjunct Research Associate Professors: Sergey Gimelshein, PhD; Anita Sengupta, PhD
Emeritus Professors: George Friedman, PhD; Joseph A. Kunc, PhD
**Recipient of university-wide or school teaching award.*
Aerospace Engineering Honor Society: Sigma Gamma Tau

Degree Requirements

Undergraduate Program Educational Objectives

The Bachelor of Science degree program in Astronautical Engineering has the following objectives:

Within a few years of graduation, graduates will:

- Establish themselves as practicing professionals, or undertake advanced study, in astronautical engineering or a related field;
- Demonstrate their ability to perform successfully as members of a team and function effectively as responsible professionals.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Astronautical Engineering prepares graduates to have knowledge of orbital mechanics, space environment, attitude determination and control, telecommunications, space structures and rocket propulsion. The program also prepares graduates to have design competence that includes integration of astronautical topics.

Engineer in Astronautical Engineering

Requirements for the Engineer degree in Astronautical Engineering are the same as set forth in the general requirements. See the general requirements for Viterbi graduate degrees.

Credit for classes may be applied toward the MS, Engineer or PhD in Astronautical Engineering, should the student decide later to pursue an advanced degree. In order to be admitted to the MS program, the student should maintain a B average or higher in courses for the certificate and must satisfy all normal admission requirements. All courses for the certificate must be taken at USC. It is anticipated that other classes on emerging space technologies will be added to the list of the offered classes in the future.

Bachelor's Degree

Astronautical Engineering (BS)

The Bachelor of Science in Astronautical Engineering prepares students for engineering careers in the space industry, for research and development in industry and government centers and laboratories, and for graduate study. The program combines a core in the fundamentals of engineering, specialized work in astronautics and space technology, and technical electives to broaden and/or deepen the course work.

The requirement for this degree is 129 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See also the common requirements for undergraduate degrees section.

Composition/Writing Requirements

- WRIT 130 Analytical Writing Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Total units: 8

General Education

- General education Units: 24 * +

Required Lower Division Courses

- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- ASTE 101L Introduction to Astronautics Units: 4
- ASTE 280 Foundations of Astronautical Engineering Units: 3
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 or
- MASC 110L Materials Science Units: 4
- ENGR 102 Engineering Freshman Academy Units: 2
- ITP 168 Introduction to MATLAB Units: 2
- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 *
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Upper Division Courses

- AME 301 Dynamics Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 310 Engineering Thermodynamics I Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 341bL Mechoptronics Laboratory I and II Units: 3
- AME 441aL Senior Projects Laboratory Units: 3
- ASTE 305 Astronautical Gas Dynamics Units: 4
- ASTE 331a Spacecraft Systems Engineering Units: 3
- ASTE 331b Spacecraft Systems Engineering Units: 3
- ASTE 404 Computational Programming and Numerical Methods Units: 3
- ASTE 421x Space Mission Design Units: 3
- ASTE 470 Spacecraft Propulsion Units: 3
- ASTE 480 Spacecraft Dynamics Units: 3
- Technical electives Units: 8 **

Total units: 129

**Satisfies GE Category III requirement (for students following the previous GE Program).*
***Technical electives consist of (1) any upper division course in engineering except* CE 404*,* CE 412 *and* ISE 440*, or (2) an upper division course in chemistry, physics or mathematics and* MATH

225. *No more than 3 units of 490 course work can be used to satisfy the technical elective requirement.*
+The university allows engineering majors to replace the GE Category IV with a second course in Categories I, II or VI (for students following the previous GE Program).

Minor

Astronautical Engineering Minor

This program is for USC students who wish to work in the space industry and government space research and development centers and who are pursuing bachelor's degrees in science, mathematics or engineering with specializations other than in astronautical engineering.

The space industry employs a wide variety of engineers (electrical, mechanical, chemical, civil, etc.); scientists (physicists, astronomers, chemists); and mathematicians. These engineers participate in development of advanced space systems but they usually lack the understanding of basic fundamentals of astronautics and space systems. The minor in astronautical engineering will help overcome this deficiency and provide unique opportunities for USC engineering, science and mathematics students, by combining their basic education in their major field with the industry specific minor in astronautical engineering.

Required course work consists of a minimum of 18 units. Including prerequisites, the minor requires 46 units. Three courses, or 9 units, at the 400 level will be counted toward the minor. The course work is a balanced program of study providing the basic scientific fundamentals and engineering disciplines critically important for contributing to development of complex space systems.

Prerequisite Courses

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Courses

- AME 310 Engineering Thermodynamics I Units: 3
- ASTE 280 Foundations of Astronautical Engineering Units: 3
- ASTE 331a Spacecraft Systems Engineering Units: 3
- ASTE 331b Spacecraft Systems Engineering Units: 3
- ASTE 421x Space Mission Design Units: 3
- ASTE 470 Spacecraft Propulsion Units: 3 or
- ASTE 480 Spacecraft Dynamics Units: 3

Total Minimum Units: 18

Master's Degree

Astronautical Engineering (MS)

This degree is in the highly dynamic and technologically advanced area of astronautics and space technology. The program is designed for those with BS degrees in science and engineering who wish to work in the space sector of the defense/aerospace industry, government research and development centers, and laboratories and academia. The program is available through the USC Distance Education Network (DEN).

The general portion of the Graduate Record Examinations (GRE) and two letters of recommendation are required. For standard Admission Requirements, refer to USC Viterbi School of Engineering.

Required courses: 27 units

Core Requirement (12 Units)

- ASTE 470 Spacecraft Propulsion Units: 3 or
- ASTE 575 Rocket and Spacecraft Propulsion Units: 3
- ASTE 520 Spacecraft System Design Units: 3
- ASTE 535 Space Environments and Spacecraft Interactions Units: 3
- ASTE 580 Orbital Mechanics I Units: 3

Core Elective Requirement (9 Units — Choose Three Courses)

- ASTE 501a Physical Gas Dynamics Units: 3
- ASTE 501b Physical Gas Dynamics Units: 3
- ASTE 505a Plasma Dynamics Units: 3
- ASTE 505b Plasma Dynamics Units: 3
- ASTE 523 Design of Low Cost Space Missions Units: 3
- ASTE 524 Human Spaceflight Units: 3
- ASTE 527 Space Studio Architecting Units: 3
- ASTE 528 Reliability of Space Systems Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 552 Spacecraft Thermal Control Units: 3
- ASTE 553 Systems for Remote Sensing from Space Units: 3
- ASTE 554 Spacecraft Sensors Units: 3
- ASTE 555 Space Cryogenic Systems and Applications Units: 3
- ASTE 556 Spacecraft Structural Dynamics Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- ASTE 561 Human Factors of Spacecraft Operations Units: 3
- ASTE 562 Spacecraft Life Support Systems Units: 3
- ASTE 566 Ground Communications for Satellite Operations Units: 3
- ASTE 570 Liquid Rocket Propulsion Units: 3
- ASTE 571 Solid Rocket Propulsion Units: 3
- ASTE 572 Advanced Spacecraft Propulsion Units: 3 *
- ASTE 574 Space Launch Vehicle Design Units: 3
- ASTE 577 Entry and Landing Systems for Planetary Surface Exploration Units: 3
- ASTE 581 Orbital Mechanics II Units: 3
- ASTE 583 Space Navigation: Principles and Practice Units: 3
- ASTE 584 Spacecraft Power Systems Units: 3
- ASTE 585 Spacecraft Attitude Control Units: 3 *
- ASTE 586 Spacecraft Attitude Dynamics Units: 3
- ASTE 589 Solar System Navigation Units: 3

**Prerequisite required*

Technical Elective Requirement (6 Units)

Two 3-unit courses. Students are advised to select these two elective courses from the list of core electives or from other courses in astronautical engineering or from other science and engineering graduate courses, as approved by the faculty adviser. No more than 3 units of directed research (ASTE 590) can be applied to the 27-unit requirement. New courses on emerging space technologies are often offered; consult the current semester's course offerings, particularly for ASTE 599 Special Topics.

Note:

At least 21 units must be at the 500 or 600 level.

Possible Areas of Concentration:

Students may choose to concentrate their studies in a specific area by selecting corresponding core elective courses. Presently, ASTE faculty suggest the following areas of concentration:

Spacecraft Propulsion

Choose two core electives from:

- ASTE 501a Physical Gas Dynamics Units: 3
- ASTE 501b Physical Gas Dynamics Units: 3
- ASTE 505a Plasma Dynamics Units: 3
- ASTE 570 Liquid Rocket Propulsion Units: 3
- ASTE 571 Solid Rocket Propulsion Units: 3
- ASTE 572 Advanced Spacecraft Propulsion Units: 3
- ASTE 574 Space Launch Vehicle Design Units: 3
- ASTE 584 Spacecraft Power Systems Units: 3

Spacecraft Dynamics

Choose two core electives from:

- ASTE 556 Spacecraft Structural Dynamics Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- ASTE 581 Orbital Mechanics II Units: 3
- ASTE 583 Space Navigation: Principles and Practice Units: 3
- ASTE 585 Spacecraft Attitude Control Units: 3
- ASTE 586 Spacecraft Attitude Dynamics Units: 3
- ASTE 589 Solar System Navigation Units: 3

Space Systems Design

Choose two core electives from:

- ASTE 523 Design of Low Cost Space Missions Units: 3
- ASTE 524 Human Spaceflight Units: 3
- ASTE 527 Space Studio Architecting Units: 3
- ASTE 528 Reliability of Space Systems Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- ASTE 562 Spacecraft Life Support Systems Units: 3
- ASTE 574 Space Launch Vehicle Design Units: 3
- ASTE 577 Entry and Landing Systems for Planetary Surface Exploration Units: 3

Spacecraft Systems and Operations

Choose two core electives from:

- ASTE 524 Human Spaceflight Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 552 Spacecraft Thermal Control Units: 3
- ASTE 553 Systems for Remote Sensing from Space Units: 3
- ASTE 554 Spacecraft Sensors Units: 3
- ASTE 555 Space Cryogenic Systems and Applications Units: 3
- ASTE 561 Human Factors of Spacecraft Operations Units: 3
- ASTE 562 Spacecraft Life Support Systems Units: 3
- ASTE 566 Ground Communications for Satellite Operations Units: 3
- ASTE 584 Spacecraft Power Systems Units: 3

Space Applications

Choose two core electives from:

- ASTE 524 Human Spaceflight Units: 3
- ASTE 527 Space Studio Architecting Units: 3
- ASTE 553 Systems for Remote Sensing from Space Units: 3
- ASTE 554 Spacecraft Sensors Units: 3
- ASTE 555 Space Cryogenic Systems and Applications Units: 3

Safety of Space Systems

Choose two core electives from:

- ASTE 528 Reliability of Space Systems Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 561 Human Factors of Spacecraft Operations Units: 3

Human Space Flight

Choose two core electives from:

- ASTE 524 Human Spaceflight Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 561 Human Factors of Spacecraft Operations Units: 3
- ASTE 562 Spacecraft Life Support Systems Units: 3

Graduate Certificate

Astronautical Engineering Certificate

The Certificate in Astronautical Engineering is designed for practicing engineers and scientists who enter space-related fields and/or want to obtain training in specific space-related areas.

Students enroll at USC as limited status students; they must apply and be admitted to the certificate program after completion of no more than 9 units of required course work. The required course work consists of 12 units; students will choose four 3-unit courses from the following:

Required Courses (Choose Four)

- ASTE 501a Physical Gas Dynamics Units: 3
- ASTE 501b Physical Gas Dynamics Units: 3
- ASTE 505a Plasma Dynamics Units: 3
- ASTE 505b Plasma Dynamics Units: 3
- ASTE 520 Spacecraft System Design Units: 3
- ASTE 523 Design of Low Cost Space Missions Units: 3
- ASTE 524 Human Spaceflight Units: 3
- ASTE 527 Space Studio Architecting Units: 3
- ASTE 528 Reliability of Space Systems Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 535 Space Environments and Spacecraft Interactions Units: 3
- ASTE 552 Spacecraft Thermal Control Units: 3
- ASTE 553 Systems for Remote Sensing from Space Units: 3
- ASTE 554 Spacecraft Sensors Units: 3
- ASTE 555 Space Cryogenic Systems and Applications Units: 3
- ASTE 556 Spacecraft Structural Dynamics Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- ASTE 561 Human Factors of Spacecraft Operations Units: 3
- ASTE 562 Spacecraft Life Support Systems Units: 3
- ASTE 566 Ground Communications for Satellite Operations Units: 3
- ASTE 570 Liquid Rocket Propulsion Units: 3
- ASTE 571 Solid Rocket Propulsion Units: 3
- ASTE 572 Advanced Spacecraft Propulsion Units: 3 *
- ASTE 574 Space Launch Vehicle Design Units: 3
- ASTE 575 Rocket and Spacecraft Propulsion Units: 3
- ASTE 577 Entry and Landing Systems for Planetary Surface Exploration Units: 3
- ASTE 580 Orbital Mechanics I Units: 3
- ASTE 581 Orbital Mechanics II Units: 3
- ASTE 583 Space Navigation: Principles and Practice Units: 3
- ASTE 584 Spacecraft Power Systems Units: 3
- ASTE 585 Spacecraft Attitude Control Units: 3
- ASTE 586 Spacecraft Attitude Dynamics Units: 3
- ASTE 589 Solar System Navigation Units: 3 *
- ASTE 599 Special Topics Units: 2, 3, 4

Note:

Most classes are available through the USC Distance Education Network (DEN).

**Prerequisite required*

Doctoral Degree

Astronautical Engineering (PhD)

The PhD in Astronautical Engineering is awarded in strict conformity with the general requirements of the USC Graduate School. See general requirements for graduate degrees. The degree requires a concentrated program of study, research and a dissertation. Each student wishing to undertake a doctoral program must first be admitted to the program and then take the screening examination. This examination will emphasize comprehension of fundamental material in the graduate course work. Further guidance concerning admission, the screening exam and the full completion of courses, including those given outside the Department of Astronautical Engineering, can be obtained from the ASTE student adviser and program coordinators.

Biomedical Engineering

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Interim Co-Chairs: Vasilis Z. Marmarelis, PhD; David Z. D'Argenio, PhD; Michael C.K. Khoo, PhD

Faculty

Chonette Chair in Biomedical Technology: David Z. D'Argenio, PhD
Chonette Early Career Chair: Megan McCain, PhD
Gordon S. Marshall Early Career Chair: Stacey D. Finley, PhD
Shelly and Ofer Nemirovsky Chair in Convergent Biosciences: Ellis Meng, PhD
David Packard Chair in Engineering: Theodore W. Berger, PhD
Cornelius J. Pings Chair in Biomedical Sciences: Mark Humayun, PhD *(Opthalmology)*
Fred H. Cole Professorship in Engineering: Gianluca Lazzi *(Ophthalmology, Electrical and Computer Engineering, Clinical Entrepreneurship)*
Provost Professor of Biological Sciences, Biomedical Engineering, Physiology and Biophysics, Stem Cell Biology and Regenerative Medicine, Pediatrics, Radiology and Ophthalmology: Scott Fraser, PhD *(Biological Sciences)*
Dean's Professor in Biomedical Engineering: Vasilis Marmarelis, PhD
The Dr. Karl Jacob Jr. and Karl Jacob III Early-Career Chair and Assistant Professor of Biomedical Engineering, Chemical Engineering and Materials Science, and Medicine: Eun Ji Chung, PhD
Professors: David Agus, MD *(Medicine)*; Brian Applegate, PhD *(Otolaryngology – Head and Neck Surgery)*; Andrea Armani, PhD *(Chemical Engineering and Materials Science)*; Donald Arnold, PhD *(Biological Sciences)*; Theodore W. Berger, PhD *(Neurobiology)*; Peter S. Conti, MD, PhD *(Radiology)*; David Z. D'Argenio, PhD*; Vinay Duddalwar, PhD *(Clinical Radiology)*; Scott Fraser, PhD *(Biological Sciences)*; Mark S. Humayun, PhD *(Ophthalmology)*; Michael C.K. Khoo, PhD *(Pediatrics)*; Kwang Jin Kim, PhD *(Medicine and Physiology)*; Peter Kuhn, PhD *(Biological Sciences, Medicine, and Aerospace & Mechanical Engineering)*; Richard Leahy, PhD *(Electrical and Computer Engineering and Radiology)*; Jay Lieberman, PhD *(Orthopaedic Surgery)*; Charles Liu, MD, PhD *(Neurological Surgery)*; Gerald E. Loeb, MD; Anupam Madhukar, PhD *(Chemical Engineering and Materials Science, Physics)*; Noah Malmstadt, PhD *(Chemical Engineering and Materials Science)*; Vasilis Z. Marmarelis, PhD *(Electrical and Computer Engineering)*; Mara Mather, PhD *(Gerontology, Psychology)*; Jill McNitt-Gray, PhD *(Biological Science)*; Ellis Meng, PhD *(Electrical and Computer Engineering)*; Janet Moradian-Oldak *(Biomedical Sciences – Dental)*; Krishna Nayak, PhD *(Electrical and Computer Engineering)*; Chrysostomos Nikias, PhD *(Electrical and Computer Engineering)*; John Oghalai, PhD *(Otolaryngology – Head and Neck Surgery)*; Richard Roberts *(Chemical Engineering and Materials Science, Chemistry)*; Fei Sha, PhD *(Computer Science)*; Mahnaz Shahidi, PhD *(Ophthalmology)*; Armand R. Tanguay Jr., PhD *(Electrical and Computer Engineering, Materials Science)*; Paul Thompson *(KSOM/Ophthalmology)*; Arthur W. Toga *(KSOM/Ophthalmology)*; Francisco Valero-Cuevas, PhD *(Biokinesiology)*; Priya Vashishta, PhD *(Chemical Engineering and Materials Science)*; Danny Wang, PhD *(Neurology, Radiology)*; Pin Wang, PhD, *(Chemical Engineering and Materials Science)*; John C. Wood, MD, PhD *(Medicine/Radiology)*; Stanley M. Yamashiro, PhD *(Electrical and Computer Engineering);* Qifa Zhou, PhD *(Opthalmology)*; Charles Zukowski, PhD *(Chemical Engineering and Materials Science)*
Associate Professors: Justin Haldar, PhD *(Electrical and Computer Engineering);* Christianne N. Heck *(Clinical Neurology)*; Daniel P. Holschneider, MD *(Psychiatry)*; Hossein Jadvar, MD, PhD *(Radiology)*; Amir Kashani, PhD *(Clinical Ophthalmology Neurology)*; Jason Kutch, PhD *(Biokinesiology)*; Sook-Lei Liew, PhD *(Occupational Science and Occupational Therapy, Biokinesiology and Physical Therapy, Neurology)*; J. Andrew MacKay, PhD *(Pharmacology and Pharmaceutical Sciences)*; Megan McCain, PhD; Bartlett W. Mel, PhD; Judy Pa, PhD *(Neurology and Neuroscience)*; Nicolas Schweighofer, PhD *(Biokinesiology)*; Yonggang Shi, PhD *(Neurology)*; Jesse T. Yen, PhD
Assistant Professors: Eun Ji Chung, PhD; Dominique Duncan, PhD *(Neurology)*; James Finley, PhD *(Biokinesiology and Physical Therapy)*; Stacey D. Finley, PhD; Andrei Irimia, PhD *(Gerontology, Neuroscience)*; Radha Kalluri, PhD *(Otolaryngology)*; Brian Lee *(Clinical Neurological Surgery)*; Darrin Lee *(Clinical Neurological Surgery)*; Leonardo Morsut, PhD *(Stem Cell Biology and Regenerative Medicine)*; Shannon Mumenthaler, PhD *(Medicine)*; Keyue Shen, PhD; Lirong Yan, PhD *(Neurology)*
Professor of Engineering Practice: Jean-Michel I. Maarek, Doc.Ing.
Associate Professor of Engineering Practice: Brent Liu, PhD
Lecturer: Brittany Kay, PhD
Research Professors: Tracy C. Grikscheit, MD *(Surgery)*; Jonathan G. Lasch, PhD *(AMI-USC)*
Research Associate Professor: Dong Song, PhD
Research Assistant Professors: Jean-Marie Bouteiller, PhD; Francesco Cutrale, PhD
Associate Professor of Research: Bo Han, PhD *(Surgery)*
Assistant Professors of Research: Darryl H. Hwang, PhD *(Radiology)*; Natasha Leporé, PhD *(Radiology and Children's Hospital)*; Rong Lu *(Stem Cell Biology and Regenerative Medicine)*
Visiting Associate Professor: Zhaoyang Fan, PhD *(Radiology)*
Adjunct Professors: Athanassios Fokas, PhD *(Civil and Environmental Engineering Practice)*; Konstantina S. Nikita *(BME/KSOM)*
Adjunct Assistant Professors: Arkadiusz Gertych, PhD *(Cedars-Sinai Medical Center)*; Leonid Litvak, PhD *(Advanced Bionics Corp.)*; Philip Requejo, PhD *(Rancho Los Amigos Medical Center and Kinesiology)*
Emeritus Professors: George A. Bekey, PhD *(Electrical Engineering, Computer Science and Speech Science)*; H. K. Huang, DSc *(Radiology)*; K. Kirk Shung, PhD
**Recipient of university-wide or school teaching award.*

Degree Requirements

Undergraduate Program Educational Objectives

Graduates of the undergraduate program in Biomedical Engineering are expected to attain the following objectives within a few years after graduation:

- be engaged in a professional career in the biomedical or other related industries, or enrolled in advanced graduate studies including medical school;
- work in a technically competent manner to address challenges in engineering or their chosen profession, taking into consideration ethical and societal concerns;
- collaborate within their profession across technical disciplines;
- develop their technical knowledge and professional skills further by being active in professional societies, continuing their formal education, or attending professional workshops, meetings and seminars.

Undergraduate Program Criteria

The program leading to a Biomedical Engineering (BS) provides both breadth and depth across the range of engineering topics implied by the title. The program prepares graduates to have an understanding of biology and physiology; and the capability to apply advanced mathematics (including differential equations and statistics), science and engineering to solve the problems at the interface of engineering and biology. The curriculum prepares

graduates with the ability to interpret data from living systems, addressing the problems associated with the interaction between living and non-living materials and systems.

Minor in Craniofacial and Dental Technology

For a complete listing, see the Herman Ostrow School of Dentistry of USC.

Bachelor's Degree

Biomedical Engineering (BS)

The Department of Biomedical Engineering offers a Bachelor of Science degree in Biomedical Engineering. Additionally, there are three possible areas of emphasis within this biomedical engineering program major. These are biochemical engineering, electrical engineering, and mechanical engineering. An area of emphasis appears in a special field on the transcript. The minimum requirement for the degree is 128 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied toward the major, regardless of the department in which the courses are taken.

See common requirements for undergraduate degrees.

Technical electives are to be selected from an approved list available in the department office.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General education Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Major Requirements

Biology

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4

Organic Chemistry

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
  Note: CHEM 322bL may be replaced by 4 units of additional upper-divison BME course work.

Biomedical Engineering

- BME 101 Introduction to Biomedical Engineering Units: 4
- BME 202 Control and Communication in the Nervous System Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 302L Medical Electronics Units: 4
- BME 403L Physiological Systems Units: 4
- BME 405L Senior Projects: Measurements and Instrumentation Units: 4
- BME 410L Introduction to Biomaterials and Tissue Engineering Units: 4
- BME 413 Bioengineering Signals and Systems Units: 4
- BME 415 Regulation of Medical Products Units: 2
  or
- BME 416L Development and Regulation of Medical Products Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4

One course from the following:

- BME 404 Orthopaedic Biomechanics Units: 4
- BME 430 Principles and Applications of Systems Biology Units: 4
- BME 451L Fundamentals of Biomedical Microdevices Units: 4

Electrical Engineering

- EE 202L Linear Circuits Units: 4

Electives

- Technical electives: Complete 5-7 units as needed to complete 128 approved program units. Technical electives are to be selected from an approved list available in the department office.

Total units: 128

Biomedical Engineering, Electrical Engineering Emphasis, (BS)

The minimum requirement for the degree with an emphasis in electrical engineering is 133 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See common requirements for undergraduate degrees.

Technical electives are to be selected from an approved list available in the department office.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General education Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Major Requirements

Biology

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4

Chemistry

- CHEM 322aL Organic Chemistry Units: 4
  Note: CHEM 322aL may be replaced by 4 units of additional upper-division BME course work with adviser approval.

Biomedical Engineering

- BME 101 Introduction to Biomedical Engineering Units: 4
- BME 202 Control and Communication in the Nervous System Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 403L Physiological Systems Units: 4
- BME 405L Senior Projects: Measurements and Instrumentation Units: 4
- BME 413 Bioengineering Signals and Systems Units: 4
- BME 415 Regulation of Medical Products Units: 2
  or
- BME 416L Development and Regulation of Medical Products Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4

Electrical and Computer Engineering

- ITP 165 Introduction to C++ Programming Units: 2
- EE 109L Introduction to Embedded Systems Units: 4
- EE 202L Linear Circuits Units: 4
- EE 250L Distributed Systems for the Internet of Things Units: 4

Complete one track from the following lists:

Analog Track

- EE 338 Physical Electronics Units: 4
- EE 348L Electronic Circuits Units: 4

Digital Track

- EE 354L Introduction to Digital Circuits Units: 4
- EE 454L Introduction to System-on-Chip Units: 4

Electives

Technical Electives: Complete 8-10 units as needed to complete 133 approved program units. Technical electives are to be selected from an approved list available in the department office

Total Units: 133

Biomedical Engineering, Mechanical Engineering Emphasis, (BS)

The minimum requirement for the degree with an emphasis in mechanical engineering is 132 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See common requirements for undergraduate degrees.

Technical electives are to be selected from an approved list available in the department office.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General education Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirements

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemistry Requirements

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Major Requirements

Biology

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4

Chemistry

- CHEM 322aL Organic Chemistry Units: 4
  Note: CHEM 322aL may be replaced by 4 units of additional upper-divison BME course work with adviser approval.

Aerospace and Mechanical Engineering

- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 301 Dynamics Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 309 Dynamics of Fluids Units: 4

Biomedical Engineering

- BME 101 Introduction to Biomedical Engineering Units: 4
- BME 202 Control and Communication in the Nervous System Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 403L Physiological Systems Units: 4
- BME 404 Orthopaedic Biomechanics Units: 4
- BME 405L Senior Projects: Measurements and Instrumentation Units: 4
- BME 413 Bioengineering Signals and Systems Units: 4
- BME 415 Regulation of Medical Products Units: 2
  or
- BME 416L Development and Regulation of Medical Products Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4

Electric Engineering

- EE 202L Linear Circuits Units: 4

Materials Science

- MASC 310 Materials Behavior and Processing Units: 4

Electives

Technical electives: Complete 1-3 units as needed to complete 132 approved program units. Technical electives are to be selected from an approved list available in the department office.

Total units: 132

Biomedical Engineering, Molecular and Cellular Engineering Emphasis, (BS)

The minimum requirement for the degree with an emphasis in Molecular and Cellular Engineering is 132 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See General Education and additional common requirements for undergraduate degrees.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General education Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Major Requirements

Biology

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

Organic Chemistry

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4

Biomedical Engineering

- BME 101 Introduction to Biomedical Engineering Units: 4
- BME 202 Control and Communication in the Nervous System Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 403L Physiological Systems Units: 4
- BME 405L Senior Projects: Measurements and Instrumentation Units: 4
- BME 413 Bioengineering Signals and Systems Units: 4
- BME 415 Regulation of Medical Products Units: 2
  or
- BME 416L Development and Regulation of Medical Products Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4

Biomedical Molecular Cellular Engineering Panel

Choose three courses from the following list:

- BME 406 Introduction to Bioengineering in Medicine Units: 4
- BME 410L Introduction to Biomaterials and Tissue Engineering Units: 4
- BME 430 Principles and Applications of Systems Biology Units: 4
- BME 459L Introduction to Nanomedicine and Drug Delivery Units: 4

Chemical Engineering

- CHE 489 Biochemical Engineering Units: 4

Electrical Engineering

- EE 202L Linear Circuits Units: 4

Electives

Technical Electives: Complete 1-3 units as needed to complete 132 approved program units. Technical electives are to be selected from an approved list available in the department office.

Total units: 132

Master's Degree

Biomedical Data Analytics (MS)

The program requires completion of 28 units, 20 of which are core courses, with the remaining 8 units taken from an approved list or selected in consultation with an adviser and approved by the academic program officer. Admission requirements are consistent with the currently established requirements for our Viterbi graduate degree programs.

Core courses

- BME 511 Physiological Control Systems Units: 4
- BME 513 Signal and Systems Analysis Units: 4
- BME 514 Physiological Signals and Data Analytics Units: 4
- BME 515 Data Analytics in Biomedical Engineering Units: 4
- BME 528 Medical Diagnostics, Therapeutics and Informatics Applications Units: 4

Technical Electives

Select at least 8 units from the following courses:

- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- BME 501 Advanced Topics in Biomedical Systems Units: 4
- BME 502 Advanced Studies of the Nervous System Units: 4
- BME 530 Introduction to Systems Biology Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4

Biomedical Engineering (Medical Imaging and Imaging Informatics) (MS)

Completion of the Master of Science in Biomedical Engineering (Medical Imaging and Imaging Informatics) requires that at least 28 approved units must be satisfactorily completed of which at least 19 units must be at the 500 level or above.

Required Courses

- BME 501 Advanced Topics in Biomedical Systems Units: 4
- BME 513 Signal and Systems Analysis Units: 4
- BME 525 Advanced Biomedical Imaging Units: 4
- BME 527 Integration of Medical Imaging Systems Units: 4
- BME 528 Medical Diagnostics, Therapeutics and Informatics Applications Units: 4
- BME 535 Ultrasonic Imaging Units: 3
- EE 569 Introduction to Digital Image Processing Units: 4

Total units: 28

Biomedical Engineering (MS)

The Master of Science in Biomedical Engineering is awarded in strict conformity with the general requirements of the Viterbi School of Engineering. At least 28 approved units must be satisfactorily completed, of which at least 19 units must be at the 500 level or above. Four of these units may be thesis BME 594a, BME 594b, BME 594z.

The master's degree program provides students with a broad background, linking physiology with engineering science, necessary for entering interdisciplinary careers in medical technology or pursuing further graduate studies in a related field.

Required Courses

- BME 501 Advanced Topics in Biomedical Systems Units: 4
- BME 511 Physiological Control Systems Units: 4
- BME 533 Seminar in Bioengineering Units: 1

One course from:

- BME 502 Advanced Studies of the Nervous System Units: 4
- BME 506 Bioengineering of Disease and Cell Therapeutics Units: 4
- BME 510 Cellular Systems Engineering Units: 4
- BME 559 Nanomedicine and Drug Delivery Units: 4

One course from:

- BME 513 Signal and Systems Analysis Units: 4 *
- BME 530 Introduction to Systems Biology Units: 4

Technical Electives

At least 11 units of approved technical elective course work. At the student's discretion and with department approval, these Technical Elective units may include a Master's Thesis option.

- BME 594a Master's Thesis Units: 2
- BME 594b Master's Thesis Units: 2
- BME 594z Master's Thesis Units: 0

Total units: 28

**Students who have taken an advanced undergraduate or master's level course in system and signal analysis may substitute* BME 523 *for* BME 513 *with departmental approval.*

Medical Device and Diagnostic Engineering (MS)

This program is designed to provide the knowledge and skills needed for the development of medical devices and diagnostic techniques, including aspects of medical product regulation and product development. The course of study requires successful completion of 26-28 units of course work and has been designed to be completed in three semesters of full-time study. Students in the program will complete a 17-unit core as well as selecting a 6-8 unit specialization (or "track") and one elective from a list provided by the department.

Required Courses (17 units)

- BME 501 Advanced Topics in Biomedical Systems Units: 4
  or
- BME 502 Advanced Studies of the Nervous System Units: 4
  or
- BME 513 Signal and Systems Analysis Units: 4
- BME 650 Biomedical Measurement and Instrumentation Units: 4
- MPTX 511 Introduction to Medical Product Regulation Units: 3
- MPTX 515 Quality Systems and Standards Units: 3
  or
- ISE 527 Quality Management for Engineers Units: 3
- ISE 545 Technology Development and Implementation Units: 3

Regulation Track (6 units)

- MPTX 513 Regulation of Medical Devices and Diagnostics Units: 3
- RSCI 527 Medical Product Safety Units: 3

Product Development Track (6 units)

- ISE 515 Engineering Project Management Units: 3
  ISE 555 Invention and Technology Development Units: 3

Medical Technology and Device Science Track (6-7 units)

Select two courses.

- BME 535 Ultrasonic Imaging Units: 3
- BME 551 Introduction to Bio-MEMS and Nanotechnology Units: 4
- BME 552 Neural Implant Engineering Units: 3
- BME 620L Applied Electrophysiology Units: 4

Technical Elective (one course)

Applicable courses include: AME 503, BME 511, BME 535, BME 551, ISE 507, ISE 508, ISE 544, MPTX 517 and courses listed in alternate tracks to that chosen. Other courses may be applicable; please see an adviser for approval.

Minimum Units Required: 26

Graduate Certificate

Health, Technology and Engineering Graduate Certificate

Academic Director: Terry Sanger, MD, PhD, *Provost Associate Professor of Biomedical Engineering, Neurology, Biokinesiology, and Physical Therapy*
Administrative Director: George Tolomiczenko, PhD, *Assistant Professor, Neurology*

This program offers current second-year USC PhD engineering students and first-year MD students an opportunity to learn about and gain experience in medical device and process innovation. Through project-based and interdisciplinary collaboration, students will augment their current programs with a set of courses and lab experiences linking medical and engineering research groups. By applying design-informed approaches toward problem identification and solution prototyping, students will be involved in all the steps of medical device or process innovation from conception to commercialization. The program aims to create interdisciplinary, boundary-spanning, inventive entrepreneurs seeking early practical experience with device and method innovation in health care. Program participants will form bonds with a group of like-minded medical students and engineers who will be their mentors, colleagues and contacts as they advance in their careers.

The courses unique to the program include a seminar sequence (Topics in Health, Technology and Engineering), which must be taken during the first two years of involvement with the HTE@USC program, a case studies sequence taken during the second year and a research course to earn project-related credits:

Courses

- BME 566a Topics in Health, Technology and Engineering Units: 2
- BME 566b Topics in Health, Technology and Engineering Units: 2
- BME 566c Topics in Health, Technology and Engineering Units: 2
- BME 566d Topics in Health, Technology and Engineering Units: 2
- BME 567a Case Studies in Health, Technology and Engineering Units: 1
- BME 567b Case Studies in Health, Technology and Engineering Units: 1
- 790 Research (in the student's major department) Units: 2-8

Other required courses that are part of the MD curriculum

(PhD students enroll in INTD course versions of the same courses open only to HTE students on CR/NC basis):

- INTD 621a Introduction to Clinical Medicine (ICM) for THE Units: 3
- INTD 621b Introduction to Clinical Medicine (ICM) for THE Units: 3
- INTD 622L Pre-clinical System Block for Health, Technology and Engineering Units: 3, 4, 5, 6, 7, 8, 9 (3-5 Units Required)

Note:

Candidates interested in applying should contact HTE@USC via email at hte@usc.edu.

Doctoral Degree

Biomedical Engineering (PhD)

The objective of the Doctor of Philosophy is to produce independent investigators who can make original scholarly contributions and apply advanced engineering concepts and techniques to the understanding and solution of biomedical problems. This program is intended to prepare the student for a career in academic research and teaching, or as an independent investigator in industrial or government laboratories.

The requirements listed are special to this department and must be read in conjunction with the general requirements of the Graduate School.

This program is designed to be normally completed in four years of full-time work beyond the Bachelor of Science degree (including summers). The first two years are devoted primarily to formal course work and the last two to research. In view of the flexible program, each student is assigned an adviser who will guide him or her in the selection of courses. By the end of the third semester of graduate study the student must have completed the PhD screening examination. Subsequently, he or she is required to make a tentative major field selection (e.g., biomedical imaging,

signal processing, neural engineering) and pass a qualifying examination. In accordance with the requirements of the Graduate School, at least 60 units of credit beyond the Bachelor of Science degree are required, with a minimum grade point average of 3.0. Students are required to take BME 533, the graduate biomedical engineering seminar course, for three semesters during their studies.

Requirements for Admission

Bachelor of Science degree in engineering or a natural science, and satisfactory scores on the Graduate Record Examinations. Undergraduate work should include a basic course in biology, physics, organic chemistry, biochemistry, differential equations and digital computation. Students lacking any of these will be required to make up the deficiency during the first two years of graduate work.

Students who have completed all requirements for the Master of Science degree offered in this department may apply for admission to the PhD program. In this case, all courses taken in the MS program may be applied toward the requirements of the doctoral degree.

Screening Examination Process

By the end of the third semester of graduate study, all students must have completed the screening examination process to determine whether or not they will be allowed to continue in the Doctor of Philosophy program. Those who fail will be dropped from the program, although they may be permitted to complete the additional requirements necessary to obtain the Master of Science degree.

Qualifying Exam Committee

During the third semester, the student must make a tentative major field selection as described above and form a qualifying exam committee. The latter administers the qualifying examination.

Qualifying Examination

The qualifying examination will normally be taken during the fourth semester of full-time academic study. The examination requires the preparation of a comprehensive written research proposal that presents a research question, critically reviews the pertinent literature and outlines the proposed experimental, analytical and computational procedures required to answer the question. The proposal must be defended in an oral examination.

Chemical Engineering – Mork Family Department of Chemical Engineering and Materials Science

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FAX: (213) 740-8053
Email: chemsche@vsoe.usc.edu
chems.usc.edu
Chair: Andrea Hodge, PhD
Associate Chair: Noah Malmstadt, PhD

Faculty

Zohrab A. Kaprielian Dean's Chair in Engineering and Chester F. Dolley Chair in Petroleum Engineering: Yannis C. Yortsos, PhD
WiSE Gabilan Distinguished Professorship in Science and Engineering: Malancha Gupta, PhD
N.I.O.C. Chair in Petroleum Engineering: Muhammad Sahimi, PhD
Choong Hoon Cho Chair: Michael Kassner, PhD
Kenneth T. Norris Professor in Engineering: Anupam Madhukar, PhD
M.C. Gill Chair in Composite Materials: Steven Nutt, PhD
Robert E. Vivian Chair in Energy Resources: Theodore T. Tsotsis, PhD
Arthur B. Freeman Professorship in Engineering: Andrea Hodge, PhD
Judge Widney Professor of Chemical Engineering and Chemistry: Ray R. Irani, PhD *(Chemistry)*
Zohrab A. Kaprielian Fellow in Engineering: Pin Wang, PhD
Professors: Malancha Gupta, PhD; Noah Malmstadt, PhD; Muhammad Sahimi, PhD*; Theodore Tsotsis, PhD; Pin Wang, PhD
Associate Professor: C. Ted Lee Jr., PhD*
Assistant Professors: Nicholas Graham, PhD; Shaama Sharada, PhD
Associate Professor of Practice: Robert Young, PhD
Adjunct Research Associate Professor: Byungmin Ahn, PhD
Joint Appointments: Edward Crandall, PhD, MD *(Medicine)*; Stacey Finley, PhD *(Biomedical Engineering)*; Martin Gundersen, PhD *(Electrical and Computer Engineering)*; Qiang Huang, PhD (*Industrial and Systems Engineering*); Rajiv Kalia, PhD *(Physics and Astronomy)*; Jerry S.H. Lee, PhD *(Medicine)*; Grace Lu, PhD *(Physics and Electrical and Computer Engineering)*; Brent Merlot, PhD (*Chemistry*); General (retired) Ellen M. Pawlikowski *(Astronautical Engineering)*; Richard Roberts, PhD *(Chemistry)*; Charles G. Sammis, PhD *(Geological Sciences)*; Armand R. Tanguay Jr., PhD *(Electrical and Biomedical Engineering)*; Mark E. Thompson, PhD *(Chemistry)*; Han Wan, PhD (*Electrical and Computer Engineering*); Arieh Warshel, PhD *(Chemistry)*; Chongwu Zhou, PhD *(Electrical and Computer Engineering)*
Emeritus Professors: Elmer L. Dougherty, PhD; Murray Gershenzon, PhD *(Electrical and Computer Engineering)*; Ronald Salovey, PhD*; Peter Will, PhD *(Astronautical Engineering, Industrial and Systems Engineering)*
**Recipient of university-wide or school teaching award.*
Chemical Engineering Honor Society: Omega Chi Epsilon

Degree Requirements

Undergraduate Program Educational Objectives

Chemical engineering is the only engineering discipline that makes extensive use of chemical transformations (reactions) in addition to physical transformations (refining, molding or machining) to achieve added value. Chemical engineers are employed in virtually all manufacturing industries, from the basic chemical, biochemical, materials, energy, food, pharmaceutical and microelectronics industries to the myriad consumer product industries. Our various curricula are designed to produce graduates who are broadly educated as well as highly adaptable.

Graduates of the undergraduate program in Chemical Engineering are expected to attain the following objectives within a few years after graduation:

- Apply their technical skills to model, analyze and design complex processes where physical, chemical or biochemical transformations are utilized to produce products and services that benefit society in an economically, environmentally and globally conscious manner.
- Be able to quickly respond to increasingly-rapid technological changes through continuous personal and professional development, and to pursue graduate or professional education in a variety of fields.
- Thrive in multidisciplinary and multicultural setting, and to assume leadership roles in their employment, organization or community.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Chemical Engineering provides a thorough grounding in the basic sciences including chemistry, physics and/or biology, with some content at an advanced level, as appropriate to the objectives of the program. The curriculum includes the engineering application of these basic sciences to the design, analysis and control of chemical, physical and/or biological processes, including the hazards associated with these processes.

Engineer in Chemical Engineering

Requirements for the Engineer in chemical engineering are the same as set forth in the general requirements. See general requirements for graduate degrees. Only available to graduate students currently enrolled.

Chemical Engineering Three-Two Plan

A special curriculum is available for obtaining a Bachelor of Science degree in chemical engineering and a Bachelor of Science or Bachelor of Arts degree in a letters, arts and sciences major in five years. For further information see departmental advisers.

Similar programs are available in cooperation with certain liberal arts colleges. Such programs are particularly suited for obtaining a Bachelor of Science in Chemistry at the liberal arts college and a Bachelor of Science in Chemical Engineering at USC.

Bachelor's Degree

Chemical Engineering (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (133 units); nanotechnology (133 units); petroleum engineering (133 units); polymer/materials science (133 units); and sustainable energy (133 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(chems.usc.edu).*

Common Requirements for the BS Degree and All Areas of Emphasis (117 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 305 Numerical and Statistical Analysis for Chemical Engineers Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHE 350 Introduction to Separation Processes Units: 4
- CHE 442 Chemical Reactor Design Units: 4
- CHE 443 Viscous Flow Units: 4
- CHE 444aL Chemical Engineering Laboratory Units: 2
- CHE 444bL Chemical Engineering Laboratory Units: 2
- CHE 444cL Chemical Engineering Laboratory Units: 2
- CHE 447 Heat and Mass Transfer in Chemical Engineering Processes Units: 4
- CHE 460L Chemical Process Dynamics and Control Units: 4
- CHE 480 Chemical Process and Plant Design Units: 4
- CHE 485 Computer-Aided Chemical Process Design Units: 4

Elective Requirements

The Bachelor of Science in Chemical Engineering requires 133 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

- Any upper-division Chemical Engineering course - Units: 4
- Adviser-approved upper-division Engineering course work - Units: 4
- Any upper-division course in Math, Science or Engineering - Units: 4

Chemistry Option

Choose one:

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4

Chemical Engineering, Biochemical Engineering Emphasis (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (133 units); nanotechnology (133 units); petroleum engineering (133 units); polymer/materials science (133 units); and sustainable energy (133 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(chems.usc.edu).*

Common Requirements for the BS Degree and All Areas of Emphasis (117 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 305 Numerical and Statistical Analysis for Chemical Engineers Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHE 350 Introduction to Separation Processes Units: 4
- CHE 442 Chemical Reactor Design Units: 4
- CHE 443 Viscous Flow Units: 4
- CHE 444aL Chemical Engineering Laboratory Units: 2
- CHE 444bL Chemical Engineering Laboratory Units: 2
- CHE 444cL Chemical Engineering Laboratory Units: 2
- CHE 447 Heat and Mass Transfer in Chemical Engineering Processes Units: 4
- CHE 460L Chemical Process Dynamics and Control Units: 4
- CHE 480 Chemical Process and Plant Design Units: 4
- CHE 485 Computer-Aided Chemical Process Design Units: 4

Emphasis in Biochemical Engineering

The requirement for the Bachelor of Science in Chemical Engineering with an emphasis in Biochemical Engineering is 133 units.* A scholarship average of C (2.0) or higher is required for all upper-division courses taken in chemical engineering, biomedical engineering and biological sciences. In addition to the previously listed common requirements, students must also take the following courses and at least 133 units:

- BISC 300L Introduction to Microbiology Units: 4
- BISC 320Lg Molecular Biology Units: 4 *
- BISC 330L Biochemistry Units: 4
- BME 410L Introduction to Biomaterials and Tissue Engineering Units: 4
- CHE 489 Biochemical Engineering Units: 4

Note:

*BISC 320Lg is a required course that also fulfills the GE D category included in the 24-unit GE requirement.

Chemical Engineering, Environmental Engineering Emphasis (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (133 units); nanotechnology (133 units); petroleum engineering (133 units); polymer/materials science (133 units); and sustainable energy (133 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(chems.usc.edu)*.

Common Requirements for the BS Degree and All Areas of Emphasis (117 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 305 Numerical and Statistical Analysis for Chemical Engineers Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHE 350 Introduction to Separation Processes Units: 4
- CHE 442 Chemical Reactor Design Units: 4
- CHE 443 Viscous Flow Units: 4
- CHE 444aL Chemical Engineering Laboratory Units: 2
- CHE 444bL Chemical Engineering Laboratory Units: 2
- CHE 444cL Chemical Engineering Laboratory Units: 2
- CHE 447 Heat and Mass Transfer in Chemical Engineering Processes Units: 4
- CHE 460L Chemical Process Dynamics and Control Units: 4
- CHE 480 Chemical Process and Plant Design Units: 4
- CHE 485 Computer-Aided Chemical Process Design Units: 4

Emphasis in Environmental Engineering

The requirement for the Bachelor of Science in Chemical Engineering with an Emphasis in Environmental Engineering is 133 units. A cumulative grade point average of C (2.0) is required for all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses and complete at least 133 units:

- CE 453 Water Quality Science and Engineering Units: 4
- CE 363L Water Chemistry and Analysis Units: 4
- CHE 450 Sustainable Energy Units: 4 or
- CHE 486 Design of Environmentally Benign Process Plants Units: 3 or
- PTE 463L Introduction to Transport Processes in Porous Media Units: 4
- ENE 428 Air Pollution Fundamentals Units: 4 or
- ENE 429 Air Pollution Control Units: 3

Chemical Engineering, Nanotechnology Emphasis (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (133 units); nanotechnology (133 units); petroleum engineering (133 units); polymer/materials science (133 units); and sustainable energy (133 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(chems.usc.edu).*

Common Requirements for the BS Degree and All Areas of Emphasis (117 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 305 Numerical and Statistical Analysis for Chemical Engineers Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHE 350 Introduction to Separation Processes Units: 4
- CHE 442 Chemical Reactor Design Units: 4
- CHE 443 Viscous Flow Units: 4
- CHE 444aL Chemical Engineering Laboratory Units: 2
- CHE 444bL Chemical Engineering Laboratory Units: 2
- CHE 444cL Chemical Engineering Laboratory Units: 2
- CHE 447 Heat and Mass Transfer in Chemical Engineering Processes Units: 4
- CHE 460L Chemical Process Dynamics and Control Units: 4
- CHE 480 Chemical Process and Plant Design Units: 4
- CHE 485 Computer-Aided Chemical Process Design Units: 4

Emphases in Nanotechnology

The requirement for the Bachelor of Science in Chemical Engineering with an emphasis in Nanotechnology is 133 units. A cumulative grade point average of C (2.0) is required for all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

- CHE 391L Introduction to Nanotechnology Research Units: 2
- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 4
- CHE 491 Nanotechnology Research for Undergraduates Units: 2
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- MASC 350L Nanostructured Materials: Design, Synthesis and Processing Units: 4

Chemical Engineering, Petroleum Engineering Emphasis (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (133 units); nanotechnology (133 units); petroleum engineering (133 units); polymer/materials science (133 units); and sustainable energy (133 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(chems.usc.edu).*

Common Requirements for the BS Degree and All Areas of Emphasis (117 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 305 Numerical and Statistical Analysis for Chemical Engineers Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHE 350 Introduction to Separation Processes Units: 4
- CHE 442 Chemical Reactor Design Units: 4
- CHE 443 Viscous Flow Units: 4
- CHE 444aL Chemical Engineering Laboratory Units: 2
- CHE 444bL Chemical Engineering Laboratory Units: 2
- CHE 444cL Chemical Engineering Laboratory Units: 2
- CHE 447 Heat and Mass Transfer in Chemical Engineering Processes Units: 4
- CHE 460L Chemical Process Dynamics and Control Units: 4
- CHE 480 Chemical Process and Plant Design Units: 4
- CHE 485 Computer-Aided Chemical Process Design Units: 4

Emphasis in Petroleum Engineering

The requirement for the Bachelor of Science in Chemical Engineering with an emphasis in Petroleum Engineering is 133 units. A cumulative grade point average of C (2.0) is required for all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

- PTE 461 Formation Data Sensing with Well Logs Units: 4
- PTE 463L Introduction to Transport Processes in Porous Media Units: 4
- PTE 464L Modeling and Simulation of Subsurface Flow Systems Units: 4
- PTE 465L Drilling Technology and Subsurface Methods Units: 3

Chemical Engineering, Polymer/Materials Science Emphasis (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (133 units); nanotechnology (133 units); petroleum engineering (133 units); polymer/materials science (133 units); and sustainable energy (133 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(chems.usc.edu)*.

Common Requirements for the BS Degree and All Areas of Emphasis (117 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 305 Numerical and Statistical Analysis for Chemical Engineers Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHE 350 Introduction to Separation Processes Units: 4
- CHE 442 Chemical Reactor Design Units: 4
- CHE 443 Viscous Flow Units: 4
- CHE 444aL Chemical Engineering Laboratory Units: 2
- CHE 444bL Chemical Engineering Laboratory Units: 2
- CHE 444cL Chemical Engineering Laboratory Units: 2
- CHE 447 Heat and Mass Transfer in Chemical Engineering Processes Units: 4
- CHE 460L Chemical Process Dynamics and Control Units: 4
- CHE 480 Chemical Process and Plant Design Units: 4
- CHE 485 Computer-Aided Chemical Process Design Units: 4

Emphasis in Polymer/Materials Science

The requirement for the Bachelor of Science with an emphasis in Polymer/Materials Science is 133 units. A cumulative grade point average of C (2.0) is required for all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses and complete at least 133 units:

- CHE 472 Polymer Science and Engineering Units: 4
- CHEM 300L Analytical Chemistry Units: 4 or
- CHEM 322bL Organic Chemistry Units: 4 or
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHE 476 Chemical Engineering Materials Units: 4 or
- MASC 310 Materials Behavior and Processing Units: 4

Polymer Option

Choose one:

- BME 410L Introduction to Biomaterials and Tissue Engineering Units: 4
- CHE 474L Polymer Science and Engineering Laboratory Units: 3
- CHE 475 Physical Properties of Polymers Units: 4
- CHE 477 Computer Assisted Polymer Engineering and Manufacturing I Units: 3
- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 4
- MASC 440 Materials and the Environment Units: 3

Chemical Engineering, Sustainable Energy Emphasis (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (133 units);

nanotechnology (133 units); petroleum engineering (133 units); polymer/materials science (133 units); and sustainable energy (133 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(chems.usc.edu)*.

Common Requirements for the BS Degree and All Areas of Emphasis (117 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4

- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 4
- CHE 305 Numerical and Statistical Analysis for Chemical Engineers Units: 4
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- CHE 350 Introduction to Separation Processes Units: 4
- CHE 442 Chemical Reactor Design Units: 4
- CHE 443 Viscous Flow Units: 4
- CHE 444aL Chemical Engineering Laboratory Units: 2
- CHE 444bL Chemical Engineering Laboratory Units: 2
- CHE 444cL Chemical Engineering Laboratory Units: 2
- CHE 447 Heat and Mass Transfer in Chemical Engineering Processes Units: 4
- CHE 460L Chemical Process Dynamics and Control Units: 4
- CHE 480 Chemical Process and Plant Design Units: 4
- CHE 485 Computer-Aided Chemical Process Design Units: 4

Emphasis in Sustainable Energy

The requirement for the Bachelor of Science in Chemical Engineering with an Emphasis in Sustainable Energy is 133 units. A cumulative grade point average of C (2.0) is required for all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses and complete at lease 133 units:

- CHE 450 Sustainable Energy Units: 4
- CHE 476 Chemical Engineering Materials Units: 4 or
- MASC 350L Nanostructured Materials: Design, Synthesis and Processing Units: 4

Chemistry Option

Choose one:

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4

Engineering Option

Choose one:

- CHE 301g Introduction to Engineering Biology Units: 4
- CHE 486 Design of Environmentally Benign Process Plants Units: 3
- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 4
- CHE 488 Molecular and Cellular Bioengineering Units: 3
- CHE 489 Biochemical Engineering Units: 4
- EE 513 Solid State Energy Devices Units: 3
- PTE 463L Introduction to Transport Processes in Porous Media Units: 4
- PTE 519 Integrated Physical and Cyber Security for Oil and Gas Operations Units: 3

Minor

Nanotechnology Minor

A minor in nanotechnology consisting of 17 required units is available to undergraduate majors in various fields. Nanotechnology involves the study of matter at length scales that are intermediate between the molecular and the bulk. In this minor, students will (1) learn in detail the properties of material structures on the nanometer scale, (2) examine a range of nanoscale materials, including metallic, ceramic, and polymeric particles as well as proteins, and (3) be exposed to a variety of specialized probes capable of visualizing matter on these length scales.

Prerequisite Courses

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
  or
- MATH 127 Enhanced Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 115bL Advanced General Chemistry Units: 4

Required Courses

Students can select either CHEM 322a or CHEM 325a. Both courses are not required.

- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 4
- CHEM 322aL Organic Chemistry Units: 4
  or
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 455 Chemical Nanotechnology Units: 4
- EE 337L Engineering Nano-Systems Units: 3
- MASC 350L Nanostructured Materials: Design, Synthesis and Processing Units: 4

Minimum Units: 17

Master's Degree

Chemical Engineering (MS)

The Master of Science in Chemical Engineering is awarded in strict conformity with the general requirements of the USC Viterbi School of Engineering and requires 28 units. Minimum registration in CHE 501, CHE 530, CHE 538, CHE 542 is required.

For Admission Requirements, refer to USC Viterbi School of Engineering.

Core Requirements (16 units)

- CHE 501 Modeling and Analysis of Chemical Engineering Systems Units: 4
- CHE 530 Thermodynamics for Chemical Engineers Units: 4
- CHE 538 Transport Processes I Units: 4
- CHE 542 Chemical Engineering Kinetics Units: 4

Elective Requirements (12 units)

All remaining courses must be adviser approved.

Total Units: 28

Doctoral Degree

Chemical Engineering (PhD)

The Doctor of Philosophy (PhD) degree in chemical engineering is awarded in conformity with the general requirements of the Graduate School. See general requirements for graduate degrees.

Satisfactory completion of at least 60 units of approved graduate level course work beyond the baccalaureate, with a cumulative grade point average of at least 3.0 is required of all PhD students in engineering. The 60 units minimum include research courses (590, 690, 790) and 4 units of 794a and 794b Doctoral Dissertation. PhD students must also complete the core requirement for their major as listed below. The core courses make a part of the 60 units requirement. The number of units taken at USC can be reduced by transferring graduate credits from another institution. Transfer/Waiver units are subject to approval by the Degree Progress Department (for course work taken at institutions in the United States) or by International Admission (for course work taken at institutions outside the United States), by the faculty adviser, and by each degree's respective department directors. Faculty advisers may also request students to take additional courses outside of the core requirements including specific elective courses.

Departmental Policies and Requirements

In addition to the general requirements for the PhD described in this catalogue, candidates in chemical engineering are required to demonstrate proficiency in the following fields: thermodynamics, transport and chemical engineering kinetics. In addition, students must register in the department seminar course CHE 550 each semester for four semesters or until they pass their qualifying exam, whichever is earlier.

Core Requirements

- CHE 501 Modeling and Analysis of Chemical Engineering Systems Units: 4 or
- CHE 520 Mathematical Methods for Deep Learning Units: 4
- CHE 530 Thermodynamics for Chemical Engineers Units: 4
- CHE 538 Transport Processes I Units: 4
- CHE 542 Chemical Engineering Kinetics Units: 4
- CHE 550 Seminars in Chemical Engineering Units: 0, 1

Electives Requirements

Students select 8 units of approved CHE graduate-level course work in consultation with an adviser.

Materials Science – Mork Family Department of Chemical Engineering and Materials Science

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Associate Chair: Noah Malmstadt, PhD

Faculty

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Dean's Chair in Chemical Engineering and Materials Science: Priya Vashishta, PhD *(Computer Science, Physics)*
M.C. Gill Chair in Composite Materials: Steven R. Nutt, PhD *(Aerospace and Mechanical Engineering)*
Ray Irani Chair in Chemical Engineering and Materials Science: Andrea M. Armani, PhD *(Aerospace and Mechanical Engineering, Biomedical Engineering, Chemistry, Biomedical Engineering, Electrical and Computer Engineering)*
Arthur B. Freeman Professorship in Engineering: Andrea Hodge, PhD *(*Aerospace and Mechanical Engineering*)*
Kenneth T. Norris Professor of Engineering: Anupam Madhukar, PhD *(Physics, Biomedical Engineering)*
Professors: Andrea Armani, PhD *(Aerospace and Mechanical Engineering, Biomedical Engineering, Chemistry, Biomedical Engineering, Electrical and Computer Engineering)*; Andrea Hodge, PhD *(Aerospace and Mechanical Engineering)*; Rajiv K. Kalia, PhD *(Physics, Computer Science)*; Michael E. Kassner, PhD *(Aerospace and Mechanical Engineering)*; Anupam Madhukar, PhD *(Physics)*; Steven R. Nutt, PhD *(Aerospace and Mechanical Engineering)*; Priya Vashishta, PhD *(Physics, Computer Science)*; Charles Zukowski, PhD *(Biomedical Engineering)*
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Assistant Professors: Paulo Branicio, PhD; Jayakanth Ravichandran, PhD; Shaama Sharada, PhD; Wade Zeno, PhD
Research Assistant Professor: Jiefei Zhang, PhD
*Senior Lecturer*s: Lessa Grunenfelder, PhD; Ken-Ichi Nomura, PhD
Joint Appointments: Edward Crandall, PhD, MD *(Medicine)*; P. Daniel Dapkus, PhD *(Electrical and Computer Engineering)*; Stacey Finley, PhD *(Biomedical Engineering)*; Martin Gundersen, PhD *(Electrical and Computer Engineering)*; Qiang Huang, PhD (*Industrial and Systems Engineering*); Jerry S.H. Lee, PhD *(Medicine)*; Grace Lu, PhD *(Physics and Electrical and Computer Engineering)*; Brent Merlot, PhD (*Chemistry*); Aiichiro Nakano, PhD *(Computer Science, Physics, Biomedical Engineering)*; George Olah, PhD *(Chemistry)*; Charles G. Sammis, PhD *(Geological Sciences)*; Raymond Stevens, PhD *(Biological Sciences and Chemistry)*; Armand R. Tanguay Jr., PhD *(Electrical and Biomedical Engineering)*; Mark E. Thompson, PhD *(Chemistry)*; Han Wang, PhD (*Electrical and Computer Engineering*); Arieh Warshel, PhD *(Chemistry)*; Chongwu Zhou, PhD *(Electrical and Computer Engineering)*
Emeritus Professors: P. Daniel Dapkus, PhD *(Electrical and Computer Engineering)*; Elmer L. Dougherty, PhD; Murray Gershenzon, PhD *(Electrical and Computer Engineering)*; Terry Langdon, PhD; Ronald Salovey, PhD*; Peter Will, PhD *(Astronautical Engineering, Industrial and Systems Engineering)*
**Recipient of university-wide or school teaching award.*

Engineer in Materials Science

Requirements for the Engineer in Materials Science degree are the same as set forth in the general requirements for graduate degrees.

Master of Science in Materials Engineering

Students with an interest in the characterization, selection and processing of engineering materials, and in materials problems related to engineering design may work toward a Master of Science in materials engineering. This degree is awarded in conformity with the general requirements of the Viterbi School of Engineering. Students may elect to work for this degree in either the Materials Science or Aerospace and Mechanical Engineering departments. The specific courses that constitute an acceptable program must be approved in advance by the administering department.

Master's Degree

Materials Engineering (Machine Learning) (MS)

The Master of Science in Materials Engineering with an emphasis in Machine Learning is for students who have an interest in materials engineering that includes machine learning toward materials discovery, design and processing. U.S. industry and cybermanufacturing are rapidly moving toward data-driven materials discovery and development. Materials engineering combined with machine learning is a novel emerging field that combines materials modeling, simulations and machine learning together into a new paradigm for materials discovery and cybermanufacturing.

Students with a Bachelor of Science in Materials Science, Chemical Engineering, Mechanical Engineering, Civil or Environmental Engineering, Industrial Engineering, Physics and Chemistry, as well as in industry employees who plan to apply machine learning to their research and development, are ideal candidates for the program.

This degree is awarded in conformity with the general requirements of the Viterbi School of Engineering. Students may elect to work for this degree in either the Materials Science or Aerospace and Mechanical Engineering departments. The specific courses that constitute an acceptable program must be approved in advance by the administering department.

A minimum of 20 of the required 28 units should be Materials Science (MASC), Materials Science electives or cross-listed courses. Any course not on the electives list will require department approval to be applied toward the degree.

Graduation requires 28 units total with 3.0 GPA overall.

For admission requirements, refer to Viterbi Graduate Degrees and Requirements.

Core Requirements (12 units)

- MASC 515 Basics of Machine Learning for Materials Units: 4
- MASC 520 Mathematical Methods for Deep Learning Units: 4
- MASC 575 Basics of Atomistic Simulation of Materials Units: 4

Materials Science Elective Courses (8-16 units)

Students must complete 8-16 units from the following list of electives.

- MASC 501 Solid State Units: 4
- MASC 502 Advanced Solid State Units: 3
- MASC 503 Thermodynamics of Materials Units: 4
- MASC 504 Diffusion and Phase Equilibria Units: 4
- MASC 505 Crystals and Anisotropy Units: 4
- MASC 506 Semiconductor Physics Units: 4
- MASC 512 Thin Film Science and Technology Units: 4
- MASC 534 Materials Characterization Units: 4
- MASC 535L Transmission Electron Microscopy Units: 4
- MASC 551 Mechanical Behavior of Engineering Materials Units: 4
- MASC 559 Creep Units: 3
- MASC 560 Fatigue and Fracture Units: 3
- MASC 561 Dislocation Theory and Applications Units: 4
- MASC 562 Failure Analysis Units: 3
- MASC 564 Composites Processing Units: 4
- MASC 570 Introduction to Photovoltaic Solar Energy Conversion Units: 3
- MASC 576 Molecular Dynamics Simulations of Materials and Processes Units: 4
- MASC 583 Materials Selection Units: 4
- MASC 599 Special Topics Units: 2, 3, 4 (with adviser approval)
- MASC 601 Advanced Semiconductor Device Physics Units: 4
- MASC 610 Molecular Beam Epitaxy Units: 3
- PTE 586 Artificial Intelligence and Machine Learning in Oilfield Operations Units: 3

Engineering Elective Courses (0-8 units)

Students may complete up to 8 units from the following list of non-materials science electives. Up to 8 units total for the degree may be from 400-level courses on approval by department.

- AME 503 Advanced Mechanical Design Units: 3
- AME 509 Applied Elasticity Units: 4
- AME 525 Engineering Analysis Units: 4
- AME 526 Introduction to Mathematical Methods in Engineering II Units: 4
- AME 546 Design for Manufacturing Assembly Units: 4
- AME 577 Survey of Energy and Power for a Sustainable Future Units: 3
- AME 578 Modern Alternative Energy Conversion Devices Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- BME 510 Cellular Systems Engineering Units: 4
- CE 507 Mechanics of Solids I Units: 4
- CE 546 Structural Mechanics of Composite Materials Units: 2
- CHE 501 Modeling and Analysis of Chemical Engineering Systems Units: 4
- CHEM 630 Fundamentals of Electrochemical Energy Systems Units: 2
- CHEM 632 Introduction to Surface Chemistry and Electrocatalysis Units: 2
- EE 471 Applied Quantum Mechanics for Engineers Units: 4
- EE 504L Solid-State Processing and Integrated Circuits Laboratory Units: 4
- EE 507 Micro- and Nano-Fabrication Technology Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 529 Optics Units: 4
- EE 531 Nonlinear Optics Units: 4
- EE 537 Modern Solid-State Devices Units: 4
- EE 601 Advanced Semiconductor Device Physics Units: 4
- EE 607 Microelectromechanical Systems Units: 4
- EE 612 Science and Practice of Nanotechnology Units: 3
- ENE 505 Energy and the Environment Units: 4
- ISE 510 Advanced Computational Design and Manufacturing Units: 3
- ISE 515 Engineering Project Management Units: 3

Materials Engineering (MS)

Students with an interest in the characterization, selection and processing of engineering materials, and in materials problems related to engineering design may work toward a Master of Science in materials engineering. This degree is awarded in conformity with the general requirements of the Viterbi School of Engineering. Students may elect to work for this degree in either the Materials Science or Aerospace and Mechanical Engineering departments. The specific courses that constitute an acceptable program must be approved in advance by the administering department.

A minimum of 20 of the required 28 units should be Materials Science (MASC) or Materials Science cross-listed courses. MASC 476 Chemical Engineering Materials cannot be applied toward the degree. Approved non-Materials Science courses are listed on the department Website. Any course not on the list will require department approval to be applied toward the degree.

For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering.

Materials Science (MS)

Students with an interest in the characterization, selection and processing of engineering materials, and in materials problems related to engineering design may work toward a Master of Science in Materials Science. This degree is awarded in conformity with the general requirements of the Viterbi School of Engineering. Students may elect to work for this degree in either the Materials Science or Aerospace and Mechanical Engineering departments. The specific courses that constitute an acceptable program must be approved in advance by the administering department.

Graduation requires 28 units total with 3.0 GPA overall.

For Admission Requirements, refer to USC Viterbi School of Engineering.

Core Requirements (12 units)

Students must take a minimum of 12 units from the following list of core requirements:

- MASC 471 Applied Quantum Mechanics for Engineers Units: 4
- MASC 501 Solid State Units: 4
- MASC 503 Thermodynamics of Materials Units: 4
- MASC 504 Diffusion and Phase Equilibria Units: 4
- MASC 505 Crystals and Anisotropy Units: 4
- MASC 520 Mathematical Methods for Deep Learning Units: 4
- MASC 551 Mechanical Behavior of Engineering Materials Units: 4

Materials Science Elective Courses (8-16 units)

Students must complete 8-16 units from the following list of electives or from the remaining courses in the core requirements list. Up to 8 units total for the degree may be from 400-level courses on approval by department.

- MASC 502 Advanced Solid State Units: 3
- MASC 506 Semiconductor Physics Units: 4
- MASC 512 Thin Film Science and Technology Units: 4
- MASC 515 Basics of Machine Learning for Materials Units: 4
- MASC 534 Materials Characterization Units: 4
- MASC 535L Transmission Electron Microscopy Units: 4
- MASC 559 Creep Units: 3
- MASC 560 Fatigue and Fracture Units: 3
- MASC 561 Dislocation Theory and Applications Units: 4
- MASC 562 Failure Analysis Units: 3
- MASC 564 Composites Processing Units: 4
- MASC 570 Introduction to Photovoltaic Solar Energy Conversion Units: 3
- MASC 575 Basics of Atomistic Simulation of Materials Units: 4
- MASC 576 Molecular Dynamics Simulations of Materials and Processes Units: 4
- MASC 583 Materials Selection Units: 4
- MASC 599 Special Topics Units: 2, 3, 4 (with adviser approval)
- MASC 601 Advanced Semiconductor Device Physics Units: 4
- MASC 610 Molecular Beam Epitaxy Units: 3

Engineering Elective Courses (0-8 units)

Students may complete up to 8 units from the following list of electives. Up to 8 units total for the degree may be from 400-level courses on approval by department.

- AME 503 Advanced Mechanical Design Units: 3
- AME 509 Applied Elasticity Units: 4
- AME 525 Engineering Analysis Units: 4
- AME 526 Introduction to Mathematical Methods in Engineering II Units: 4
- AME 546 Design for Manufacturing Assembly Units: 4
- AME 577 Survey of Energy and Power for a Sustainable Future Units: 3
- AME 578 Modern Alternative Energy Conversion Devices Units: 3
- AME 588 Materials Selection Units: 4
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- BME 510 Cellular Systems Engineering Units: 4
- CE 507 Mechanics of Solids I Units: 4
- CE 529 Finite Element Analysis Units: 4
- CE 546 Structural Mechanics of Composite Materials Units: 2
- CHE 501 Modeling and Analysis of Chemical Engineering Systems Units: 4
- CHEM 630 Fundamentals of Electrochemical Energy Systems Units: 2
- CHEM 632 Introduction to Surface Chemistry and Electrocatalysis Units: 2
- EE 471 Applied Quantum Mechanics for Engineers Units: 4
- EE 504L Solid-State Processing and Integrated Circuits Laboratory Units: 4
- EE 507 Micro- and Nano-Fabrication Technology Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 529 Optics Units: 4
- EE 531 Nonlinear Optics Units: 4
- EE 537 Modern Solid-State Devices Units: 4
- EE 601 Advanced Semiconductor Device Physics Units: 4
- EE 607 Microelectromechanical Systems Units: 4
- EE 612 Science and Practice of Nanotechnology Units: 3
- ENE 505 Energy and the Environment Units: 4
- ISE 510 Advanced Computational Design and Manufacturing Units: 3
- ISE 515 Engineering Project Management Units: 3
- PTE 586 Artificial Intelligence and Machine Learning in Oilfield Operations Units: 3

Doctoral Degree

Materials Science (PhD)

The Doctor of Philosophy with a major in Materials Science is awarded in strict conformity with the general requirements of the USC Graduate School. See general requirements for graduate degrees.

Satisfactory completion of at least 60 units of approved graduate-level course work beyond the baccalaureate, with a cumulative grade point average of at least 3.0 is required of all PhD students in engineering. The 60 units minimum include research courses (590, 690, 790) and 4 units of 794a and 794b Doctoral Dissertation. PhD students must also complete the core requirement for their major as listed below. The core courses make a part of the 60 units requirement. The number of units taken at USC can be reduced by transferring graduate credits from another institution. Transfer/Waiver units are subject to approval by the Degree Progress Department (for course work taken at institutions in the United States) or by International Admission (for course work taken at institutions outside the United States), by the faculty adviser, and by each degree's respective department directors. Faculty advisers may also request students to take additional courses outside of the core requirements including specific elective courses.

The PhD program in Material Science requires several foundational courses in materials science and enrollment in the seminar course MASC 598 each semester for two semesters or until passing the qualifying exam, whichever is earlier.

Core Requirements

- MASC 471 Applied Quantum Mechanics for Engineers Units: 4
- MASC 501 Solid State Units: 4
- MASC 503 Thermodynamics of Materials Units: 4
- MASC 504 Diffusion and Phase Equilibria Units: 4
- MASC 505 Crystals and Anisotropy Units: 4
- MASC 520 Mathematical Methods for Deep Learning Units: 4
- MASC 551 Mechanical Behavior of Engineering Materials Units: 4
- MASC 598 Materials Science Seminar Units: 1

Petroleum Engineering – Mork Family Department of Chemical Engineering and Materials Science

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Omar B. Milligan Chair in Petroleum Engineering: Iraj Ershaghi, PhD, PE
William M. Keck Professor of Energy Resources: Donald M. Paul, PhD
Professors: Iraj Ershaghi, PhD; Behnam Jafarpour, PhD; Kristian Jessen, PhD
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Adjunct Associate Professor: Andrei Popa, PhD
Part-Time Lecturers: Faruk Civan, PhD; Davood Khairkhah, PhD; Robello Samuel, PhD; Donald Gautier, PhD; Martin Karrenbach, PhD; Bradford Pierce, MS
Joint Appointments: Edward Crandall, PhD, MD *(Medicine)*; Stacey Finley, PhD *(Biomedical Engineering)*; Martin Gundersen, PhD *(Electrical and Computer Engineering)*; Qiang Huang, PhD (*Industrial and Systems Engineering*); Rajiv Kalia, PhD *(Physics and Astronomy)*; Jerry S.H. Lee, PhD *(Medicine)*; Grace Lu, PhD *(Physics and Electrical and Computer Engineering);* Brent Merlot, PhD (*Chemistry*); Richard Roberts, PhD *(Chemistry)*; Charles G. Sammis, PhD *(Geological Sciences)*; Armand R. Tanguay Jr., PhD *(Electrical and Biomedical Engineering)*; Mark E. Thompson, PhD *(Chemistry)*; Han Wan, PhD (*Electrical and Computer Engineering*); Arieh Warshel, PhD *(Chemistry)*; Chongwu Zhou, PhD *(Electrical and Computer Engineering)*
Emeritus Professors: George Chillingar,PhD; Elmer L. Dougherty, PhD; Peter Will, PhD *(Astronautical Engineering, Industrial and Systems Engineering)*
Petroleum Engineering Honor Society: Pi Epsilon Tau

Degree Requirements

Bachelor of Science in Chemical Engineering

Emphasis in Petroleum Engineering

See the listing under Chemical Engineering.

Bachelor of Science in Mechanical Engineering

Emphasis in Petroleum Engineering

See the listing under Aerospace and Mechanical Engineering.

Engineer in Petroleum Engineering

Requirements for the Engineer degree in petroleum engineering are the same as set forth in the general requirements. See general requirements for graduate degrees.

Minor

Petroleum Engineering Minor

A minor in petroleum engineering consisting of 16 required units is available to undergraduate majors in various fields of engineering and applied science. Besides preparing for graduate study in petroleum engineering, the program will prepare students for careers in areas of national need such as the exploration, recovery and production of subterranean resources, and the underground disposal of hazardous wastes.

Prerequisite courses:

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 226g Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- CHEM 105aLg General Chemistry Units: 4

Required Courses

- PTE 461 Formation Data Sensing with Well Logs Units: 4
- PTE 462 Economic, Risk and Formation Productivity Analysis Units: 4
- PTE 463L Introduction to Transport Processes in Porous Media Units: 4
- PTE 464L Modeling and Simulation of Subsurface Flow Systems Units: 4
- PTE 465L Drilling Technology and Subsurface Methods Units: 3

Total units: 16

Master's Degree

Petroleum Engineering (Digital Oilfield Technologies) (MS)

The Master of Science in Petroleum Engineering (Digital Oilfield Technologies) is awarded in strict conformity with the general requirements of the Viterbi School of Engineering. A student may be permitted to elect the program without thesis upon approval from the department. Course requirements are similar to the existing MS degree in Petroleum Engineering in terms of core requirements.

Students without a BS in Petroleum Engineering will normally be required to complete prerequisite courses before beginning the MS program. Specific prerequisite courses are decided upon consultation with the department adviser. Units from these courses cannot be applied toward the degree.

Petroleum Engineering (Geoscience Technologies) (MS)

The Master of Science in Petroleum Engineering (Geoscience Technologies) is a unique degree that emphasizes recent developments in the field of unconventional oil and gas resources and modern techniques for mapping and monitoring of subterranean resources. The program may be completed via the USC Viterbi School's Distance Education Network (DEN). All courses for the degree must be taken at USC.

Students without a BS in Petroleum Engineering will normally be required to complete prerequisite courses before beginning the MS program. Specific prerequisite courses are decided upon consultation with the department adviser. Units from these courses cannot be applied toward the degree.

For Admission Requirements, refer to USC Viterbi School of Engineering.

A minimum of 35 units is required to earn the MS in Petroleum Engineering (Geoscience Technologies).

Core Required Courses (19 Units)

- PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs Units: 3
- PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes Units: 3
- PTE 517 Testing of Wells and Aquifers Units: 3
- PTE 531 Enhanced Oil and Gas Recovery Units: 4
- PTE 555 Well Completion, Stimulation, and Damage Control Units: 3
- PTE 582 Fluid Flow and Transport Processes in Porous Media Units: 3, 2 years

Take Four of the Five Courses Below (12-13 Units)

- PTE 502 Advanced Reservoir Characterization Units: 3
- PTE 503 Technology of Unconventional Oil and Gas Resources Development Units: 3
- PTE 504 Geophysics for Petroleum Engineers Units: 3
- PTE 505 Inverse Modeling for Dynamic Data Integration Units: 3
- PTE 572L Applied Geostatistical Modeling for Subsurface Characterization Units: 4

Additional Requirements

- Elective from a group of approved PTE courses Units: 4

Minimum Units Required: 35

Petroleum Engineering (MS)

The Master of Science in petroleum engineering is awarded in strict conformity with the general requirements of the Viterbi School of Engineering. Electives vary according to the area of interest. A student may be permitted to elect the program without thesis upon approval from the department.

Dual Degree

Master of Science, Petroleum Engineering/ Master of Science, Engineering Management (MS/MS)

The Daniel J. Epstein Department of Industrial and Systems Engineering in conjunction with the Department of Petroleum Engineering offers programs leading to the degree of MS Petroleum Engineering/MS Engineering Management. The program is designed for graduate petroleum engineers whose career objectives lead to increasing technical management responsibilities.

Students complete at least 44 units, of which at least 21 units are required Petroleum Engineering graduate course work, and at least 23 units are Engineering Management graduate coursework, including required core courses, an analytics course, a technology course and elective courses listed in the MS Engineering Management program.

For Admission Requirements, refer to USC Catalogue Graduate Degrees and Requirements in The Graduate School section of this catalogue.

Petroleum Engineering Core Requirements (21 units)

- PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs Units: 3
- PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes Units: 3
- PTE 517 Testing of Wells and Aquifers Units: 3
- PTE 531 Enhanced Oil and Gas Recovery Units: 4
- PTE 555 Well Completion, Stimulation, and Damage Control Units: 3
- PTE 582 Fluid Flow and Transport Processes in Porous Media Units: 3, 2 years

Engineering Management Core Requirements (18-19 units)

- ISE 500 Statistics for Engineering Managers Units: 3
- ISE 515 Engineering Project Management Units: 3
- ISE 544 Leading and Managing Engineering Teams Units: 3
- ISE 561 Economic Analysis of Engineering Projects Units: 3

Analytics Course

Select one.

- DSCI 552 Machine Learning for Data Science Units: 4
- ISE 529 Predictive Analytics Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 562 Decision Analysis Units: 3

Technology Course

Select one.

- ISE 545 Technology Development and Implementation Units: 3
- ISE 555 Invention and Technology Development
- ISE 585 Strategic Management of Technology Units: 3

Additional Electives (4-5 units)

Choose at least 4 units from among other courses listed in the MS Engineering Management degree.

Total Units Required: 44

Graduate Certificate

Digital Oilfield Technologies Certificate

The certificate in digital oilfield techniques is designed for practicing engineers and scientists who enter petroleum engineering related fields and/or who wish to obtain training in the specific smart oilfields area. The applicants may enroll at USC as limited status students. They must apply and be admitted to the program before they complete 9 units of the required course work. The certificate program is open to applicants with an undergraduate degree in engineering or sciences who meet the admission criteria as limited students. Students without a BS in Petroleum Engineering will normally be required to complete prerequisite courses before beginning the certificate program. Specific prerequisite courses are decided upon consultation with the department adviser. Units from these courses cannot be applied toward the certificate.

The required courses consist of the following 12 units:

Required Courses

- PTE 586 Artificial Intelligence and Machine Learning in Oilfield Operations Units: 3
- PTE 587 Smart Completions, Oilfield Sensors and Sensor Technology Units: 3
- PTE 588 Smart Oilfield Data Mining Units: 3
- PTE 589 Advanced Oilfield Operations with Remote Immersive Visualization and Control Units: 3

Note:

These classes will be available through the USC Distance Education Network (DEN@Viterbi). The credit for classes may be applied toward the MS or PhD in petroleum engineering should the student decide later to pursue an advanced degree. In order to be admitted to the MS program, the student should maintain a B average or higher in courses for the certificate program and must satisfy all normal admission requirements. All courses for the certificate must be taken at USC.

Unconventional Resources in Petroleum Engineering

Characterization of unconventional resources, exploration, development, laboratory methods, geomechanics, geochemical methods, well completion, hydraulic fracturing, reserves forecasting, environmental issues, seismic and geostatistical estimation methods.

Note: Students without a BS in Petroleum Engineering or the equivalent will be required to complete the following courses in addition to the four courses for the certificate: PTE 411, PTE 412x, PTE 461, PTE 466 and PTE 500.

Requirements

- PTE 502 Advanced Reservoir Characterization Units: 3
- PTE 592 Geomechanics for Energy and Environment Units: 4

Complete two from the following:

- PTE 503 Technology of Unconventional Oil and Gas Resources Development Units: 3
- PTE 504 Geophysics for Petroleum Engineers Units: 3
- PTE 572L Applied Geostatistical Modeling for Subsurface Characterization Units: 4

Doctoral Degree

Petroleum Engineering (PhD)

The Doctor of Philosophy with a major in petroleum engineering is also offered. Registration in MASC 520, PTE 507, PTE 508, PTE 517, PTE 531, PTE 555, PTE 582 and 4 semesters of CHE 550a is required of all students. See general requirements for graduate degrees.

Satisfactory completion of at least 60 units of approved graduate-level course work beyond the baccalaureate, with a cumulative grade point average of at least 3.0 is required of all PhD students in engineering. The 60 units minimum include research courses (590, 690, 790) and 4 units of 794a and 794b Doctoral Dissertation. PhD students must also complete the core requirement for their major as listed below. The core courses make a part of the 60 units requirement. The number of units taken at USC can be reduced by transferring graduate credits from another institution. Transfer/Waiver units are subject to approval by the Degree Progress Department (for course work taken at institutions in the United States) or by International Admission (for course work taken at institutions outside the United States), by the faculty adviser and by each degree's respective department directors. Faculty advisers may also request students to take additional courses outside of the core requirements including specific elective courses.

Core Requirements

- MASC 520 Mathematical Methods for Deep Learning Units: 4
- PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs Units: 3
- PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes Units: 3
- PTE 517 Testing of Wells and Aquifers Units: 3
- PTE 531 Enhanced Oil and Gas Recovery Units: 4
- PTE 555 Well Completion, Stimulation, and Damage Control Units: 3
- PTE 582 Fluid Flow and Transport Processes in Porous Media Units: 3, 2 years

Civil Engineering – Sonny Astani Department of Civil and Environmental Engineering

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Director, Environmental Engineering: Amy Childress, PhD
Director, Graduate Programs: Felipe deBarros, PhD
Director, Undergraduate Programs: L. Carter Wellford, PhD

Faculty

John and Dorothy Shea Early Career Chair in Civil Engineering: Ketan Savla, PhD
David M. Wilson Early Career Chair: George Ban-Weiss, PhD
Dr. Teh Fu Yen Early Career Chair: Kelly T. Sanders, PhD
Fred Champion Estate Chair in Engineering: Lucio Soibelman, PhD
Gordon S. Marshall Professor of Engineering Technology: Roger Ghanem, PhD *(Aerospace and Mechanical Engineering)*
Dean's Professor of Civil and Environmental Engineering: Burcin Becerik-Gerber, DDes
Gabilan Distinguished Professorship in Science and Engineering: Amy Childress, PhD
Louise L. Dunn Endowed Professorship in Engineering: Behrokh Khoshnevis, PhD (*Industrial and Systems Engineering)*
Fred Champion Professor: Constantinos Sioutas, ScD
Stephen Schrank Early Career Chair in Civil and Environmental Engineering: Qiming Wang, PhD
Distinguished Professor: Behrokh Khoshnevis, PhD *(Industrial and Systems Engineering)*
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Associate Professors: George Ban-Weiss, PhD; Felipe deBarros, PhD; Bora Gencturk, PhD; Kelly T. Sanders, PhD; Ketan Savla, PhD; Adam Smith, PhD
Assistant Professors: Daniel McCurry, PhD; Chukwuebuka Nweke, PhD; Audrey Olivier, PhD; Qiming Wang, PhD
Professors of Engineering Practice: Gregg E. Brandow Jr., PhD, PE; Geraldine Knatz, PhD *(Public Policy)*; Henry M. Koffman, PE
Associate Professors of Engineering Practice: David J. Gerber, DDes (*Architecture*); Amy Rechenmacher, PhD
Adjunct Professors of Engineering Practice: Anthanassios S. Fokas, PhD, MD; Frank Edward Reynolds
Joint Appointments: Carol Folt, PhD (*Preventive Medicine*); Genevieve Giuliano, PhD *(Public Policy)*; Behnam Jafarpour, PhD (*Chemical and Electrical and Computer Engineering*); Gale Lucas, PhD (*Computer Science*); Mitul Luhar, PhD (*Aerospace and Mechanical Engineering)*; Azad Madni, PhD *(Astronautical Engineering)*; James Moffett, PhD *(Earth Sciences, Biological Sciences)*; James Moore, PhD *(Industrial and Systems Engineering, Public Policy)*; Firdaus E. Udwadia, PhD *(Aerospace and Mechanical Engineering)*; John P. Wilson, PhD *(Sociology)*
Research Associate Professor: Michael Orosz *(Information Sciences Institute)*
Adjunct Associate Professors of Practice: Hanh Dam Le-Griffin, PhD; Navid Nastar, PhD, PE, SE, F.ASCE; Abdel S Niazy, PhD, PE; Shahed Rowshan, PhD, PE; Eric Shen, PE
Adjunct Research Professors: Maria I. Todorovska, PhD; Yan Xiao, PhD, PE
Adjunct Research Assistant Professors: Jose C. Borrero, PhD; John Caffrey, PhD; Mazen Wahbeh, PhD
Emeritus Professors: George V. Chilingar, PhD; Joseph S. Devinny, PhD; Ronald C. Henry, PhD

Chi Epsilon Civil Engineering Honor Society

Chi Epsilon is dedicated to the purpose of maintaining and promoting the status of civil engineering as a profession. Chi Epsilon was organized to recognize the characteristics of the individual civil engineer deemed to be fundamental to the successful pursuit of an engineering career and to aid in the development of those characteristics in the civil engineering student. To contribute to the improvement of the profession, Chi Epsilon fosters the development and exercise of sound traits of character and technical ability among civil engineers.

Chi Epsilon is based on broad principles of scholarship, character, practicality and sociability. Civil engineering students who rank in the upper one-third of the junior or senior class are eligible for membership. These qualifications will make one eligible but not necessarily acceptable. Each member must be well skilled in all four of the basic principles.

Degree Requirements

Undergraduate Program Educational Objectives

Fulfilling the vision of the Sonny Astani Department of Civil and Environmental Engineering, the Viterbi School of Engineering and the University of Southern California, our graduates will:

1. Be successful in their professional careers, become leaders in industry, academia, government or service, while adapting

their technical, collaborative and managerial skills for the benefit of society's built and natural environments.
2. Support the advancement of the practice of science and engineering, while maintaining professional standards and moral and legal obligations to society, while being active in professional organizations and obtaining professional licensure when appropriate.
3. Be prepared to pursue graduate studies in engineering or other disciplines, while continuously broadening their abilities and enhancing their technical skills to maintain their relevance with technological change.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Civil Engineering prepares graduates to apply knowledge of mathematics through differential equations, calculus-based physics, chemistry and at least one additional area of basic science, consistent with the program educational objectives; apply knowledge of four technical areas appropriate to civil engineering; conduct civil engineering experiments and analyze and interpret the resulting data; and design a system, component, or process in more than one civil engineering context. The program also explains basic concepts in management, business, public policy, and leadership; and explains the importance of professional licensure.

The program leading to a Bachelor of Science in Environmental Engineering prepares graduates to be proficient in mathematics through differential equations, probability and statistics, calculus-based physics, general chemistry; an earth science, e.g., geology, meteorology, soil science, relevant to the program of study; a biological science, e.g., microbiology, aquatic biology, toxicology, relevant to the program of study; fluid mechanics relevant to the program of study; and an introductory level knowledge of environmental issues associated with air, land, and water systems and associated environmental health impacts. The program prepares graduates to be proficient at conducting laboratory experiments and critically analyzing and interpreting data in more than one major environmental engineering focus area, e.g., air, water, land, environmental health; performing engineering design by means of design experiences integrated throughout the professional component of the curriculum; and to be proficient in advanced principles and practice relevant to the program objectives; including understanding of concepts of professional practice and the roles and responsibilities of public institutions and private organizations pertaining to environmental engineering.

Graduate Programs

Master of Science in Civil Engineering (Transportation Systems)

See Sustainable Infrastructure Systems Program.

Master of Science in Civil Engineering (Water and Waste Management)

See Sustainable Infrastructure Systems Program.

Engineer in Civil Engineering

Requirements for the Engineer in Civil Engineering are the same as set forth in the general requirements.

Transportation Systems Graduate Certificate

See Transportation Systems Graduate Certificate in the Price School of Public Policy.

Bachelor's Degree

Applied Mechanics (BS)

The requirement for this degree is 128 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See the common requirements for undergraduate degrees section.

Composition/Writing Requirements

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4 *
- WRIT 340 Advanced Writing Units: 3, 4 (4 Units Required)

Total units: 8

General Education

- General Education Units: 24*

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4

Total units: 36

Major Requirements

Aerospace and Mechanical Engineering

- AME 310 Engineering Thermodynamics I Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 441aL Senior Projects Laboratory Units: 3

Civil Engineering

- CE 205 Statics
- CE 225 Mechanics of Deformable Bodies Units: 4
- CE 235 Dynamics
- CE 309 Fluid Mechanics Units: 4

Electrical Engineering

- EE 326Lx Essentials of Electrical Engineering Units: 4

Total units: 24

Major Electives

- Free electives Units: 4 **
- Technical electives Units: 28
- Approved electives in computer programming Units: 4

Total units: 128

**GE Category VI and* WRIT 150 *are taken concurrently.*
***The choice of free electives in the fourth year requires approval of the administering department.*

Civil Engineering (BS)

The requirement for the degree is 131–132 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 215, CE 225 and CE 309. See also common requirements for undergraduate degrees.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4

Math Requirement

- MATH 126g Calculus II Units: 4 ** or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 **
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirements

- GEOL 305L Introduction to Engineering Geology Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil Engineering

- CE 106 Introduction to Civil Engineering Units: 2
- CE 107L Introduction to Civil Engineering Graphics Units: 2
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 119 Probability Concepts and Civil Engineering Units: 2
- CE 215 Statics and Dynamics Units: 4
- CE 225 Mechanics of Deformable Bodies Units: 4
- CE 309 Fluid Mechanics Units: 4
- CE 334L Mechanical Behavior of Materials Units: 4
- CE 358L Elementary Theory of Structures Units: 4
- CE 408 Risk and Decision Analysis in Civil Engineering Units: 2
- CE 451 Water Resources and Coastal Engineering Units: 4
- CE 453 Water Quality Science and Engineering Units: 4
- CE 456 Structural Design I Units: 4
- CE 467L Geotechnical Engineering Units: 4
- CE 471 Principles of Transportation Engineering Units: 4

Capstone Course

- CE 480 Civil and Environmental Engineering Capstone Design Units: 4

Courses from Other Engineering Departments

- AME 310 Engineering Thermodynamics I Units: 3 or
- EE 202L Linear Circuits Units: 4 or
- EE 326Lx Essentials of Electrical Engineering Units: 4
- ISE 460 Engineering Economy Units: 3

Design Courses

Choose two design courses (8 units) from the following list:

- CE 457 Structural Design II Units: 4
- CE 465 Water Supply and Sewerage System Design Units: 4
- CE 476 Design of Hydraulic Systems Units: 4
- CE 482 Subsurface Foundation Design Units: 4
- CE 485 Water Treatment Design Units: 4

Electives

The civil engineering electives (2 units) may be chosen freely.

Total units: 131-132

***Satisfies General Education requirement.*

All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Civil Engineering, Building Science Emphasis (BS)

The requirement for the degree with an emphasis in building science is 138 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 215, CE 225 and CE 309. See also the common requirements for undergraduate degrees section.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4

Math Requirement

Students who must take MATH 125g Calculus I will be waived from the required course GEOL 305L Introduction to Engineering Geology.

- MATH 126g Calculus II Units: 4 ** or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 **
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirements

Students who complete MATH 125g before MATH 126g will be excused from completing this course.

- GEOL 305L Introduction to Engineering Geology Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil Engineering

- CE 106 Introduction to Civil Engineering Units: 2
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 119 Probability Concepts and Civil Engineering Units: 2
- CE 215 Statics and Dynamics Units: 4
- CE 225 Mechanics of Deformable Bodies Units: 4
- CE 309 Fluid Mechanics Units: 4
- CE 334L Mechanical Behavior of Materials Units: 4
- CE 358L Elementary Theory of Structures Units: 4
- CE 408 Risk and Decision Analysis in Civil Engineering Units: 2
- CE 456 Structural Design I Units: 4
- CE 457 Structural Design II Units: 4
- CE 458 Computational Structural Analysis Units: 4
- CE 460 Construction Engineering Units: 4
- CE 467L Geotechnical Engineering Units: 4

Architecture courses

- ARCH 114 Architecture: Culture and Community Units: 2
- ARCH 214bg World History of Architecture Units: 3
- ARCH 205aL Building Science I Units: 4 ***
- ARCH 205bL Building Science I Units: 4 ***
- ARCH 305aL Building Science II Units: 4 ***
- ARCH 305bL Building Science II Units: 4 ***
- ARCH 405aL Building Science III Units: 4 ***
- ARCH 405bL Building Science III Units: 4 ***

Total units: 138

***Satisfies GE requirement.*
****The School of Architecture requires a minimum grade of C in* ARCH 205a, ARCH 205b, ARCH 305a, ARCH 305b *and* ARCH 405a, ARCH 405b *in order to continue in the building science design sequence.*

All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Civil Engineering, Construction Engineering and Management Emphasis (BS)

The requirement for the degree with an emphasis in construction engineering and management is 132–134 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 215, CE 225 and CE 309.

See also common requirements for undergraduate degrees.

Composition/Writing Requirements

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24*

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 * or
- CHEM 115aLg Advanced General Chemistry Units: 4

Math Requirement

Students who must take MATH 125g Calculus I will be waived from the course requirement of AME 310, EE 202L or EE 326Lx.

- MATH 126g Calculus II Units: 4 * or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 *
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirement

- GEOL 305L Introduction to Engineering Geology Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil Engineering

- CE 106 Introduction to Civil Engineering Units: 2
- CE 107L Introduction to Civil Engineering Graphics Units: 2
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 119 Probability Concepts and Civil Engineering Units: 2
- CE 215 Statics and Dynamics Units: 4
- CE 225 Mechanics of Deformable Bodies Units: 4
- CE 309 Fluid Mechanics Units: 4
- CE 334L Mechanical Behavior of Materials Units: 4
- CE 358L Elementary Theory of Structures Units: 4
- CE 408 Risk and Decision Analysis in Civil Engineering Units: 2
- CE 451 Water Resources and Coastal Engineering Units: 4
- CE 456 Structural Design I Units: 4
- CE 460 Construction Engineering Units: 4
- CE 467L Geotechnical Engineering Units: 4
- CE 471 Principles of Transportation Engineering Units: 4
- CE 482 Subsurface Foundation Design Units: 4

Capstone Course

- CE 480 Civil and Environmental Engineering Capstone Design Units: 4

Courses from Other Engineering Departments

Students who complete MATH 125g before MATH 126g will be excused from completing AME 310, EE 202L or EE 326Lx.

- AME 310 Engineering Thermodynamics I Units: 3 or
- EE 202L Linear Circuits Units: 4 or
- EE 326Lx Essentials of Electrical Engineering Units: 4
- ISE 460 Engineering Economy Units: 3

Construction Engineering and Management

Choose one design course from the following:

- CE 457 Structural Design II Units: 4
- CE 465 Water Supply and Sewerage System Design Units: 4
- CE 476 Design of Hydraulic Systems Units: 4
- CE 485 Water Treatment Design Units: 4

Choose one additional course from the following:

- ARCH 419 Architectural Sustainability Tools and Methods Units: 3
- CE 461 Construction Estimating Units: 4
- CE 462 Construction Methods and Equipment Units: 2
- CE 469 Sustainable Design and Construction Units: 2
- CE 470 Building Information Modeling: Project Visualization and Simulation for Management Units: 4

Total units: 132-134

**Satisfies GE requirement.*

All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Civil Engineering, Environmental Engineering Emphasis (BS)

The requirement for the degree with an emphasis in environmental engineering is 135 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 215, CE 225 and CE 309. See also common requirements for undergraduate degrees.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (4 Units Required)

General Education

- General Education Units: 24

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 * or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Math Requirement

Students who must take MATH 125g Calculus I will be waived from the required course ISE 460.

- MATH 126g Calculus II Units: 4 * or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 *
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil and Environmental Engineering

- CE 110 Introduction to Environmental Engineering Units: 2
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 119 Probability Concepts and Civil Engineering Units: 2
- CE 215 Statics and Dynamics Units: 4
- CE 225 Mechanics of Deformable Bodies Units: 4
- CE 309 Fluid Mechanics Units: 4
- CE 358L Elementary Theory of Structures Units: 4
- CE 363L Water Chemistry and Analysis Units: 4
- CE 402 Computer Methods in Engineering Units: 2
- CE 408 Risk and Decision Analysis in Civil Engineering Units: 2
- CE 410L Introduction to Environmental Engineering Microbiology Units: 4
- CE 451 Water Resources and Coastal Engineering Units: 4
- CE 456 Structural Design I Units: 4
- CE 467L Geotechnical Engineering Units: 4
- CE 480 Civil and Environmental Engineering Capstone Design Units: 4
- CE 485 Water Treatment Design Units: 4
- ENE 200 Environmental Engineering Principles Units: 4
- ENE 215 Energy Systems and Environmental Tradeoffs Units: 4
- ENE 428 Air Pollution Fundamentals Units: 4

Courses from Other Engineering Departments

Students who complete MATH 125g before MATH 126g will be excused from completing ISE 460.

- ISE 460 Engineering Economy Units: 3
- CHE 330 Chemical Engineering Thermodynamics Units: 4

Total units: 135

**Satisfies GE requirement.*

All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Civil Engineering, Structural Engineering Emphasis (BS)

The requirement for the degree with an emphasis in structural engineering is 131 - 132 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 215, CE 225, and CE 309. See also common requirements for undergraduate degrees.

Composition/Writing Requirements

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4

Math Requirement

Students who must take MATH 125g Calculus I will be waived from the course requirement of AME 310, EE 202L or EE 326Lx.

- MATH 126g Calculus II Units: 4 ** or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 **
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirements

- GEOL 305L Introduction to Engineering Geology Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil Engineering

- CE 106 Introduction to Civil Engineering Units: 2
- CE 107L Introduction to Civil Engineering Graphics Units: 2
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 119 Probability Concepts and Civil Engineering Units: 2
- CE 215 Statics and Dynamics Units: 4
- CE 225 Mechanics of Deformable Bodies Units: 4
- CE 309 Fluid Mechanics Units: 4
- CE 334L Mechanical Behavior of Materials Units: 4
- CE 358L Elementary Theory of Structures Units: 4
- CE 408 Risk and Decision Analysis in Civil Engineering Units: 2
- CE 456 Structural Design I Units: 4
- CE 457 Structural Design II Units: 4
- CE 458 Computational Structural Analysis Units: 4
- CE 459 Introduction to Structural Dynamics Units: 2
- CE 460 Construction Engineering Units: 4
- CE 467L Geotechnical Engineering Units: 4
- CE 471 Principles of Transportation Engineering Units: 4
- CE 482 Subsurface Foundation Design Units: 4

Capstone Course

- CE 480 Civil and Environmental Engineering Capstone Design Units: 4

Courses from Other Engineering Departments

Students who complete MATH 125g before MATH 126g will be excused from completing AME 310, EE 202L or EE 326Lx.

- AME 310 Engineering Thermodynamics I Units: 3 or
- EE 202L Linear Circuits Units: 4 or
- EE 326Lx Essentials of Electrical Engineering Units: 4
- ISE 460 Engineering Economy Units: 3

Total units: 131-132

***Satisfies GE requirement.*

All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for

subject credit only, which have been approved through the Degree Progress department.

Civil Engineering, Water Resources Engineering Emphasis (BS)

The requirement for the degree with an emphasis in construction engineering and management is 133–134 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 215, CE 225 and CE 309. See also common requirements for undergraduate degrees.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4

Math Requirement

Students who must take MATH 125g Calculus I will be waived from the course requirement of AME 310, EE 202L or EE 326Lx.

- MATH 126g Calculus II Units: 4 ** or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 **
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirements

- GEOL 305L Introduction to Engineering Geology Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil Engineering

- CE 106 Introduction to Civil Engineering Units: 2
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 119 Probability Concepts and Civil Engineering Units: 2
- CE 215 Statics and Dynamics Units: 4
- CE 225 Mechanics of Deformable Bodies Units: 4
- CE 309 Fluid Mechanics Units: 4
- CE 334L Mechanical Behavior of Materials Units: 4
- CE 358L Elementary Theory of Structures Units: 4
- CE 408 Risk and Decision Analysis in Civil Engineering Units: 2
- CE 451 Water Resources and Coastal Engineering Units: 4
- CE 453 Water Quality Science and Engineering Units: 4
- CE 456 Structural Design I Units: 4
- CE 467L Geotechnical Engineering Units: 4
- CE 471 Principles of Transportation Engineering Units: 4

Capstone Course

- CE 480 Civil and Environmental Engineering Capstone Design Units: 4

Courses from Other Engineering Departments

Students who complete MATH 125g before MATH 126g will be excused from completing AME 310, EE 202L or EE 326Lx.

- AME 310 Engineering Thermodynamics I Units: 3 or
- EE 202L Linear Circuits Units: 4 or
- EE 326Lx Essentials of Electrical Engineering Units: 4
- ISE 460 Engineering Economy Units: 3

Water Resources Engineering

- CE 465 Water Supply and Sewerage System Design Units: 4
- CE 476 Design of Hydraulic Systems Units: 4

Electives

The civil engineering electives (4 units) may be chosen freely.

Total units: 133-134

***Satisfies General Education requirement.*

All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Minor

Construction Planning and Management Minor

This program covers the most current theories and practice of construction planning and management. The program provides a valuable adjunct credential to professional school students pursuing careers in business administration, public administration, architecture, environmental studies, and other areas; and a unique opportunity for professional focus to students in the USC Dornsife College of Letters, Arts and Sciences.

Construction activities are complex. In contemporary society, effective planning and management of these activities requires specialized knowledge of the technical, economic and policy environment. This program couples the knowledge of how construction activities are organized with a broader understanding of the urban system in which construction projects are embedded. With the exception of statistics, all of the required courses are within the Astani Department of Civil and Environmental Engineering and the USC Price School of Public Policy.

Any USC undergraduate who has completed the equivalent of two full-time semesters in good standing is eligible to pursue the minor program. This minor program is rigorous enough to serve as an introductory credential for students subsequently electing to pursue advanced studies in development, urban planning, construction management, architecture or allied fields.

Six courses consisting of at least 22 units are required for the minor.

Core Courses

- CE 460 Construction Engineering Units: 4
- CE 470 Building Information Modeling: Project Visualization and Simulation for Management Units: 4

Theme Requirement

Two courses, both from Theme One or Theme Two:

Theme One

- PPD 357 Government and Business Units: 4
- PPD 358 Urban and Regional Economics Units: 4

Theme Two

- FBE 400x Introduction to Real Estate Finance and Development Units: 4
- FBE 466 Management of Real Estate Development: Feasibility Studies Units: 4

Electives

Select at least 6 units from the following:

- CE 412 Construction Contracts and Law Units: 2
- CE 461 Construction Estimating Units: 4
- CE 462 Construction Methods and Equipment Units: 2
- CE 469 Sustainable Design and Construction Units: 2
- RED 437 Advanced Finance and Investment for Real Estate Development Units: 4

Total Units: 22

Notes:

Advisement is provided by the Astani Department of Civil and Environmental Engineering. Students electing FBE, PPD, or RED courses from the themes or electives must satisfy the prerequisites. Please see the Price School and Marshall School section or schedule of classes for the prerequisites.

Master's Degree

Civil Engineering (Advanced Design and Construction Technology) (MS)

Designers, architects, engineers and construction managers of the 21st century must be able to manage and harness the rapid pace of technological change. A highly interconnected world and complex projects require creative and technologically enabled solutions. In this program, technology is argued to be a catalyst for change, poised to reduce the industry's fragmentation, improve its efficiency and effectiveness, and increase productivity, resilience and sustainability. The program emphasis is on understanding the capabilities of available and developing technologies so that the appropriate tools, systems, equipment, and methods can be implemented for a particular architectural, engineering and construction (AEC) function, project or challenge.

The Master of Science in Civil Engineering with an emphasis in Advanced Design and Construction Technology is awarded in strict conformity with the general requirements of the USC Viterbi School of Engineering. Students can choose the option of completing a thesis and must include in their program 4 units of CE 594a and CE 594b.

CE 578 is a integrated capstone project course; students will benefit most from this course if it is taken near the end of the program.

For Admission Requirements, please refer to the Viterbi Graduate Degrees and Requirements section of this catalogue.

Core Requirements (16 units)

- CE 470 Building Information Modeling: Project Visualization and Simulation for Management Units: 4
- CE 505 Data Management for Civil and Environmental Engineering Units: 2
- CE 568 Fundamental Concepts of Computing and Programming in Civil and Environmental Engineering Units: 2
- CE 573 Advanced Technologies in AEC Practices Units: 4
- CE 578 Technology-Enabled Architecture, Engineering and Construction (AEC) Projects Units: 4

Electives (12 units)

Students select three electives in consultation with an adviser, totaling at least 12 units, that may be taken from the USC Astani Department of Civil and Environmental Engineering, other engineering departments, the USC Price School of Public Policy, the USC School of Architecture, or the USC Marshall School of Business subject to adviser approval. Admission to some classes requires advanced prerequisites and is subject to availability and approval of the instructor.

Minimum Units Required: 28

Civil Engineering (MS)

The Master of Science in Civil Engineering is awarded in strict conformity with the general requirements of the USC Viterbi School of Engineering. A student may receive the Master of Science in Civil Engineering with a special option by specializing in one of the following courses of study: construction engineering; structural engineering; and transportation engineering. Students can choose the option of completing a thesis must include in their program 4 units of CE 594a and CE 594b. Total units for the degree is 28.

A general Master of Science in Civil Engineering without special designation is also given. Students pursuing this program will choose between the following special options: general, earthquake engineering, structural mechanics, water resources or ocean and coastal engineering.

A student who wishes to pursue the Master of Science in Civil Engineering without special designation and who has an interest in public works may take a selected sequence of 12 units in the USC Price School of Public Policy. For further information, see the Public Administration Professional Sequence section in the USC Price School of Public Policy.

For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering.

Civil Engineering (Transportation Systems) (MS)

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Four plans of study for the Master of Science degree allow for specialization based on background and interest.

Required Courses

Master of Science in Civil Engineering (Transportation Systems)

Electives Courses (Three Courses, Other Electives Upon Approval*)

- CE 583 Design of Transportation Facilities Units: 4
- CE 585 Traffic Engineering and Control Units: 3
- CE 588 Railroad Engineering Units: 3
- CE 589 Port Engineering: Planning and Operational Analysis Units: 4
- PPD 634 Institutional and Policy Issues in Transportation Units: 4
- PPD 692 Transportation and the Environment Units: 4

Note:

**Students electing the Master of Science in Civil Engineering (Transportation Systems) degree option are expected to have a background in statistics and uncertainty equivalent to ISE 225 or CE 408, and engineering economy equivalent to ISE 460. Admitted students who do not meet these prerequisites can satisfy the requirements by taking appropriate, adviser-approved electives.*

Minimum units required for the degree is 28

For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering.

Additional Requirements

Students with MS degrees in engineering or science disciplines can be accepted in these programs. Students must satisfy all other departmental degree requirements.

Construction Management (MCM)

Students possessing a bachelor's degree and with sufficient training in capital management and statistics may pursue the Master of Construction Management. The purpose of the Master of Construction Management program is to educate and train multidisciplinary professionals to understand and execute the broad array of technical and non-technical activities associated with construction management. The program provides special attention to the function of the constructor in real estate development.

Applicants to the program are expected to have completed undergraduate course work in engineering economy or business finance.

For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering.

Core Curriculum

- CE 501 Construction Practices Units: 4

- CE 502 Construction Accounting, Finance and Strategy Units: 4
- CE 564 Construction Planning and Preconstruction Units: 4
- CE 569 Project Controls Units: 4

Total minimum units: 32

Additional Requirements

The minimum requirement for the Master of Construction Management degree is 32 units. At least four elective courses totaling at least 16 units are required for this degree. These may be taken from the USC Astani Department of Civil and Environmental Engineering, other engineering departments, the USC Price School of Public Policy, the USC School of Architecture, the USC Gould School of Law or the USC Marshall School of Business, subject to adviser approval. Admission to some classes requires advanced prerequisites and is subject to availability and approval of the instructor.

General Requirements

Residence and Course Load

The normal time required for earning the Master of Construction Management is four semesters. Students are expected to participate in extracurricular activities associated with the Master of Construction Management program, including the speaker series and field trips. A candidate must complete the last four semester units of course work at USC.

Students who wish to take a leave of absence for a semester or longer must request it from the chairman of the Astani Department in writing. Such leaves may be granted for up to one year.

Transportation Systems Management (MS)

Transportation is a dynamic field with many aspects. The Master of Science in Transportation Management prepares students from any sufficiently analytical undergraduate background for advanced positions in the private, public or non-profit sector as well as for advanced graduate study. Students complete the program core, subject to options indicated there, plus a specialization for a total of 32-36 units.

The program core provides students with a broad, interdisciplinary basis for understanding transportation systems and needs. A required specialization of the student's choosing provides depth in a focused aspect of transportation systems relating to a particular set of methods or problem domain. Students learn:

- the design, provision, operation, and effectiveness of transportation services in the larger context of economic and social systems;
- how organizations can best adapt to changes affecting the transportation environment in which services are demanded and provided, including the relationships between transportation, technology, information services, and regulatory requirements; and
- to characterize, analyze and address complex transportation problems at the system level by relying on both theory and applied analytical methods.

For Admission Requirements, refer to USC Viterbi School of Engineering.

Program Core (21-24 Units)

The core consists of six courses for a total of 21-23 units. Students should complete all core courses, subject to the options indicated below.

- SAE 515 Sustainable Infrastructure Systems Units: 4
  or
- SAE 541 Systems Engineering Theory and Practice Units: 3
  or
- SAE 549 Systems Architecting Units: 3
- CE 501 Construction Practices Units: 4
  or
- ISE 500 Statistics for Engineering Managers Units: 3
- SSCI 581 Concepts for Spatial Thinking Units: 4

Any three of the following four courses:

- CE 582 Transportation System Security and Emergency Management Units: 4
- CE 584 Intelligent Transportation Systems Units: 4
- CE 585 Traffic Engineering and Control Units: 3
- CE 589 Port Engineering: Planning and Operational Analysis Units: 4

Specialization in Transportation Infrastructure Systems (11-12 Units)

This specialization consists of three courses for a total of 11-12 units, and is for students with an undergraduate background in science or engineering.

- CE 471 Principles of Transportation Engineering Units: 4
- CE 583 Design of Transportation Facilities Units: 4
- CE 586 Modeling Transportation Network Supply and Demand Units: 4
  or
- CE 588 Railroad Engineering Units: 3

Specialization in Geographic Information Systems (12 Units)

This specialization consists of three courses for a total of 12 units. SSCI 582 and SSCI 583 and SSCI 591 may be taken in any order after SSCI 581, but SSCI 574 should be taken after SSCI 583.

- SSCI 582 Spatial Databases Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4
- SSCI 574 Spatial Econometrics Units: 4
  or
- SSCI 575 Spatial Data Science Units: 4
  or
- SSCI 591 Web and Mobile GIS Units: 4

Specialization in Data Science (12 Units)

This specialization consists of three courses for a total of 12 units. DSCI 510 and DSCI 549 may be completed in any order, but both should be completed before DSCI 550.

- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Specialization in Systems Architecting (12 Units)

This specialization consists of four courses for a total of 12 units, and is for students with an undergraduate background in science or engineering. A single course may not be used to satisfy both a core requirement and a specialization requirement.

- SAE 560 Economic Considerations for Systems Engineering Units: 3

Any three of the following five courses:

- SAE 515 Sustainable Infrastructure Systems Units: 4
- SAE 541 Systems Engineering Theory and Practice Units: 3
- SAE 547 Model-Based Systems Architecting and Engineering Units: 3
- SAE 548 Systems/System-of-Systems Integration and Communication Units: 3
- SAE 549 Systems Architecting Units: 3

Graduate Certificate

Transportation Systems Graduate Certificate

The graduate certificate in Transportation Systems is an interdisciplinary program administered by the USC Astani Department of Civil and Environmental Engineering. The certificate program allows students to specialize in transportation applications, while simultaneously receiving a degree in their home department. The certificate in transportation systems combines elements of transportation engineering with transportation policy, planning and project management. The program is especially

appropriate for students intending to pursue careers as developers of transportation technologies, or as implementors of technologies within government agencies.

Students electing the certificate program apply to the USC Astani Department of Civil and Environmental Engineering. Course prerequisites for the program are:

- one course in statistics or uncertainty, equivalent to ISE 225 or CE 408;
- one course in engineering economy, equivalent to ISE 460;
- one course in microeconomics, equivalent to ECON 203; and
- one course in a contemporary high level programming language.

These prerequisites may be satisfied after enrollment in the certificate program by taking the indicated courses or their equivalent. Graduate students cannot receive credit for courses numbered below 400. Detailed admissions requirements are published by the USC Astani Department of Civil and Environmental Engineering.

The courses taken for the certificate may be applied later to the Master of Science in Civil Engineering, transportation option.

Qualified students holding a bachelor's degree also have the option of enrolling in the certificate program without receiving a separate graduate degree.

The curriculum consists of five graduate courses for a total of at least 18 units.

Certificate Requirements

- CE 471 Principles of Transportation Engineering Units: 4 or
- CE 501 Construction Practices Units: 4
- CE 583 Design of Transportation Facilities Units: 4 or
- CE 585 Traffic Engineering and Control Units: 3
- ISE 515 Engineering Project Management Units: 3
- PPD 633 Methods and Modeling Tools for Transportation Planning Units: 4
- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Doctoral Degree

Civil Engineering (PhD)

Doctor of Philosophy in Civil Engineering and Doctor of Philosophy in Engineering (Environmental Engineering)

The Doctor of Philosophy with a major in civil engineering and the Doctor of Philosophy with a major in engineering (environmental engineering) are also offered. See general requirements for graduate degrees.

Areas of specialization for Doctor of Philosophy level students are: structural engineering, structural mechanics, earthquake engineering, coastal engineering, water resources engineering, construction engineering and management, soil mechanics and foundation engineering, hydrology, hydrodynamics and transportation.

Environmental Engineering - Sonny Astani Department of Civil and Environmental Engineering

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Director, Environmental Engineering: Amy Childress, PhD

Faculty

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David M. Wilson Early Career Chair: George Ban-Weiss, PhD
Dr. Teh Fu Yen Early Career Chair: Kelly T. Sanders, PhD
Fred Champion Estate Chair in Engineering: Lucio Soibelman, PhD
Gordon S. Marshall Professor of Engineering Technology: Roger Ghanem, PhD *(Aerospace and Mechanical Engineering)*
Dean's Professor of Civil and Environmental Engineering: Burcin Becerik-Gerber, DDes
Gabilan Distinguished Professorship in Science and Engineering: Amy Childress, PhD
Louise L. Dunn Endowed Professorship in Engineering: Behrokh Khoshnevis, PhD (*Industrial and Systems Engineering)*
Fred Champion Professor: Constantinos Sioutas, ScD
Stephen Schrank Early Career Chair in Civil and Environmental Engineering: Qiming Wang, PhD
Distinguished Professor: Behrokh Khoshnevis, PhD *(Industrial and Systems Engineering)*
Professors: Burcin Becerik-Gerber, DDes; Amy Childress, PhD; Roger Ghanem, PhD *(Aerospace and Mechanical Engineering)*; Erik A. Johnson, PhD; Jiin-Jen Lee, PhD, PE*; Vincent W. Lee, PhD; Patrick Lynett, PhD; Sami F. Masri, PhD *(Aerospace and Mechanical Engineering)*; Najmedin Meshkati, PhD, CPE *(Industrial and Systems Engineering)*; Massoud Pirbazari, PhD; Constantinos Sioutas, ScD; Lucio Soibelman, PhD; Costas Synolakis, PhD; Mihailo Trifunac, PhD; L. Carter Wellford, PhD
Associate Professors: George Ban-Weiss, PhD; Felipe deBarros, PhD; Bora Gencturk, PhD; Kelly T. Sanders, PhD; Ketan Savla, PhD; Adam Smith, PhD
Assistant Professors: Daniel McCurry, PhD; Chukwuebuka Nweke, PhD; Audrey Olivier, PhD; Qiming Wang, PhD
Professors of Engineering Practice: Gregg E. Brandow Jr., PhD, PE; Geraldine Knatz, PhD *(Public Policy)*; Henry M. Koffman, PE
Associate Professors of Engineering Practice: David J. Gerber, DDes (*Architecture*); Amy Rechenmacher, PhD
Adjunct Professors of Engineering Practice: Anthanassios S. Fokas, PhD, MD; Frank Edward Reynolds
Joint Appointments: Carol Folt, PhD (*Preventive Medicine*); Genevieve Giuliano, PhD *(Public Policy)*; Behnam Jafarpour, PhD (*Chemical and Electrical and Computer Engineering*); Gale Lucas, PhD (*Computer Science*); Mitul Luhar, PhD (*Aerospace and Mechanical Engineering*); Azad Madni, PhD *(Astronautical Engineering)*; James Moffett, PhD *(Earth Sciences, Biological Sciences)*; James Moore, PhD *(Industrial and Systems Engineering, Public Policy)*; Firdaus E. Udwadia, PhD *(Aerospace and Mechanical Engineering)*; John P. Wilson, PhD *(Sociology)*
Research Associate Professor: Michael Orosz *(Information Sciences Institute)*
Adjunct Associate Professors of Practice: Hanh Dam Le-Griffin, PhD; Navid Nastar, PhD, PE, SE, F.ASCE; Abdel S Niazy, PhD, PE; Shahed Rowshan, PhD, PE; Eric Shen, PE
Adjunct Research Professors: Maria I. Todorovska, PhD; Yan Xiao, PhD, PE
Adjunct Research Assistant Professors: Jose C. Borrero, PhD; John Caffrey, PhD; Mazen Wahbeh, PhD
Emeritus Professors: George V. Chilingar, PhD; Joseph S. Devinny, PhD; Ronald C. Henry, PhD; Geoffrey Martin, PhD

Degree Requirements

Undergraduate Program Educational Objectives

Fulfilling the vision of the Sonny Astani Department of Civil and Environmental Engineering, the Viterbi School of Engineering and the University of Southern California, our graduates from the

Bachelor of Science in Civil Engineering program or the Bachelor of Science in Environmental Engineering program will:

1. Be successful in their professional careers, become leaders in industry, academia, government or service, while adapting their technical, collaborative and managerial skills for the benefit of society's built and natural environments.
2. Support the advancement of the practice of science and engineering, while maintaining professional standards and moral and legal obligations to society, while being active in professional organizations and obtaining professional licensure when appropriate.
3. Be prepared to pursue graduate studies in engineering or other disciplines, while continuously broadening their abilities and enhancing their technical skills to maintain their relevance with technological change.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Civil Engineering prepares graduates to apply knowledge of mathematics through differential equations, calculus-based physics, chemistry and at least one additional area of basic science, consistent with the program educational objectives; apply knowledge of four technical areas appropriate to civil engineering; conduct civil engineering experiments and analyze and interpret the resulting data; and design a system, component, or process in more than one civil engineering context. The program also explains basic concepts in management, business, public policy, and leadership; and explains the importance of professional licensure.

The program leading to a Bachelor of Science in Environmental Engineering prepares graduates to apply knowledge of mathematics through differential equations, probability and statistics, calculus-based physics, chemistry (including stoichiometry, equilibrium and kinetics), an earth science, a biological science and fluid mechanics. The curriculum prepares graduates to formulate material and energy balances, and analyze the fate and transport of substances in and between air, water, and soil phases; conduct laboratory experiments, and analyze and interpret the resulting data in more than one major environmental engineering focus area, e.g., air, water, land, environmental health; design environmental engineering systems that include considerations of risk, uncertainty, sustainability, life-cycle principles and environmental impacts; and apply advanced principles and practice relevant to the program objectives. The curriculum prepares graduates to understand concepts of professional practice, project management, and the roles and responsibilities of public institutions and private organizations pertaining to environmental policy and regulations.

Bachelor of Science in Civil Engineering Emphasis in Environmental Engineering

See Civil Engineering.

Engineer in Environmental Engineering

Requirements for the Engineer in Environmental Engineering are the same as set forth in the general requirements. See General Requirements for the Engineer Degree.

Sustainable Policy and Planning Graduate Certificate

See the listing in the USC Price School of Public Policy section.

Bachelor's Degree

Environmental Engineering (BS)

The program requires a minimum of 135 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in the following course: ENE 410. See also common requirements for undergraduate degrees.

Composition/Writing Requirements

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (4 units required)

General Education

- General education Units: 20

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 * or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 * or
- CHEM 115bL Advanced General Chemistry Units: 4

Math Requirement

Students who must take MATH 125g Calculus I will be waived from the required course ISE 460 Engineering Economy.

- MATH 126g Calculus II Units: 4 * or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226g Calculus III Units: 4 * or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 *
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil and Environmental Engineering

- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 110 Introduction to Environmental Engineering Units: 2
- CE 119 Probability Concepts and Civil Engineering Units: 2
- CE 215 Statics and Dynamics Units: 4
- CE 363L Water Chemistry and Analysis Units: 4
- CE 402 Computer Methods in Engineering Units: 2
- CE 408 Risk and Decision Analysis in Civil Engineering Units: 2
- CE 410L Introduction to Environmental Engineering Microbiology Units: 4
- CE 451 Water Resources and Coastal Engineering Units: 4
- CE 485 Water Treatment Design Units: 4
- ENE 200 Environmental Engineering Principles Units: 4
- ENE 215 Energy Systems and Environmental Tradeoffs Units: 4
- ENE 300 Contaminant Transport in the Environment Units: 4
- ENE 415 Environmental Organic Chemistry Units: 4
- ENE 426 Particulate Air Pollutants: Properties/Behavior/Measurement Units: 4
- ENE 428 Air Pollution Fundamentals Units: 4
- ENE 410 Environmental Fluid Mechanics Units: 4

Choose one design course (4 units) from the following list:

- CE 476 Design of Hydraulic Systems Units: 4

Or

- ENE 400 Quantitative Sustainability Units: 4

Courses from Other Departments

Students who complete MATH 125g before MATH 126g will be excused from completing ISE 460.

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 *
- CHE 330 Chemical Engineering Thermodynamics Units: 4
- ISE 460 Engineering Economy Units: 3

Capstone Course

- CE 480 Civil and Environmental Engineering Capstone Design Units: 4

Total units: 135

**Satisfies GE requirement.*

All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Master's Degree

Environmental Engineering (MS)

Students with a bachelor's degree in engineering or science may work toward the Master of Science in Environmental Engineering. Students with degrees in fields other than engineering or science may be admitted on the recommendation of a program adviser and program director. Selection of courses will be determined through consultation with a program adviser to provide a maximum of training in the student's area of interest in environmental problems.

The Master of Science in Environmental Engineering requires a minimum of 28 units.

For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering.

Doctoral Degree

Engineering (Environmental Engineering) (PhD)

Doctor of Philosophy in Civil Engineering and Doctor of Philosophy in Engineering (Environmental Engineering)

The Doctor of Philosophy with a major in civil engineering and the Doctor of Philosophy with a major in engineering (environmental engineering) are also offered. See general requirements for graduate degrees.

Areas of specialization for Doctor of Philosophy level students are: structural engineering, structural mechanics, earthquake engineering, coastal engineering, water resources engineering, construction engineering and management, soil mechanics and foundation engineering, hydrology, hydrodynamics and transportation.

Computer Engineering Program

Undergraduate Degree

Undergraduate Program Educational Objectives

Graduates of the Computer Engineering and Computer Science program are expected to attain the following educational objectives within a few years of graduation:

- Graduates will apply analytical and critical thinking principles of both computer engineering and computer science to their chosen professions.
- Graduates will successfully engage in life-long learning to continue to be contributing members of their communities in fields within and outside the traditional scope of computer engineering.
- Graduates will exhibit high professional and ethical standards to become productive leaders in society.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Computer Engineering and Computer Science provides both breadth and depth across the range of engineering topics implied by the title. The curriculum includes probability and statistics, including appropriate applications; mathematics, including discrete mathematics through differential and integral calculus; sciences (defined as biological, chemical or physical science) to develop an understanding of the scientific method and provide students with an opportunity to experience this mode of inquiry in courses for science or engineering majors that provide some exposure to lab work; and engineering topics (including computing science) necessary to analyze and design complex electrical and electronic devices, software and systems containing hardware and software components.

The computer science portion of the curriculum covers the fundamentals of algorithms, data structures, software design, concepts of programming languages and computer organization and software; provides an exposure to a variety of programming languages and systems, including at least one higher-level language; and includes advanced course work that builds on the fundamental course work to provide depth.

Graduate Degrees

The graduate program in computer engineering, offered through the Department of Electrical and Computer Engineering, is designed to provide students with an intensive background in the analysis, structure, design and function of digital computers and information processing systems. In addition to giving each student a fundamental background in digital logic, computer architecture and operating systems, a wide variety of elective courses allows for study in the following specialized areas: artificial intelligence; computer architecture; computer networks; computer system performance; design automation; fault-tolerant computers; microprocessors; parallel processing; real-time systems; robotics and VLSI design.

Master's Degree

Computer Engineering (MS)

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in electrical engineering. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree and through an accumulation of no more than 12 units beyond the minimum needed for the specific degree program. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Computer Engineering is also subject to the following requirements: (1) a total of at least 28 units is required; (2) every non-EE course for graduate credit requires prior written adviser approval recorded each semester on a special request form in the student's department file; (3) no more than three courses (maximum 12 units) may be counted at the 400 level — at least 19 adviser-approved units must be taken at the 500 or 600 level; (4) at least 20 units must be taken in Computer Engineering; (5) a maximum of two EE 599 Special Topics courses (8 units) may be counted toward the MSCENG; (6) at most, 4 units of EE 590 (Directed Research) and 1 unit of seminar, EE 598 (or other seminar with adviser approval), may be counted toward the MSCENG; (7) units to be transferred (maximum 4 with adviser approval) must have been taken prior to taking classes at USC — interruption of residency is not allowed.

In addition to the above, the Master of Science in Computer Engineering is earned by completing an integrated program of at least 28 units of approved course work emphasizing three key areas - Architecture, VLSI and Networks. Students must take one course from at least two areas, outlined below.

For Admission Requirements, refer to Viterbi Graduate Degrees and Requirements.

Computer Engineering course work requirements

Take a minimum of 20 units of Computer Engineering courses from the three lists below, including at least one course from two of the three areas in Architecture, Networks and VLSI/CAD areas. Electives from the Foundations area will also count toward the 20 unit Computer Engineering requirement.

Computer Architecture

Take at least one course from two areas.

- EE 451 Parallel and Distributed Computation Units: 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 457 Computer Systems Organization Units: 4
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 533 Network Processor Design and Programming Units: 3
- EE 542 Internet and Cloud Computing Units: 3
- EE 557 Computer Systems Architecture Units: 4
- EE 560L Digital System Design Units: 4
- EE 638 Applications of Machine Learning for Medical Data Units: 4
- EE 653 Advanced Topics in Microarchitecture Units: 3
- EE 657 Parallel and Distributed Computing Units: 3
- EE 659 Interconnection Networks Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3

Networks

Take at least one course from two areas.

- EE 450 Introduction to Computer Networks Units: 4
- EE 467 Introduction to Communication Systems Units: 3
- EE 533 Network Processor Design and Programming Units: 3
- EE 550 Data Networks: Design and Analysis Units: 4
- EE 555 Broadband Network Architectures Units: 3
- EE 597 Wireless Networks Units: 4
- EE 650 Advanced Topics in Computer Networks Units: 3
- EE 652 Low-Power Wireless Networks Units: 3

VLSI/CAD

Take at least one course from two areas.

- EE 477L MOS VLSI Circuit Design Units: 4
- EE 536a Analog Integrated Circuits Units: 4
- EE 536b Analog Integrated Circuits Units: 4
- EE 537 Modern Solid-State Devices Units: 4
- EE 552 Asynchronous VLSI Design Units: 4
- EE 577a VLSI System Design Units: 4
- EE 577b VLSI System Design Units: 2
- EE 580 System Verification Units: 4
- EE 581 Mathematical Foundations for System Design: Modeling, Analysis, and Synthesis Units: 4
- EE 582 CMOS:Nano Neuromorphic Circuits Units: 4
- EE 658 Diagnosis and Design of Reliable Digital Systems Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3
- EE 680 Computer-Aided Design of Digital Systems I Units: 3
- EE 681 Computer-Aided Design of Digital Systems II Units: 3

Foundations

Additional approved Computer Engineering electives that will count toward the 20 units required in the computer engineering area.

- CSCI 402 Operating Systems Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 511 Simulation Methods for Stochastic Systems Units: 1
- EE 510 Linear Algebra for Engineering Units: 4
- EE 588 Optimization for the Information and Data Sciences Units: 4
- EE 660 Machine Learning II: Mathematical Foundations and Methods Units: 4

Doctoral Degree

Computer Engineering (PhD)

The requirements for the Doctor of Philosophy (PhD) in Computer Engineering are in strict conformity with the requirements of the Graduate School. Program requirements for the PhD in Computer Engineering are the same as those for the PhD in Electrical Engineering except that the major field is computer engineering. See general requirements for graduate degrees.

Screening and qualifying examinations are administered by the computer engineering faculty. Students should contact the Electrical Engineering Systems Department Office for further information.

Course Requirements

A minimum of 60 units is required. Of these 60 units, a minimum of two courses must come from the Theory Area course list; at least one course must come from each of the Hardware, Software, and Systems Area course lists; one additional course must come from the Hardware, Software, and Systems Area course lists.

Theory Area Courses

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 670x Advanced Analysis of Algorithms Units: 4
- CSCI 675 Convex and Combinatorial Optimization Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 553 Computational Solution of Optimization Problems Units: 3
- EE 565 Information Theory and Its Application to (Big) Data Sciences Units: 4
- EE 581 Mathematical Foundations for System Design: Modeling, Analysis, and Synthesis Units: 4
- EE 588 Optimization for the Information and Data Sciences Units: 4
- ISE 530 Optimization Methods for Analytics Units: 3
- MATH 410 Fundamental Concepts of Modern Algebra Units: 4

  or
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 533 Algebraic Combinatorics Units: 3

Hardware Area Courses

- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 533 Network Processor Design and Programming Units: 3
- EE 536a Analog Integrated Circuits Units: 4
- EE 552 Asynchronous VLSI Design Units: 4
- EE 557 Computer Systems Architecture Units: 4
- EE 560L Digital System Design Units: 4
- EE 577a VLSI System Design Units: 4
- EE 577b VLSI System Design Units: 2
- EE 658 Diagnosis and Design of Reliable Digital Systems Units: 3
- EE 659 Interconnection Networks Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3
- EE 680 Computer-Aided Design of Digital Systems I Units: 3

Software Area Courses

- CSCI 548 Information Integration on the Web Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 565 Compiler Design Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4
- CSCI 585 Database Systems Units: 4
- EE 542 Internet and Cloud Computing Units: 3

Systems Area Courses

- CSCI 555L Advanced Operating Systems Units: 4
- EE 542 Internet and Cloud Computing Units: 3

- EE 543aL Digital Control Systems Units: 3
- EE 550 Data Networks: Design and Analysis Units: 4
  or
- EE 555 Broadband Network Architectures Units: 3
- EE 554 Cyber-Physical Systems: A Computing Perspective Units: 4
- EE 569 Introduction to Digital Image Processing Units: 4
- EE 585 Linear System Theory Units: 4
- EE 597 Wireless Networks Units: 4
- EE 652 Low-Power Wireless Networks Units: 3
- EE 657 Parallel and Distributed Computing Units: 3
- EE 681 Computer-Aided Design of Digital Systems II Units: 3

Computer Science

Henry Salvatori Computer Science Center 104
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Chair: Cyrus Shahabi, PhD

Faculty

Chan Soon-Shiong Chair: Maja Matarić, PhD *(Neuroscience Center)*
Andrew and Erna Viterbi Early Career Chair: Nora Ayanian, PhD
Andrew and Erna Viterbi Early Career Chair: Jernej Barbic, PhD
Philip and Cayley MacDonald Endowed Early Career Chair: Yan Liu, PhD
Gordon S. Marshall Chair in Engineering: Urbashi Mitra, PhD
Jack Munishian Early Career Chair; Zohrab A. Kaprielian Fellow in Engineering: Fei Sha, PhD
Niki and Max Nikias Chair in Engineering: Shrikanth (Shri) Narayanan, PhD
Northrup Grumman Chair in Engineering: Ramesh Govindan, PhD
Fletcher Jones Foundation Endowed Chair in Computer Science: Gaurav Sukhatme, PhD
David Packard Chair in Manufacturing Engineering: Stephen C-Y Lu, PhD *(Mechanical Engineering, Industrial and Systems Engineering)*
Charles Lee Powell Chair in Engineering: Viktor Prasanna, PhD *(Electrical and Computer Engineering)*
Charles Lee Powell Chair in Electrical and Computer Engineering and Computer Science: Massoud Pedram, PhD *(Electrical and Computer Engineering)*
Henry Salvatori Chair in Computer Science: Leonard M. Adleman, PhD
Fletcher Jones Professor: Ramakant Nevatia, PhD
Helen N. & Emmett H. Jones Professorship in Engineering: Cyrus Shahabi, PhD *(Electrical and Computer Engineering and Spatial Sciences)*
Seeley G. Mudd Professor of Engineering: Shanghua Teng, PhD
Distinguished Professor of Computer Science; TRW Professor of Software Engineering: Barry Boehm, PhD
WiSE Gabilan Assistant Professor: Heather Culbertson, PhD
WiSE Gabilan Assistant Professor: Bistra Dilkina, PhD
WiSE Gabilan Assistant Professor: Aleksandra Korolova, PhD
Professors: Leonard Adleman, PhD *(Molecular Biology)*; Barry Boehm, PhD *(Industrial and Systems Engineering)*; Leana Golubchik, PhD *(Electrical and Computer Engineering)*; Ramesh Govindan, PhD; Ellis Horowitz, PhD *(Electrical and Computer Engineering)*; Ming-Deh Huang, PhD; Laurent Itti, PhD *(Neuroscience Center)*; David Kempe, PhD; Sven Koenig, PhD; Yan Liu, PhD; Maja Matarić, PhD *(Neuroscience Center)*; Nenad Medvidovic, PhD; Aiichiro Nakano, PhD *(Biomedical Engineering, Materials Science, Physics)*; Ulrich Neumann, PhD *(Electrical and Computer Engineering)*; Ramakant Nevatia, PhD *(Electrical and Computer Engineering)*; Paul Rosenbloom, PhD; Fei Sha, PhD; Cyrus Shahabi, PhD (*Electrical and Computer Engineering)*; Gaurav Sukhatme, PhD *(Electrical and Computer Engineering)*; Shanghua Teng, PhD
Associate Professors: Nora Ayanian, PhD; Jernej Barbic, PhD; Bistra Dilkina, PhD; Shaddin Dughmi, PhD; Shahram Ghandeharizadeh, PhD; William GJ Halfond, PhD; Chao Wang, PhD
Assistant Professors: Heather Culbertson, PhD; Jyotirmony Vinay Deshmukh, PhD; Robin Jia, PhD; Aleksandra Korolova, PhD; Joseph Lim, PhD; Haipeng Luo, PhD; Muhammad Naveed, PhD; Stefanos Nikolaidis, PhD; Barath Raghavan, PhD; Mukund Rahtorhaman, PhD; Xiang Ren, PhD; Vatsal Sharan, PhD; Jesse Thomason, PhD; Jiapeng Zhang, PhD
Joint Professors: Murali Annavaram, PhD *(Electrical and Computer Engineering)*; Salman Avestimehr, PhD *(Electrical and Computer Engineering)*; Irving Biederman, PhD *(Psychology, Neuroscience*); Todd Brun; Emilio Ferrara, PhD (Annenberg); Satyandra K Gupta, PhD *(Aerospace and Mechanical Engineering)*; Rahul Jain, PhD (*Electrical and Computer Engineering*); Rajiv Kalia, PhD *(Physics)*; Carl Kesselman, PhD *(Industrial and Systems Engineering)*; Bhaskar Krishnamachari, PhD *(Electrical and Computer Engineering)*; C-C Jay Kuo, PhD *(Signal and Image Processing)*; Stephen Lu, PhD *(Industrial and Systems Engineering)*; Urbashi Mitra, PhD *(Electrical and Computer Engineering)*; Shrikanth (Shri) Narayanan, PhD *(Electrical and Computer Engineering)*; Hamid Nazerzadeh, PhD *(Data Sciences and Operations)*; Andrew Nealen, PhD *(Cinematic Arts)*; Pierluigi Nuzzo, PhD (*Electrical and Computer Engineering);* Viktor Prasanna, PhD *(Electrical and Computer Engineering)*; Konstantinos Psounis, PhD; C.S. Raghavendra, PhD *(Electrical and Computer Engineering)*; Meisam Razaviyayn *(Industrial and Systems Engineering, Computer Science, and Electrical and Computer Engineering)*; Benjamin Reichardt, PhD *(Electrical and Computer Engineering)*; Remo Rohs, PhD *(Computational Biology)*; Nicolas Schweighofer, PhD *(Biokinesiology and Physical Therapy)*; Neil Siegel, PhD *(Industrial and Systems Engineering)*; Mahdi Soltanolkotabi, PhD (*Electrical and Computer Engineering)*; Tianshu Sun, PhD *(Data Sciences and Operations)*; Francisco Valero-Cuevas, PhD *(Biomedical Engineering)*; Priya Vashishta, PhD *(Chemical Engineering and Materials Science, Physics)*; Phebe Vayanos, PhD *(Industrial and System Engineering)*; Richard Weinberg, PhD *(Cinematic Arts)*; John Wilson, PhD *(Spatial Sciences, Computer Science)*
Adjunct Assistant Professor: Marco Papa, PhD
Research Professor of Computer Science with Distinction: Premkumar Natarajan, PhD
Research Professors: Ewa Deelman, PhD; Yolanda Gil, PhD; Jonathan Gratch, PhD; John Heidemann, PhD; Randall Hill, PhD; Craig Knoblock, PhD; Kristina Lerman, PhD; William Swartout, PhD; David Traum, PhD
Research Associate Professors: Jose Luis Ambite, PhD; Aram Galstyan, PhD; Kallirroi Georgila, PhD; Andrew Gordon, PhD; Robert Lucas, PhD; Jelena Mirkovic, PhD; Pedro Szekely, PhD; Greg Ver Steeg, PhD
Research Assistant Professors: Muhao Chen, PhD; Rafael Ferreira da Silva, PhD; Gale Lucas, PhD; Xuezhe Ma, PhD; Jonathan May, PhD; Fred Morstatter, PhD; Jay Pujara, PhD; David Pynadath, PhD; Srivatsan Ravi, PhD; Mohammad Rostami, PhD; Mohammad Soleymani, PhD; Satish Kumar Thittamaranahalli PhD; Ning Wang, PhD
Adjunct Research Professors: Paul Debevec, PhD; Christian Mattmann, PhD
Adjunct Research Associate Professor: Ethan Katz-Bassett, PhD
Adjunct Research Assistant Professors: Bradford Clark, PhD; David DeVault, PhD; Nanyun Peng, PhD
Professors of Engineering Practice: Victor Adamchik, PhD; Jeffrey Miller, PhD
Associate Professors of Engineering Practice: Clifford Neuman, PhD; Saty Raghavachary, PhD; Mark William Redekopp *(Electrical*

and Computer Engineering); Wei-Min Shen, PhD; Wensheng Wu, PhD
Lecturers: Sandra Batista, PhD *(Senior Lecturer);* Claire Bono (*Senior Lecturer)*; William Cheng, PhD (*Senior Lecturer)*; Aaron Cote, PhD (*Senior Lecturer)*; Scott Easley, BA (*Senior Lecturer)*; Andrew Goodney, PhD (*Senior Lecturer)*; Mohammad Reza Rajati *(Lecturer)*; Tatyana Ryutov, PhD *(Senior Lecturer*); Shawn Shamsian, PhD (*Senior Lecturer)*
Emeritus Professors: Michael A. Arbib, PhD (*Biological Sciences, Biomedical Engineering, Electrical Engineering, Neuroscience and Psychology*); George Bekey, PhD *(Electrical Engineering, Biomedical Engineering)*; Jerry Hobbs, PhD; Gerard Medioni, PhD *(Electrical and Computer Engineering)*; Aristides A.G. Requicha, PhD (*Electrical Engineering*)

Bachelor of Science

Undergraduate Program Educational Objectives

Graduates of the undergraduate program in Computer Science are expected to attain the following objectives within a few years of graduation:

1. Graduates apply the computational and analytical approaches of computer science to their chosen professions.
2. Graduates successfully engage in life-long learning to continue to be contributing members of their communities in fields within and outside the traditional scope of computer science.
3. Graduates exhibit high professional and ethical standards to become productive leaders in society.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Computer Science includes at least one and one-third years of computer science that covers the fundamentals of algorithms, data structures, software design, concepts of programming languages and computer organization and software; provides an exposure to a variety of programming languages and systems, including at least one higher-level language; and includes advanced course work that builds on the fundamental course work to provide depth.

The program includes at least one year of science and mathematics, including at least one-half year of mathematics, including discrete mathematics. Additional mathematics might consist of calculus, linear algebra, numerical methods, probability, statistics, number theory, geometry, or symbolic logic. The science component develops an understanding of the scientific method and provides an opportunity to experience this mode of inquiry in courses for science or engineering majors that provide some exposure to laboratory work.

Physics/Computer Science Major Requirements for the Bachelor of Science

This program is intended for students with dual interests in physics and computer science who wish to complete the essential courses for both majors within their normal four-year career. See the Physics and Astronomy Department section for course requirements.

Bachelor of Science in Computer Engineering and Computer Science

See the listing under Computer Engineering Program.

Graduate Degrees

The requirements listed below are special to this department and must be read in conjunction with the general requirements of the USC Viterbi School of Engineering for master's degrees and the general requirements of the USC Graduate School for PhD degrees. The graduate program in computer science provides intensive preparation in the basic concepts and techniques related to the design, programming and application of digital computers. Both the Master of Science and Doctor of Philosophy degrees are offered.

A Master of Science degree with specialization in software engineering is also offered. The program seeks to prepare students for an industrial leadership career in software engineering. It also serves as an introduction to this area for students who wish to pursue advanced studies and research leading to a PhD.

A Master of Science degree with specialization in intelligent robotics is also offered. This program seeks to prepare students for an industrial career in the development of computer systems for CAD/CAM (Computer-Aided Design and Manufacturing) and robotics. It also serves as an introduction to this area for students who wish to pursue advanced studies and research leading to a PhD. The emphasis is on the domain of mechanical, electromechanical and mechatronic products. (CAD for digital systems is covered by a separate program offered by the Electrical and Computer Engineering department.)

A Master of Science degree with a specialization in computer networks is offered. This specialization prepares students in the areas of computer communications, networks and distributed processing.

A Master of Science in Computer Science (Artificial Intelligence) is also offered.

A Master of Science in Computer Science (Multimedia and Creative Technologies) is also offered.

A Master of Science in Computer Science (High Performance Computing and Simulations) is also offered.

A Master of Science in Computer Science (Data Science) is also offered.

A Master of Science in Computer Science (Game Development) is also offered.

A Master of Science in Computer Science (Computer Security) is also offered.

A Master of Science in Computer Science Dual Degree with Tsinghua University School of Information Science and Technology – China is also offered.

A Master of Science in Computer Science (Scientists and Engineers) is also offered for students with limited background in computer science.

Admission and Prerequisites

Admission is determined by the Office of Admission and the Viterbi School of Engineering, in consultation with the Computer Science Department. The applicant is required to have a bachelor's degree or its equivalent from an accredited college or university; satisfactory scores on the verbal and quantitative portions of the aptitude test of the Graduate Record Examinations (one advanced test from computer science, mathematics or engineering is recommended); and a substantial background in computing constitutes a minimum requirement. Foreign students must earn a satisfactory score on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS).

Bachelor's Degree

Computer Engineering and Computer Science (BS)

The Bachelor of Science in Computer Engineering and Computer Science provides students with the scientific and engineering skills and knowledge that enable them to design and implement computer systems that effectively and efficiently integrate developing hardware and software technologies. This degree is administered jointly by the Department of Computer Science and the Department of Electrical and Computer Engineering.

A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken.

The requirement for the degree is 128 units.

A grade of C (2.0) or better is required for each of the core courses CSCI 102L, CSCI 103, CSCI 170, CSCI 104 and CSCI 201.

Courses with a grade of C- or below must be repeated; courses may only be retaken once.

Departmental approval is required in order to retake a course.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

Composition/Writing Requirements (7 Units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 *

General Education (24 Units)

- General Education Units: 24

Pre-Major Requirements (30 Units)

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Mathematics (16 units)

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

Statistics and Probability (4 units)

- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 4 or
- MATH 407 Probability Theory Units: 4

Physics (8 units)

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 ** and
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

  or
- PHYS 161Lg Advanced Principles of Physics I Units: 4 and
- PHYS 162L Advanced Principles of Physics II Units: 4

  or
- PHYS 171Lg Applied Physics I: Mechanics Units: 4 and
- PHYS 172L Applied Physics II: Electricity, Magnetism and Optics Units: 4

Core (34 units)

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- EE 109L Introduction to Embedded Systems Units: 4
- EE 250L Distributed Systems for the Internet of Things Units: 4
- EE 354L Introduction to Digital Circuits Units: 4
- EE 457 Computer Systems Organization Units: 4

Computing Systems Track (33 units)

- CSCI 201L Principles of Software Development Units: 4
- CSCI 350 Introduction to Operating Systems Units: 4
- CSCI 353 Introduction to Internetworking Units: 4

Computer Engineering Options

Select two courses.

- EE 451 Parallel and Distributed Computation Units: 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 477L MOS VLSI Circuit Design Units: 4

Senior Design Project

Select one course.

- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4
- EE 459Lx Embedded Systems Design Laboratory Units: 4

Electives

- Technical electives: 8 units
- Free electives: 1 unit

Embedded Systems Track (33 units)

- CSCI 430 Introduction to Computer and Network Security Units: 4
- EE 202L Linear Circuits Units: 4
- EE 301L Linear Systems Units: 4
- EE 453 Computing Platforms and Paradigms Units: 4

Senior Design Project

- EE 459Lx Embedded Systems Design Laboratory Units: 4

Electives

- Technical electives: 8 units
- Free electives: 5 units

Technical Electives

Suggested courses include:

- CSCI 310 Software Engineering Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 420 Computer Graphics Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- CSCI 459 Computer Systems and Applications Modeling Fundamentals Units: 3
- CSCI 467 Introduction to Machine Learning Units: 4
- CSCI 476 Cryptography: Secure Communication and Computation Units: 4
- CSCI 485 File and Database Management Units: 4
- CSCI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CSCI 491aL Final Game Project Units: 4
- CSCI 491bL Final Game Project Units: 2
- CSCI 499 Special Topics Units: 2, 3, 4
- EE 450 Introduction to Computer Networks Units: 4
- EE 451 Parallel and Distributed Computation Units: 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 457 Computer Systems Organization Units: 4
- EE 459Lx Embedded Systems Design Laboratory Units: 4
- EE 477L MOS VLSI Circuit Design Units: 4
- EE 482 Linear Control Systems Units: 4
- EE 483 Introduction to Digital Signal Processing Units: 4
- EE 484x Communication System Design Units: 3
- EE 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- EE 499 Special Topics Units: 2, 3, 4
- ITP 466 Building the High Tech Startup Units: 4
- MATH 458 Numerical Methods Units: 4

Note:

Students may choose one adviser-approved course from the 300- and 400-level ITP offerings. Other courses may be applicable; please see an adviser for approval.

Total units: 128

*WRIT 340 Advanced Writing (Communication for Engineers) is strongly recommended for CECS majors.

**Satisfies GE requirement.

Computer Science (BS)

The undergraduate program in computer science is an interdisciplinary program leading to the Bachelor of Science in Computer Science. The program is designed to provide both an academic and professional orientation.

General admission requirements for the undergraduate program are the same as those of the university and the USC Viterbi School of Engineering and include 3 to 5 units of mathematics and one unit of science (biology, chemistry or physics) together with satisfactory scores on the Scholastic Aptitude Test and Achievement Tests. The minimum requirement for the degree is 128 units.

A grade of C (2.0) or better is required for each of the core courses CSCI 102L, CSCI 103, CSCI 170, CSCI 104 and CSCI 201.

Courses with a grade of C- or below must be repeated; courses may only be retaken once.

Departmental approval is required in order to retake a course.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper division courses applied toward the major, regardless of the department in which the courses are taken. Candidates must complete general education requirements; see the General Education Program.

Composition/Writing Requirements (7 Units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 *

General Education (24 Units)

- General Education Units: 24

Pre-Major Requirements (30 Units)

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Mathematics (16 units)

- MATH 125g Calculus I Units: 4 ***
- MATH 126g Calculus II Units: 4

  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226g Calculus III Units: 4

  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

Statistics and Probability (4 units)

- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 4 or
- MATH 407 Probability Theory Units: 4

Basic Science (8 units)

One of the following science area course sequences:

Biology:

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 ** and
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4 ** and
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Chemistry:

- CHEM 105aLg General Chemistry Units: 4 ** and
- CHEM 105bL General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4 ** and
- CHEM 115bL Advanced General Chemistry Units: 4 **

Physics:

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 ** and
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4 or
- PHYS 161Lg Advanced Principles of Physics I Units: 4 and
- PHYS 162L Advanced Principles of Physics II Units: 4

Major Requirements (62 Units)

Computer Science (46 units)

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- CSCI 310 Software Engineering Units: 4
- CSCI 350 Introduction to Operating Systems Units: 4
- CSCI 353 Introduction to Internetworking Units: 4
- CSCI 356 Introduction to Computer Systems Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4

  or
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4

Electrical Engineering (4 units)

- EE 109L Introduction to Embedded Systems Units: 4

Technical Electives (12 units)

(at least three courses for a minimum of 12 units)

- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4
- CSCI 420 Computer Graphics Units: 4
- CSCI 423 Native Console Multiplayer Game Development Units: 4
- CSCI 430 Introduction to Computer and Network Security Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- CSCI 459 Computer Systems and Applications Modeling Fundamentals Units: 3
- CSCI 467 Introduction to Machine Learning Units: 4
- CSCI 476 Cryptography: Secure Communication and Computation Units: 4
- CSCI 485 File and Database Management Units: 4
- CSCI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CSCI 491aL Final Game Project Units: 4
- CSCI 491bL Final Game Project Units: 2
- CSCI 499 Special Topics Units: 2, 3, 4
- EE 354L Introduction to Digital Circuits Units: 4
- EE 450 Introduction to Computer Networks Units: 4
- EE 451 Parallel and Distributed Computation Units: 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 457 Computer Systems Organization Units: 4
- EE 459Lx Embedded Systems Design Laboratory Units: 4
- EE 477L MOS VLSI Circuit Design Units: 4
- EE 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- EE 499 Special Topics Units: 2, 3, 4
- ENGR 395ax Cooperative Education Work Experience Units: 1 or 2
- ENGR 395bx Cooperative Education Work Experience Units: 1 or 2
- ENGR 395cx Cooperative Education Work Experience Units: 1 or 2
- ITP 368 Programming Graphical User Interfaces Units: 4
- ITP 380 Video Game Programming Units: 4
- ITP 435 Professional C++ Units: 4
- ITP 439 Compiler Development Units: 4
- ITP 466 Building the High Tech Startup Units: 4
- ITP 485 Programming Game Engines Units: 4
- MATH 458 Numerical Methods Units: 4

Note:

Students may also choose one adviser-approved course from the 300- and 400-level ITP offerings. Other courses may be applicable; please see an adviser for approval.

Free Electives (5 Units)

Total Units: 128

** WRIT 340 Advanced Writing (Communication for Engineers) is strongly recommended for CSCI majors*

***Courses selected to meet the general education life science and physical science requirements must be approved by the CSCI*

department to ensure that students achieve the required level of basic science content in their programs.
*****Satisfies General Education requirement.*

Computer Science Games (BS)

The goal of the Bachelor of Science in Computer Science Games program is to graduate students with a solid grounding in computer science and a cross-disciplinary background in game development. Topics covered in the cross-disciplinary game development portion of the degree program include game production, visual design for games and interactives, computer animation, video game programming, game hardware architectures, game engine programming, serious game development, introductory and intermediate game design and two semester-long final game projects. Students graduating from this program will be capable of engineering next-generation games and simulations and their technologies in the entertainment and serious game fields. Additionally, graduates from this program will be able to further their education in graduate programs in game development and computer science.

The requirement for the degree is 128 units.

A grade of C (2.0) or better is required for each of the core courses CSCI 102L, CSCI 103, CSCI 170, CSCI 104 and CSCI 201.

Courses with a grade of C- or below must be repeated; courses may only be retaken once.

Departmental approval is required in order to retake a course.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken.

Composition/Writing Requirements (7 Units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 *

General Education (24 Units)

General Education Units: 24

Pre-Major Requirements (18 Units)

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Mathematics (8 units)

- MATH 125g Calculus I Units: 4 **
- MATH 126g Calculus II Units: 4

  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

Linear Algebra (4 units)

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- EE 141L Applied Linear Algebra for Engineering Units: 4

Physics (4 units)

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 ** or
- PHYS 161Lg Advanced Principles of Physics I Units: 4

Major Requirements (58 units)

Computer Science Core (22 units)

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4

Computer Science Electives (8 units)

Choose at least 8 units:

- CSCI 350 Introduction to Operating Systems Units: 4
- CSCI 353 Introduction to Internetworking Units: 4
- CSCI 356 Introduction to Computer Systems Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 420 Computer Graphics Units: 4

Game Development Core (16 units)

- ITP 380 Video Game Programming Units: 4
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- CTIN 484L Intermediate Game Development Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 489 Intermediate Game Design Workshop Units: 2

Games Electives (6 units)

Choose at least 6 units:

- CSCI 281 Pipelines for Games and Interactives Units: 4
- CSCI 426 Game Prototyping Units: 4
- CTAN 443L Character Development for 3-D Animation and Games Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 404L User Research for Games Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 485 Advanced Game Development Units: 2
- CTIN 492L Experimental Game Topics Units: 4
- ITP 485 Programming Game Engines Units: 4

Game Capstone (6 units)

- CSCI 491aL Final Game Project Units: 4
- CSCI 491bL Final Game Project Units: 2

Free Electives (21 units)

Total units: 128

*WRIT 340 Advanced Writing (Communication for Engineers) is strongly recommended for CSGM majors.
**Satisfies GE requirement.

Computer Science/Business Administration (BS)

The combined Bachelor of Science degree program in computer science/business administration offers qualified students the opportunity to gain an educational foundation in both areas. The degree cannot also be combined as an additional major in either computer science or business administration. The degree is administered by the Computer Science Department.

The minimum requirement for the degree is 128 units.

A grade of C (2.0) or better is required for each of the core courses CSCI 102L, CSCI 103, CSCI 170, CSCI 104 and CSCI 201.

Courses with a grade of C- or below must be repeated; courses may only be retaken once.

Departmental approval is required in order to retake a course.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken.

Composition/Writing Requirements (7 Units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 *

General Education (24 Units)

- General Education Units: 24

Pre-Major Requirements (14 Units)

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Mathematics (8 units)

- MATH 125g Calculus I Units: 4 **

- MATH 126g Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

Basic Science (4 units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4 or
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 or
- PHYS 161Lg Advanced Principles of Physics I Units: 4

Major Requirements (83-86 Units)

Statistics and Probability (4 units)

- BUAD 310g Applied Business Statistics Units: 4 or
- BUAD 312g Statistics and Data Science for Business Units: 4
  or
- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 4 or
- MATH 407 Probability Theory Units: 4

Linear Algebra (4 units)

- EE 141L Applied Linear Algebra for Engineering Units: 4 or
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4

Computer Science Requirements (30 units)

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- CSCI 310 Software Engineering Units: 4
- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4
  or
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4

Business Requirements (36 units)

- ACCT 410x Foundations of Accounting Units: 4
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4

Technical Electives (9-12 units)

Students must take one course from the Computer Science selection and one from the Business selection and a third course from either one.

Computer Science Electives

Take at least one from the following courses:

- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 430 Introduction to Computer and Network Security Units: 4
- CSCI 485 File and Database Management Units: 4

Business Electives

Take at least one from the following courses:

- BAEP 452 Feasibility Analysis Units: 4
- BAEP 453 Venture Management Units: 4
- BAEP 455 Founder's Dilemmas Units: 4
- BUAD 301 Technology Entrepreneurship Units: 3
- DSO 424 Business Forecasting Units: 4
- DSO 428 Essentials and Digital Frontiers of Big Data Units: 4
- DSO 431 Digital Innovation as Competitive Advantage Units: 4
- DSO 433 Designing Digital Processes and User Experiences Units: 4
- DSO 435 Enterprise Data Architecture Units: 4
- DSO 443 Current Trends in Digital Business Models Units: 4
- DSO 455 Project Management Units: 4
- DSO 462 Managing a Small Business on the Internet Units: 2
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4
- MKT 425 Marketing in a Digital World Units: 4
- MKT 445 New Product Development and Branding Units: 4
- MOR 462 Management Consulting Units: 4

Total units: 128-131

*WRIT 340 Advanced Writing (Communication for Engineers) is strongly recommended for CSBA majors.
**Satisfies GE requirement.

Minor

Computer Science Minor

The computer science minor introduces the concepts, tools and techniques that are involved in the programming of computers. The minor prepares students to achieve mastery in several current programming languages. In addition, the student will learn about creating effective user interfaces and how to build applications that are available on the Internet.

Admission to the minor requires a B grade or higher in CSCI 102L, CSCI 103L and CSCI 170. Students who meet these criteria may contact the Computer Science department to request admission to the minor.

Required Courses (18 units)

CSCI 102 is a preparatory requirement. Students with programming experience may request to take a placement exam to waive this requirement.

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4 or
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4

Technical Electives (12 units)

12 units of upper-division courses selected from the following list:

- CSCI 310 Software Engineering Units: 4
- CSCI 350 Introduction to Operating Systems Units: 4
- CSCI 353 Introduction to Internetworking Units: 4
- CSCI 356 Introduction to Computer Systems Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4
- CSCI 420 Computer Graphics Units: 4
- CSCI 430 Introduction to Computer and Network Security Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- CSCI 467 Introduction to Machine Learning Units: 4
- CSCI 476 Cryptography: Secure Communication and Computation Units: 4
- CSCI 485 File and Database Management Units: 4
- CSCI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CSCI 499 Special Topics Units: 2, 3, 4

Total units: 30

Note:

- Students interested in a progressive or traditional master's degree in Computer Science must take CSCI 201L, CSCI 270, CSCI 356 and CSCI 350 as preparation.
- Students with interests in business applications should consider CSCI 310, CSCI 401 or CSCI 485.
- Students with interest in AI/Robotics should consider CSCI 360, CSCI 420 or CSCI 445L.
- Students with interest in networking and security should consider CSCI 353, CSCI 430 or CSCI 476.
- Additional elective options may be available with adviser approval.

Joint Degree

Computer Science Dual Degree with Tsinghua University School of Information Science and Technology (MS)

The Master of Science in Computer Science Dual Degree with Tsinghua University School of Information Science and Technology – China (THU) leads to two Master of Science degrees in Computer Science, one from each institution. The dual degrees are subject to the following stipulations:

1. All required courses for each degree are required for the dual degree.
2. The program description for the Tsinghua University Master of Science in Computer Science and Technology is online at http://www.tsinghua.edu.cn/publish/csen/4906/index.html.
3. The general requirements for the MS in Computer Science at USC in this dual degree program are the same as those for the USC general MS in Computer Science without a thesis, except that at least 19 units (of the minimum total of 28) must be completed at USC, and 9 units of pre-approved course work transferred from THU may be counted toward the degree requirements at USC. This is due to:
   - a special partnership in this area established by a Memorandum of Understanding at the University level to amplify cooperation between USC and THU and between the United States and China in an intellectual and economic arena of great importance to both, where many shared interests exist;
   - the similarity of the USC and THU curricula, which allows expanded course substitution due to interchangeable content;
   - the desirability of providing students with a wider array of relevant courses than they can get at either institution;
   - the opportunity to provide students a unique transcultural experience that will position them to be global leaders in their field.
4. The two MS degrees must be earned at the same time, generally at the end of two and one-half to three years of study. The THU degree requirements must be completed for students to receive the USC MS in Computer Science as part of the dual degree program.
5. Students who elect to receive only the USC degree must change their degree objective from the USCTsinghua University dual degree to a different MS degree objective in Computer Science. In this case they will be allowed to transfer only the standard 4 adviser-approved units from Tsinghua University toward the USC degree.
6. The following required courses must generally be taken at USC: CSCI 570 and one course from each of the following two categories: I. CSCI 551, CSCI 555, CSCI 571, CSCI 577a, CSCI 585, EE 557; II. CSCI 545, CSCI 561, CSCI 564, CSCI 574, CSCI 580, CSCI 582. There must be justification for the omission of a required course in either degree, for example a certain course in one degree may provide comparable content to the omitted course in the other degree.
7. The USC Computer Science Department has identified a list of transferrable THU courses that can be considered USC equivalents but is also willing to entertain transfer, on a case by case basis, of unique THU CSCI courses for which no obvious mapping to a USC CSCI course exists.
8. Courses taken at Tsinghua University by students sent from USC will be taught in English.
9. Other requirements for the Master of Science in Computer Science are the same as set forth in the general requirements for Viterbi School of Engineering Master of Science degrees.

Master's Degree

Computer Science (Artificial Intelligence) (MS)

This program will provide students with rigorous training with theories and applications of deep learning and artificial intelligence, such as machine learning, statistics, computer vision, natural language processing, and robotics.

Grade point average requirements are the same as for the Master of Science Computer Science degree.

In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Artificial Intelligence is also subject to the following requirements.

A minimum of 32 units, selected from the courses below, is required. Units to be transferred (maximum 4 with adviser approval) must have been taken prior to taking classes at USC – interruption of residency is not allowed. Curricular Practical Training units do not count toward the 32 required units.

For Admission Requirements, refer to Viterbi Graduate Degrees and Requirements.

Required Courses

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 566 Deep Learning and Its Applications Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 571 Web Technologies Units: 4

Group Electives

Take three courses with a minimum of one course from each group:

Group 1 - Machine Learning and Deep Learning

- EE 546 Mathematics of High-Dimensional Data Units: 4
- EE 588 Optimization for the Information and Data Sciences Units: 4
- ISE 633 Large Scale Optimization and Machine Learning Units: 3

Group 2 - Natural Language Processing and Speech Recognition

- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 662 Advanced Natural Language Processing Units: 4
- EE 519 Speech Recognition and Processing for Multimedia Units: 3

Group 3 - Computer Vision and Robotics

- CSCI 445L Introduction to Robotics Units: 4
- CSCI 545 Robotics Units: 4
- CSCI 677 Advanced Computer Vision Units: 4
- EE 569 Introduction to Digital Image Processing Units: 4

Note:

Students may use units of CSCI 599 or CSCI 699 toward the elective group requirements with department approval.

Computer Science (Computer Networks) (MS)

The Department of Computer Science offers a Master of Science in Computer Science as well as multiple emphases within the discipline.

Students must satisfy all requirements for the Master of Science degree in Computer Science. Applicants to this program must meet the admissions standards of the Viterbi School of Engineering.

Core Requirement (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Emphasis Requirements (12 units):

- CSCI 551 Computer Networking Units: 4 *
- CSCI 555L Advanced Operating Systems Units: 4 *
- EE 450 Introduction to Computer Networks Units: 4

Emphasis Electives (16 units):

- CSCI 530 Security Systems Units: 4
- CSCI 531 Applied Cryptography Units: 4
- CSCI 556 Introduction to Cryptography Units: 4
- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3 *
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 **
- CSCI 591 Computer Science Research Colloquium Units: 1 **
- CSCI 599 Special Topics Units: 2, 3, 4
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 550 Data Networks: Design and Analysis Units: 4
- EE 555 Broadband Network Architectures Units: 3
- EE 558 Optical Fiber Communication Systems Units: 3
- Non-Computer Science Course from the approved list
- 600-level CSCI Course (adviser approval required)
- Additional 500-level CSCI course

Total Units: 32

Note:

*CSCI 402 is a prerequisite for CSCI 551, CSCI 555 and CSCI 558. CSCI 402 is automatically waived for graduate computer science students.

**A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.

Computer Science (Computer Security) (MS)

The Department of Computer Science offers a Master of Science in Computer Science as well as multiple emphases within the discipline.

Students must satisfy all requirements for the Master of Science degree in Computer Science. Applicants to this program must meet the admissions standards of the Viterbi School of Engineering.

Core Requirement (4 units)

- CSCI 570 Analysis of Algorithms Units: 4

Emphasis Requirements (20 units)

- CSCI 530 Security Systems Units: 4
- CSCI 531 Applied Cryptography Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 555L Advanced Operating Systems Units: 4

Emphasis Elective

Complete 4 units from the following courses:

- CSCI 556 Introduction to Cryptography Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 578 Software Architectures Units: 4

Complete 8 units from the following:

- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CSCI 591 Computer Science Research Colloquium Units: 1
- Non-Computer Science course from the approved list
- 600-level CSCI course (adviser approval required)
- Additional 500-level CSCI course

Note:

A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.

Thesis courses (CSCI 594a, CSCI 594b, CSCI 594z) and internship courses (ENGR 596, ENGR 597x, ENGR 598) are not eligible for elective credit.

Total units: 32

Computer Science (Data Science) (MS)

The Master of Science in Computer Science (Data Science) provides students with a core background in computer science and specialized algorithmic, statistical and systems expertise in acquiring, storing, accessing, analyzing and visualizing large, heterogeneous and real-time data associated with diverse real-world domains including energy, the environment, health, media, medicine and transportation.

Core and Emphasis Requirements

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 585 Database Systems Units: 4

Emphasis Electives

Three courses with a minimum of one course from each group.

Group 1 (Data Systems):

- CSCI 548 Information Integration on the Web Units: 4
- CSCI 572 Information Retrieval and Web Search Engines Units: 4
- CSCI 586 Database Systems Interoperability Units: 4
- CSCI 587 Geospatial Information Management Units: 4
- CSCI 653 High Performance Computing and Simulations Units: 4
- CSCI 685 Advanced Topics in Database Systems Units: 4
- DSCI 551 Foundations of Data Management Units: 4

Group 2 (Data Analysis):

- CSCI 567 Machine Learning Units: 4
- CSCI 573 Probabilistic Reasoning Units: 3
- CSCI 686 Advanced Big Data Analytics Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- ISE 520 Optimization Theory and Algorithms: Numerical Optimization Units: 3
- MATH 467 Theory and Computational Methods for Optimization Units: 4
- MATH 574 Applied Matrix Analysis Units: 3

Additional Electives

Any 500- or 600-level course in CSCI (including additional group electives or special topics)*

- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CSCI 591 Computer Science Research Colloquium Units: 1
- DSCI 554 Data Visualization Units: 4
- DSCI 558 Building Knowledge Graphs Units: 4
- MATH 458 Numerical Methods Units: 4
- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3
- MATH 505a Applied Probability Units: 3
- MATH 601 Optimization Theory and Techniques Units: 3
- MATH 650 Seminar in Statistical Consulting Units: 3

Total units required for the degree is 32

*Note: No more than 4 units may be taken at the 400-level, and maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied. A maximum of 3 DSCI courses can be taken toward the degree.

Computer Science (Game Development) (MS)

Students graduating from this program will be capable of engineering next generation games and simulations and their required technologies immediately upon graduation in the entertainment and serious game fields. Additionally, graduates from this program will be able to further their education in graduate programs in game development and computer science. The long-term goal with this MS degree is to establish research and development directions that create a science of games and an accompanying archival literature that improves game development for both serious and entertainment purposes.

Students must satisfy all requirements for the Master of Science degree in Computer Science. Applicants to this program must meet the admissions standards of the Viterbi School of Engineering.

Core Requirement (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Emphasis Requirements (22 units):

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4

Cinema Courses

- CTIN 488 Game Design Workshop Units: 4
- CTIN 532L Interactive Design and Production I Units: 4

Project Courses

- CSCI 529a Advanced Game Projects Units: 4
- CSCI 529b Advanced Game Projects Units: 2

Emphasis Electives (6 units):

Complete 6 units from the following:

- CSCI 520 Computer Animation and Simulation Units: 4
- CSCI 522 Game Engine Development Units: 4
- CSCI 526 Advanced Mobile Devices and Game Consoles Units: 4
- CSCI 538 Augmented, Virtual and Mixed Reality Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 *
- CSCI 591 Computer Science Research Colloquium Units: 1 *
- CSCI 599 Special Topics Units: 2, 3, 4 **
- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2
- CTIN 534L Experiments in Interactivity I Units: 4
- CTIN 544 Experiments in Interactivity II Units: 2
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CTIN 593 Integrative Project: Media-based Interventions in Healthcare Units: 2, 4
- CTIN 599 Special Topics Units: 2, 3, 4

Note:

*A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.
**Adviser approval required.

Total units: 32

Computer Science (High Performance Computing and Simulations) (MS)

The Department of Computer Science offers a Master of Science in Computer Science as well as multiple emphases within the discipline.

Students must satisfy all requirements for the Master of Science degree in Computer Science. Applicants to this program must meet the admissions standards of the Viterbi School of Engineering.

Core and Emphasis Requirements

- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 596 Scientific Computing and Visualization Units: 4

Emphasis Electives

Three courses with a minimum of one course from each group.

Group 1 (Computer Science)

- CSCI 520 Computer Animation and Simulation Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3
- CSCI 580 3-D Graphics and Rendering Units: 4
- CSCI 599 Special Topics Units: 2, 3, 4 *
- CSCI 653 High Performance Computing and Simulations Units: 4

Group 2 (Computational Science/Engineering Application)

- AME 535a Introduction to Computational Fluid Mechanics Units: 3 or
- AME 535b Introduction to Computational Fluid Mechanics Units: 3
- CHE 502 Numerical Methods for Diffusive and Convective Transport Units: 3
- EE 553 Computational Solution of Optimization Problems Units: 3
- EE 653 Advanced Topics in Microarchitecture Units: 3
- EE 657 Parallel and Distributed Computing Units: 3
- EE 659 Interconnection Networks Units: 3
- MASC 575 Basics of Atomistic Simulation of Materials Units: 4
- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 578a Computational Molecular Biology Units: 3
- PHYS 516 Methods of Computational Physics Units: 3
- PTE 582 Fluid Flow and Transport Processes in Porous Media Units: 3, 2 years

Additional Electives

Complete the remaining units from either group list above or the following:

- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 **
- CSCI 591 Computer Science Research Colloquium Units: 1 **
- 600-level CSCI course (faculty and departmental approval required)
- 500-level CSCI course

Note:

*Special Topics must be pre-approved by an adviser.
**A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.
Thesis courses (CSCI 594a, CSCI 594b, CSCI 594z) and Internship courses (ENGR 596, ENGR 597x, ENGR 598) are not eligible for elective credit.

Total units: Minimum 32

Computer Science (Intelligent Robotics) (MS)

The Department of Computer Science offers a Master of Science in Computer Science as well as multiple emphases within the discipline.

Students must satisfy all requirements for the Master of Science degree in Computer Science. Applicants to this program must meet the admissions standards of the Viterbi School of Engineering.

Core Requirement (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Emphasis Requirements (8 units):

- CSCI 545 Robotics Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4

Emphasis Electives (20 units)

Complete 20 units from the following:

- CSCI 445L Introduction to Robotics Units: 4 *
- CSCI 534 Affective Computing Units: 4
- CSCI 540 Self-Organization Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 573 Probabilistic Reasoning Units: 3
- CSCI 599 Special Topics Units: 2, 3, 4
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 **
- CSCI 591 Computer Science Research Colloquium Units: 1 **
- CSCI 646 Coordinated Mobile Robotics Units: 4

- Non-Computer Science course from the approved list Units: 3-4
- 600-level CSCI course (adviser approval required) Units: 4
- Additional 500-level CSCI course Units: 4

Note:
*If CSCI 445 is selected as an elective, it must be taken before CSCI 545. Alternate Robotics/AI related courses may be substituted in the elective area.
**A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied. Internship courses (ENGR 595a, ENGR 595b, and ENGR 595z) are not eligible for elective credit.

Computer Science (MS)

The Department of Computer Science offers a Master of Science in Computer Science as well as multiple emphases within the discipline. The degree can be completed with or without a thesis.

Requirements for Graduation without a Thesis

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in computer science. This average must also be earned on all graduate courses completed at USC (400-level and above). Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average. Total units required for the degree is 28. No examination is required for the degree. Other requirements for the Master of Science in Computer Science are the same as set forth in the general requirements for Viterbi School of Engineering master's degrees.

Core Requirement (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Additional Course Work:

The remaining elective units necessary to earn the degree are completed by selecting additional 500-level CSCI courses.

- Note: A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied. Furthermore, up to four units may be 400-level, and up to eight units may be 600-level. Approval for enrollment in 600-level courses must come from the faculty instructor and department adviser. With adviser approval, one non-Computer Science course may be selected from the approved list. Thesis courses (CSCI 594a, CSCI 594b, CSCI 594z) and Internship courses (ENGR 595a, ENGR 595b, ENGR 595z) are not eligible for elective credit

Thesis Option:

The MS thesis option is available to highly qualified students but requires the student to find an adviser willing to supervise their research. In practice, availability of advisers is extremely limited and this option is exercised rarely.

With the approval of a supervising professor, qualified students may be allowed to pursue a thesis option. Students pursuing the thesis option must satisfy all of the policies and course requirements for the master's degree and, in addition, must enroll in a minimum of two semesters of CSCI 594a, CSCI 594b, CSCI 594z for a maximum of 4 units. Total units required for the degree with thesis is 32. The thesis must comply with all requirements set by the Graduate School. Students interested in a thesis while enrolled in a Computer Science specialization should consult with their department adviser.

Computer Science (Multimedia and Creative Technologies) (MS)

The Department of Computer Science offers a Master of Science in Computer Science as well as multiple emphases within the discipline.

For Admission Requirements, refer to USC Viterbi Graduate Degrees and Requirements.

Core Requirement (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Emphasis Requirements (16 units):

- CSCI 420 Computer Graphics Units: 4 *
- CSCI 520 Computer Animation and Simulation Units: 4 *
- CSCI 576 Multimedia Systems Design Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4 *

Emphasis Electives (12 units):

- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 **
- CSCI 591 Computer Science Research Colloquium Units: 1 **
- Non Computer Science Course from the approved list
- 600-level CSCI Course (adviser approval required) Units: 4
- Additional 500-level CSCI course

Note:
*CSCI 420 and CSCI 580 must be taken before CSCI 520.
**A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.

Total units: Minimum 32

Computer Science (Scientists and Engineers) (MS)

Designed for students with engineering or science bachelor's degree but limited background in computer science, this comprehensive, two-year, 37-unit program combines an introductory sequence of undergraduate preparatory and foundational course work with all the graduate breadth requirements necessary to satisfy the traditional master's degree.

Note: The preparatory programming requirement and foundational requirements must be completed at USC and cannot be transferred in or waived. Applicants to this program must meet the admissions standards of the Viterbi School of Engineering.

Preparatory Programming Requirement

- CSCI 455x Introduction to Programming Systems Design Units: 4 *

Foundational Requirements

- CSCI 402 Operating Systems Units: 4
- EE 457 Computer Systems Organization Units: 4 or
- EE 450 Introduction to Computer Networks Units: 4

Core Requirement

- CSCI 570 Analysis of Algorithms Units: 4

Emphasis Electives

Select the remaining units of approved 500- to 600-level course work from Computer Science. Recommended options include:

- CSCI 576 Multimedia Systems Design Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 577b Software Engineering Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 **
- CSCI 591 Computer Science Research Colloquium Units: 1 **

Total program units: 37

Total degree units: 33

**CSCI 455 is a preparatory requirement for this program, but the units for this course do not count toward the 33 units required for the degree.*
***A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied. Internship courses (ENGR 595a, ENGR 595b, ENGR 595z) are not eligible for elective credit.*

Computer Science (Software Engineering) (MS)

This program seeks to prepare students for an industrial leadership career in software engineering. It also serves as an introduction to this area for students who wish to pursue advanced studies and research leading to a PhD. Students may also include research for an optional master's thesis in their programs.

Students must satisfy all requirements for the Master of Science degree in Computer Science. Applicants to this program must meet the admissions standards of the Viterbi School of Engineering.

Core Requirement (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Emphasis Requirements (16 units):

- CSCI 510 Software Management and Economics Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 577b Software Engineering Units: 4
- CSCI 578 Software Architectures Units: 4

Emphasis Electives (12 units):

- CSCI 512 Testing and Analysis of Software Systems Units: 4
- CSCI 568 Requirements Engineering Units: 4
- CSCI 591 Computer Science Research Colloquium Units: 1
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CSCI 599 Special Topics Units: 2, 3, 4
- Non-Computer Science Course from the approved list Units: 3-4
- 600-level CSCI Course with adviser approval Units: 4
- Additional 500-level CSCI course Units: 4

Note:

- A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.
- Thesis courses (CSCI 594a, CSCI 594b, CSCI 594z) and Internship courses (ENGR 596, ENGR 597x, ENGR 598) are not eligible for elective credit.

Total units: Minimum 32

Graduate Certificate

Software Architecture Graduate Certificate

This certificate program will provide engineers with the skills required to face the increasingly complex future in architecting systems, systems of systems and software-intensive systems. Students will be exposed to the concepts, principles and state-of-the-art methods in software architectures. This program introduces principles and approaches for modeling systems using SysML; applies software engineering process models and management approaches to the design and architecture of large software systems; and guides the architect through every phase of the conception, implementation, deployment and finally retirement of software systems. It is expected that participants in the certificate program will have completed an undergraduate degree in computer science or a related field and will have several years of practical experience in software engineering and/or systems engineering. If students are later admitted to the Master of Science in Computer Science, the courses taken for the certificate may be applied to that program.

Required Courses

- CSCI 568 Requirements Engineering Units: 4
- CSCI 578 Software Architectures Units: 4
- SAE 547 Model-Based Systems Architecting and Engineering Units: 3
- SAE 549 Systems Architecting Units: 3

Electives (Choose One)

- CSCI 510 Software Management and Economics Units: 4
- CSCI 530 Security Systems Units: 4 *
- CSCI 555L Advanced Operating Systems Units: 4 *
- CSCI 577a Software Engineering Units: 4
- CSCI 577b Software Engineering Units: 4
- CSCI 589 Software Engineering for Embedded Systems Units: 4
- EE 557 Computer Systems Architecture Units: 4 **
- SAE 541 Systems Engineering Theory and Practice Units: 3

Total units: 17-18

**Prerequisite: CSCI 402*
***Prerequisite: EE 457*

Doctoral Degree

Computer Science (PhD)

The Doctor of Philosophy with a major in computer science is awarded in strict conformity with the general requirements of the USC Graduate School. See Requirements for Graduation. Departmental requirements for this degree consist of a concentrated program of study and research and a dissertation. Consult a separately published guide, available from the department office and Website, for more information concerning course requirements, the screening procedure, the teaching requirement, the qualifying examination, the thesis proposal and other requirements.

Course Requirements

Each student is required to complete two semesters of CSCI 697 (1 unit each, 2 maximum) and CSCI 670 (4 units). In addition, students are required to pass two semesters of CSCI 698 (1-2 units each, no maximum) as part of a teaching requirement.

Elective courses: In addition to the mandatory courses, each student must complete five CSCI courses at the 500 level and above, 4 units each. No more than two of these courses (8 units total) may be at the 500 level; the remaining must be CSCI courses at the 600 level. Directed Research units or thesis credits do not satisfy this requirement. Students are strongly advised to take at least one of their elective courses in an area of computer science that is different from their proposed area of research. The PhD adviser is expected to provide guidance on this matter to the student.

The CSCI 670 course requirement may be waived by examination only. Each course in the department has a faculty member who is designated as the course "owner." The owner of CSCI 670 is in charge of creating and grading the waiver examination. CSCI 697 and CSCI 698 may not be waived.

Electrical and Computer Engineering – Ming Hsieh Department of Electrical and Computer Engineering

Electrical and Computer Engineering
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Engineering Center 100
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Email: studentinfo@ee.usc.edu or eepdept@usc.edu
Co-Chairs: Richard Leahy, PhD*; Anthony F. J. Levi, PhD
Associate Chairs: Keith M. Chugg, PhD; Peter Beerel, PhD
Associate Chair (Curriculum and Student Services): Edward W. Maby, PhD

Faculty

Presidential Chair: Andrew J. Viterbi, PhD
A.V. "Bal" Balakrishnan Chair: Petros Ioannou, PhD
Kenneth C. Dahlberg Early Career Chair: Rahul Jain, PhD
Solomon Golomb - Andrew and Erna Viterbi Chair: Andreas Molisch, PhD
Lloyd F. Hunt Chair in Electrical Power Engineering: Martin Gundersen, PhD
Robert G. and Mary G. Lane Early Career Chair: Han Wang, PhD
Gordon S. Marshall Chair in Engineering: Urbashi Mitra, PhD
Jack Munushian Early Career Chair: Paul Bogdan, PhD
Niki and Max Nikias Chair in Engineering: Shrikanth (Shri) Narayanan, PhD
Robert C. Packard President's Chair and Malcolm R. Currie Chair in Technology and the Humanities: C. L. Max Nikias, PhD
Colleen and Roberto Padovani Early Career Chair in Electrical and Computer Engineering: Mike Chen, PhD
Charles Lee Powell Chair in Engineering: Viktor Prasanna, PhD
Charles Lee Powell Chair in Engineering and Computer Science: Massoud Pedram, PhD
Steven and Kathryn Sample Chair in Engineering: Alan E. Willner, PhD
Arthur G. Settle Trust Endowment for USC Leonard Silverman Chair: Richard Leahy, PhD*
Andrew and Erna Viterbi Early Career Chair: Maryam M. Shanechi, PhD
Dean's Professor in Electrical and Computer Engineering: Urbashi Mitra, PhD
Dean's Professor in Electrical and Computer Engineering: Alice C. Parker, PhD*
Distinguished Professor of Electrical and Computer Engineering and Computer Science: Chung-Chieh Kuo, PhD
Fred H. Cole Professorship in Engineering: Gianluca Lazzi, PhD
William M. Hogue Professorship in Electrical and Computer Engineering: Chung-Chieh Kuo, PhD
Ming Hsieh Chair in Electrical and Computer Engineering-Electrophysics: Mahta Moghaddam, PhD
George Pfleger Chair in Electrical and Computer Engineering: Timothy Pinkston, PhD
Provost Professor of Opthamology and Electrical and Computer Engineering: Gianluca Lazzi, PhD
University Professor: Shri Narayanan, PhD
Viterbi Professorship in Engineering: Daniel Lidar, PhD
WiSE Gabilan Assistant Professor: Feifei Qian, PhD
Ming Hsieh Faculty Fellow in Electrical and Computer Engineering: Hossein Hashemi, PhD
Ming Hsieh Faculty Fellow in Electrical and Computer Engineering: Bhaskar Krishnamachari, PhD
Professors: Murali Annavaram, PhD *(Computer Science)*; Salman Avestimehr, PhD; Peter Beerel, PhD; Paul Bogdan, PhD; Todd Brun, PhD *(Computer Science, Physics and Astronomy)*; Michael Shuo-Wei Chen, PhD; Keith M. Chugg, PhD; Stephen B. Cronin, PhD *(Physics)*; Martin Gundersen, PhD *(Materials Science, Physics)*; Sandeep Gupta, PhD; Hossein Hashemi, PhD; Petros Ioannou, PhD *(Aerospace and Mechanical Engineering, Industrial and Systems Engineering)*; B. Keith Jenkins, PhD; Edmond Jonckheere, PhD *(Mathematics)*; Mihailo Jovanovic, PhD *(Aerospace and Mechanical Engineering)*; Eun Sok Kim, PhD; Bart Kosko, PhD *(Law)*; Bhaskar Krishnamachari, PhD *(Computer Science)*; Chung-Chieh Kuo, PhD *(Computer Science)*; Gianluca Lazzi, PhD (*Ophthamology*); Richard Leahy, PhD* *(Biomedical Engineering, Radiology)*; Anthony F. J. Levi, PhD *(Physics)*; Daniel Lidar, PhD *(Chemistry, Physics and Astronomy)*; William C. Lindsey, PhD; Urbashi Mitra, PhD *(Computer Science)*; Mahta Moghaddam, PhD; Andreas Molisch, PhD; Shrikanth (Shri) Narayanan, PhD *(Computer Science, Linguistics, Pediatrics, Psychology)*; Krishna Nayak, PhD *(Biomedical Engineering, Pediatrics, Radiology)*; Michael Neely, PhD; C. L. Max Nikias, PhD *(Classics)*; Antonio Ortega, PhD; Alice C. Parker, PhD*; Massoud Pedram, PhD; Timothy Pinkston, PhD; Michelle Povinelli, PhD; Viktor Prasanna, PhD *(Computer Science)*; Konstantinos Psounis, PhD *(Computer Science)*; C. Raghavendra, PhD *(Computer Science)*; John B. Slaughter, PhD *(Education)*; Armand R. Tanguay Jr., PhD *(Biomedical Engineering, Materials Science, Physics)*; Andrew J. Viterbi, PhD; Alan E. Willner, PhD*; J. Joshua Yang, PhD; Chongwu Zhou, PhD
Associate Professors: Justin Haldar, PhD *(Biomedical Engineering)*; Rahul Jain, PhD *(Computer Science, Industrial and Systems Engineering)*; Mercedeh Khajavikhan, PhD; Christos Kyriakakis, PhD; Ashutosh Nayyar, PhD; Aluizio Prata Jr., PhD*; Benjamin W. Reichardt, PhD *(Computer Science)*; Maryam M. Shanechi, PhD *(Biomedical Engineering)*; Mahdi Soltanolkotabi, PhD *(Computer Science)*; Han Wang, PhD; Wei Wu, PhD
Assistant Professors: Somil Bansal, PhD; Chia Wei Wade Hsu, PhD; Rehan Kapadia, PhD; Manuel Monge, PhD; Pierluigi Nuzzo, PhD *(Computer Science)*; Feifei Qian, PhD *(Aerospace and Mechanical Engineering)*; Xuehai Qian, PhD *(Computer Science)*; Constantine Sideris, PhD
Professors of Electrical and Computer Engineering Practice: Mohammed Beshir, PhD; Edward W. Maby, PhD; Gandhi Puvvada, MS*; Mark Redekopp, MS *(Computer Science)**
Associate Professors of Electrical and Computer Engineering Practice: Shahin Nazarian, PhD; Allan Weber, PhD
Senior Lecturer: Brandon Franzke, PhD
Lecturer: Ali Zahid, PhD
Research Associate Professors: Wael AbdAlmageed, PhD; Stephen Crago, PhD; Anand Joshi, PhD
Research Assistant Professors: Jonathan Habif, PhD; Akilesh Jaiswal, PhD; Federico Spedalieri, PhD; Ajitesh Srivastava, PhD
Adjunct Assistant Professor: Moe Tabar, PhD
Adjunct Professor: George Papavassilopoulos, PhD
Adjunct Research Professors: Giuseppe Caire, PhD; Ming Hsieh, PhD *(Medicine)*; Rajgopal Kannan, PhD; Murali Kota, PhD; Willie Ng, PhD
Adjunct Research Associate Professor: P. Thomas Vernier, PhD
Adjunct Research Assistant Professors: Bindu Madhavan, PhD; Panayiotis Georgiou, PhD
Emeritus Professors: P. Daniel Dapkus, PhD (*Materials Science*); Michel Dubois, PhD; Hans H. Kuehl, PhD*; Jerry Mendel, PhD; Michael J. Safonov, PhD; Alexander A. Sawchuk, PhD*; Robert Scholtz, PhD; Leonard M. Silverman, PhD; John Silvester, PhD; William H. Steier, PhD; Lloyd Welch, PhD *(Mathematics)*
Emeritus Instructor: Sidney A. Wielin, BS
Research Professor Emeritus of Electrical and Computer Engineering: Sanjit Mitra, PhD

Joint Faculty

Joint Professors: Andrea M. Armani, PhD *(Chemical Engineering and Materials Science)*; Leana Golubchik, PhD *(Computer Science)*; Ramesh Govindan, PhD *(Computer Science)*; Ellis Horowitz, PhD *(Computer Science)*; Behnam Jafarpour, PhD *(Chemical Engineering and Materials Science)*; Yan Liu, PhD *(Computer Science)*; Jia Grace Lu, PhD *(Physics)*;

Anupam Madhukar, PhD *(Chemical Engineering and Materials Science)*; Ellis Meng, PhD *(Biomedical Engineering)*; Ulrich Neumann, PhD *(Computer Science)*; Ramakant Nevatia, PhD *(Computer Science)*; Suvrajeet Sen, PhD *(Industrial and Systems Engineering)*; Cyrus Shahabi, PhD *(Computer Science)*; John Slaughter, PhD *(Education)*; Gaurav Sukhatme, PhD *(Computer Science)*; Paul Thompson, PhD *(Ophthalmology)*; Arthur Toga, PhD *(Ophthamology)*; Francisco Valero-Cuevas, PhD *(Biomedical Engineering)*; Curt F. Wittig, PhD *(Chemistry, Physics)*; Stanley M. Yamashiro, PhD *(Biomedical Engineering)*
Joint Associate Professors: Elahe Nezami, PhD *(Preventive Medicine);* Ketan Savla, PhD *(Civil and Environmental Engineering)*; Yonggang Shi, PhD *(Neurology)*
Joint Assistant Professors: Barath Raghavan, PhD *(Computer Science)*; Jayakanth Ravichandran, PhD *(Chemical Engineering and Materials Science)*; Meisam Razaviyayn, PhD (*Industrial and Systems Engineering*); Jongseung Yoon, PhD *(Chemical Engineering, Materials Science)*
Joint Emeritus Professors: Michael Arbib, PhD *(Computer Science, Neurobiology, Biomedical Engineering)*; George A. Bekey, PhD *(Computer Science, Biomedical Engineering);* Aristides Requicha, PhD *(Computer Science)*
**Recipient of university-wide or school teaching award.*
Electrical Engineering Honor Society: Eta Kappa Nu

Degree Requirements

Undergraduate Program Educational Objectives

The electrical and computer engineering program objectives are designed to promote technical competence, professional development and citizenship in the global community. Graduates of the undergraduate program in electrical and computer engineering are expected to attain the following objectives within a few years of graduation:

Technical Competence

Graduates will apply their technical skills in mathematics, science and engineering to the solution of complex problems encountered in modern electrical and computer engineering practice.

Graduates will model, analyze, design and experimentally evaluate components or systems that achieve desired technical specifications subject to the reality of economic constraints.

Professional Development

Graduates will compete effectively in a world of rapid technological change and assume leadership roles within industrial, entrepreneurial, academic or governmental environments in the broad context of electrical and computer engineering.

Some graduates who choose to redirect their careers will be employed in diverse fields such as healthcare, business, law, computer science, multimedia and music through graduate-level studies and the process of lifelong learning.

Citizenship in the Global Community

Graduates will have established the foundations for critical thinking that are needed to broaden or redirect their careers in diverse disciplines such as business, health care and the arts through graduate-level studies and/or the process of life-long leaning.

Graduates will adhere to highly ethical practices, and they will make exemplary engineering decisions that balance economic, environmental and societal factors for the betterment of the global community.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Electrical and Computer Engineering provides both breadth and depth across the range of engineering topics implied by the title. The curriculum includes probability and statistics, including appropriate applications; mathematics through differential and integral calculus, and advanced mathematics, such as differential equations, linear algebra, complex variables and discrete mathematics; sciences (defined as biological, chemical or physical science); and engineering topics (including computing science) necessary to analyze and design complex electrical and electronic devices, software and systems containing hardware and software components.

Bachelor of Science in Computer Engineering and Computer Science

See the listing under Computer Science.

Master of Science in Computer Engineering

See the listing under Computer Engineering Program.

Doctor of Philosophy in Computer Engineering

See the listing under Computer Engineering Program.

Minor in Music Recording

A minor in music recording is offered through the USC Thornton School of Music to provide undergraduate students with the background necessary to enter the field of recording engineering and to familiarize them with the design needs of modern recording equipment. The minor is recommended to electrical and computer engineering majors with extensive musical training who would like to combine their technical and musical abilities while learning the engineering applications of physical and mathematical principles to the art of music recording. See the listing under the USC Thornton School of Music.

Master of Science in Electrical and Engineering (Electric Power)

See listing in the Sustainable Infrastructure Systems Program section.

Master of Science in Systems Architecting and Engineering

See the listing under Systems Architecting and Engineering Program.

Financial Engineering

Electrical and Computer Engineering Building 100
(213) 740-4447
FAX: (213) 740-4449
Email: studentinfo@ee.usc.edu
Faculty Contact: Professor Petros Ioannou, ioannou@usc.edu

Second Master's Degree

A graduate student who already holds a master's degree from USC may apply up to 4 units toward a second master's degree with the permission of the chair of the major department. All credit, including the transferred units, must be earned within seven calendar years.

For students who earned their first master's degree at another institution, no course work may be repeated from the first program of study and no unit credit from the first program of study may be counted toward the second master's degree.

Engineer in Electrical Engineering

Requirements for the Engineer in Electrical Engineering are the same as those listed under Engineer degree, except that both areas of concentration must be in electrical and computer engineering.

Bachelor's Degree

Electrical and Computer Engineering (BS)

The requirement for the degree is 128 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See also the common requirements for undergraduate degrees section.

University Requirements (31 units)

Composition/Writing Requirements (7 units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

General Education (24 units)

- General education Units: 24

Pre-Major Requirements (26 units)

Math Requirement (12 units)

- MATH 129 Calculus II for Engineers and Scientists Units: 4
  or
- MATH 127 Enhanced Calculus II Units: 4
  or
- MATH 126g Calculus II Units: 4 *
- MATH 229 Calculus III for Engineers and Scientists Units: 4
  or
- MATH 227 Enhanced Calculus III Units: 4
  or
- MATH 226g Calculus III Units: 4 *
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement (12 units)

- PHYS 161Lg Advanced Principles of Physics I Units: 4 **
  or
- PHYS 171Lg Applied Physics I: Mechanics Units: 4
- PHYS 162L Advanced Principles of Physics II Units: 4
  or
- PHYS 172L Applied Physics II: Electricity, Magnetism and Optics Units: 4
- PHYS 163L Advanced Principles of Physics III Units: 4
  or
- PHYS 173L Applied Physics III: Topics in Modern Physics Units: 4

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Major Requirements (56 units)

Electrical and Computer Engineering (40 units)

- EE 105 Introduction to Electrical Engineering Units: 4
- EE 109L Introduction to Embedded Systems Units: 4
- EE 141L Applied Linear Algebra for Engineering Units: 4
- EE 155L Introduction to Computer Programming for Electrical Engineers Units: 4
- EE 202L Linear Circuits Units: 4
- EE 250L Distributed Systems for the Internet of Things Units: 4
- EE 301L Linear Systems Units: 4
- EE 355x Software Design for Electrical Engineers Units: 4
- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 4***
- EE 370 Electromagnetics for Engineering Systems Units: 4

Electrical and Computer Engineering Electives (16 units)

Students must fulfill a minimum requirement of 16 units of adviser-approved upper division elective courses in electrical engineering. Of these 16 units, 3-4 units must be selected from the following list of capstone design courses:

- EE 422x Electromagnetic Systems Design Units: 3
- EE 434Lx Digital Signal Processing Design Laboratory Units: 4
- EE 447Lx Mixed Signal Electronic Circuits Units: 4
- EE 459Lx Embedded Systems Design Laboratory Units: 4
- EE 484x Communication System Design Units: 3
- EE 492a Undergraduate Project Units: 2
- EE 492b Undergraduate Project Units: 2
- EE 494a Undergraduate Thesis Units: 2
- EE 494b Undergraduate Thesis Units: 2
- EE 496 Capstone Design Units: 4
  †Students may use EE 492a and EE 492b Undergraduate Project 2+2 units or EE 494a and EE 494b Undergraduate Thesis 2+2 units to satisfy the capstone design requirement.

Free Electives (15 units)

Free elective courses are used to complete the university minimum 128-unit requirement. Students are encouraged to investigate minor options when satisfying this requirement.

Total units: 128

*MATH 129 and MATH 229 is the preferred calculus sequence for electrical engineering students. Students advised to begin with MATH 125 as a prerequisite to MATH 129 have 4 fewer units of free electives in their programs.
**PHYS 171Lg, PHYS 172L, and PHYS 173L is the preferred sequence for electrical engineering students.
***Students enrolled in the progressive degree program may take EE 503 (4) to satisfy this requirement.

Minor

Internet of Things Engineering Minor

The Internet of Things Engineering minor introduces the concepts, tools and techniques that are involved in designing and programming electronic devices that involve sensing, computation, and communication. The minor prepares students to understand the design tradeoffs present in aggregating and processing information generated by these networked devices either locally or in the cloud. Students completing this minor will be ready to effectively compete in industries related to embedded and networked systems and IoT technologies.

Required Courses (20 units)

- CSCI 430 Introduction to Computer and Network Security Units: 4
- EE 109L Introduction to Embedded Systems Units: 4 *
- EE 250L Distributed Systems for the Internet of Things Units: 4
- EE 453 Computing Platforms and Paradigms Units: 4
- EE 355x Software Design for Electrical Engineers Units: 4 *
  or
- CSCI 201L Principles of Software Development Units: 4

Take at least one course from below (3-4 units)

- EE 450 Introduction to Computer Networks Units: 4
- EE 451 Parallel and Distributed Computation Units: 4

Note:

** The Department of Electrical Engineering will accept introductory programming courses from other departments as the prerequisite or corequisites to EE 109 and EE 355.*

Master's Degree

Applied Physics (MS)

The MS degree in Applied Physics is directed toward students with interests in engineering physical systems for which acquisition and interpretation of information requires an understanding of underlying physical models, measurement techniques and disruptive factors such as noise, turbulence, and unwanted signals. Examples include RF electromagnetic or acoustic detection of objects or resources, photonic sources and detection and applications that involve the mechanics of solid and fluid media.

Required Analytical Courses

- AME 508 Machine Learning and Computational Physics Units: 4
- EE 604 Computational Methods in Applied Physics Units: 4

Topical Areas

Take at least **two core courses** (8 units) from the topical areas below, and take **three elective courses** (12 units) that follow the core courses chosen. Other courses may be substituted for listed electives subject to the approval of the program adviser.

A thesis (AME 594a, AME 594b or EE 594a, EE 594b) can substitute for 4 elective units.

Students may also take up to two units of directed research (AME 590 or EE 590) to fulfill the 28-unit degree requirement.

Electromagnetic Wave Propagation and Scattering

- EE 570a Advanced Electromagnetic Theory Units: 4

Elective courses:

- EE 551 Principles of Radar Units: 3
- EE 570b Advanced Electromagnetic Theory Units: 4
- EE 571 Wave Interactions with Random and Inhomogeneous Media Units: 4
- EE 573a Antenna Systems Engineering Units: 3
- EE 573b Antenna Systems Engineering Units: 4
- EE 578 Computational Electromagnetics for Engineers Units: 4

Optics and Photonics

- EE 530 Optical Materials, Instruments and Devices Units: 4

Elective courses:

- EE 529 Optics Units: 4
- EE 531 Nonlinear Optics Units: 4
- EE 539 Engineering Quantum Mechanics Units: 4
- EE 540 Introduction to Quantum Electronics Units: 4
- EE 566 Optical Information Processing Units: 3

Mechanics of Fluid and Solid Media

- AME 506 Continuum Mechanics Units: 4 or
- AME 509 Applied Elasticity Units: 4

Electives courses:

- AME 511 Compressible Gas Dynamics Units: 4
- AME 513a Fundamentals and Applications of Combustion Units: 4
- AME 513b Fundamentals and Applications of Combustion Units: 4
- AME 515 Advanced Heat and Mass Diffusion Units: 4
- AME 521 Engineering Vibrations II Units: 4
- AME 530a Dynamics of Incompressible Fluids Units: 4
- AME 530b Dynamics of Incompressible Fluids Units: 4
- AME 630 Transition to Chaos in Dynamical Systems Units: 3

Electrical and Computer Engineering (Analog, Mixed-Signal and Radio-frequency Integrated Circuits) (MS)

The Master of Science in Electrical and Computer Engineering (AMSRFIC) features a comprehensive set of courses related to in analog, mixed-signal, and radiofrequency integrated circuits with a wide range of applications in wireless and wired communications, autonomous systems, machine learning and artificial intelligence, medical electronics, biomedical implants, controls, sensing, and imaging.

Course Requirement: At least seven courses (a minimum of 28 units) must be taken from the following list (combination of core courses and elective courses). At least four courses must be taken from the list of core courses, with the remainder from the list of elective courses or (with program adviser approval) from the list of core courses or directed research (EE 590).

Core Requirements

- EE 505 Analog, Mixed-Signal, and RF Integrated-Circuit Tape-Out Units: 4
- EE 536a Analog Integrated Circuits Units: 4
- EE 536b Analog Integrated Circuits Units: 4
- EE 631 Mixed-Signal Integrated Circuits Units: 4
- EE 632a Integrated Communication Systems Units: 4
- EE 632b Integrated Communication Systems Units: 4

Elective Courses

- EE 537 Modern Solid-State Devices Units: 4
- EE 576 Integrated Memory Devices and Technologies Units: 4
- EE 577a VLSI System Design Units: 4
- EE 577b VLSI System Design Units: 2

Electrical and Computer Engineering (Machine Learning and Data Science) (MS)

In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Electrical and Computer Engineering with an emphasis in Machine Learning and Data Science is also subject to the following requirements.

A minimum of 32 units, selected from the courses below, is required. At least 22 units must be taken in electrical engineering. Units to be transferred (maximum 4 with adviser approval) must have been taken prior to taking classes at USC – interruption of residency is not allowed. Curricular Practical Training units do not count toward the 32 required units.

For Admission Requirements, refer to USC Viterbi School of Engineering.

Required Foundational Proficiency

0-6 units required. Each of these must either be taken and used as a technical elective, or the respective proficiency test (digital signal processing, software) must be passed:

- EE 483 Introduction to Digital Signal Processing Units: 4
- EE 538 Computing Principles for Electrical Engineers Units: 2

Foundations

All courses are required (16 units)

- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 510 Linear Algebra for Engineering Units: 4
- EE 541 A Computational Introduction to Deep Learning Units: 2
- EE 547 Applied and Cloud Computing for Electrical Engineers Units: 2
- EE 559 Machine Learning I: Supervised Methods Units: 4

Learning and Data Analytics

Two courses are required from this list (6-8 units).

- EE 546 Mathematics of High-Dimensional Data Units: 4
- EE 556 Stochastic Systems and Reinforcement Learning Units: 4
- EE 588 Optimization for the Information and Data Sciences Units: 4
- EE 641 Deep Learning Systems Units: 2
- EE 660 Machine Learning II: Mathematical Foundations and Methods Units: 4

Technical Electives

Take the remaining units from the following lists or from the Learning and Data Analytics list. Courses may not apply to more than one degree requirement.

Theory and Methods

- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 585 Database Systems Units: 4
- EE 517 Statistics and Data Analysis for Engineers Units: 4
- EE 542 Internet and Cloud Computing Units: 3
- EE 561 Foundations of Artificial Intelligence Units: 3
- EE 562 Random Processes in Engineering Units: 4
- EE 563 Estimation Theory Units: 3
- EE 564 Digital Communication and Coding Systems Units: 4
- EE 565 Information Theory and Its Application to (Big) Data Sciences Units: 4
- EE 575 Computational Differential Geometry for Engineers Units: 3
- EE 586L Advanced DSP Design Laboratory Units: 4
- EE 592 Computational Methods for Inverse Problems Units: 4
- EE 689 Computational Intelligence and Neural Learning Units: 4
- ISE 538 Performance Analysis Using Markov Models Units: 3
- MATH 541a Introduction to Mathematical Statistics Units: 3

Applications

- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 677 Advanced Computer Vision Units: 4

- EE 519 Speech Recognition and Processing for Multimedia Units: 3
- EE 569 Introduction to Digital Image Processing Units: 4
- EE 619 Advanced Topics in Automatic Speech Recognition Units: 3
- EE 669 Multimedia Data Compression Units: 3

Research

A maximum of 4 units of Directed Research or Thesis may be counted toward the Technical Electives area.

- EE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- EE 594a Master's Thesis Units: 2
- EE 594b Master's Thesis Units: 2
- EE 594z Master's Thesis Units: 0

Minimum Units: 32

Electrical Engineering (Computer Architecture) (MS)

The Master of Science in Electrical Engineering (Computer Architecture) is earned by successfully completing the normal requirements for the Master of Science in Electrical Engineering, with the following additional requirements: a minimum of 18 units from the Computer Architecture area are required. A breadth requirement of at least one course from Networks and at least one course from VLSI/CAD areas is required. Additionally, with adviser approval, EE 590 Directed Research under the guidance of a Computer Architecture faculty (maximum 4 units) and/or Special Topics EE 599 (maximum 4 units) may also count toward the 18 units required in the Computer Architecture area.

No more than three courses (maximum 12 units) may be counted at the 400 level.

The remaining course work to complete the degree may come from any of the three computer engineering areas.

Computer Architecture

Take at least 18 units from Computer Architecture

- EE 451 Parallel and Distributed Computation Units: 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 457 Computer Systems Organization Units: 4
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 533 Network Processor Design and Programming Units: 3
- EE 542 Internet and Cloud Computing Units: 3
- EE 557 Computer Systems Architecture Units: 4
- EE 554 Cyber-Physical Systems: A Computing Perspective Units: 4
- EE 560L Digital System Design Units: 4
- EE 653 Advanced Topics in Microarchitecture Units: 3
- EE 657 Parallel and Distributed Computing Units: 3
- EE 659 Interconnection Networks Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3

Networks

Take at least one course from Networks

- EE 450 Introduction to Computer Networks Units: 4
- EE 467 Introduction to Communication Systems Units: 3
- EE 533 Network Processor Design and Programming Units: 3
- EE 550 Data Networks: Design and Analysis Units: 4
- EE 555 Broadband Network Architectures Units: 3
- EE 560L Digital System Design Units: 4
- EE 597 Wireless Networks Units: 4
- EE 650 Advanced Topics in Computer Networks Units: 3
- EE 652 Low-Power Wireless Networks Units: 3

VLSI/CAD

Take at least one course from VLSI/CAD

- EE 477L MOS VLSI Circuit Design Units: 4
- EE 536a Analog Integrated Circuits Units: 4
- EE 536b Analog Integrated Circuits Units: 4
- EE 537 Modern Solid-State Devices Units: 4
- EE 552 Asynchronous VLSI Design Units: 4
- EE 560L Digital System Design Units: 4
- EE 577a VLSI System Design Units: 4
- EE 577b VLSI System Design Units: 2
- EE 581 Mathematical Foundations for System Design: Modeling, Analysis, and Synthesis Units: 4
- EE 677 VLSI Architectures and Algorithms Units: 3
- EE 680 Computer-Aided Design of Digital Systems I Units: 3
- EE 681 Computer-Aided Design of Digital Systems II Units: 3
- EE 580 System Verification Units: 4
- EE 582 CMOS: Nano Neuromorphic Circuits Units: 4

Electrical Engineering (Computer Networks) (MS)

Under the computer networks option students must satisfy the MS, Electrical Engineering requirements with the exception that only 15 units of EE are required.

Fundamental Courses

It is expected that each student in this program will take or have taken the equivalent of three of the four following fundamental courses:

- CSCI 402 Operating Systems Units: 4
- EE 450 Introduction to Computer Networks Units: 4
- EE 457 Computer Systems Organization Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4

Note:

With the exception of EE 503, the fundamental courses may also be satisfied by having passed EE placement exams.

Three of the following courses are required:

- CSCI 551 Computer Networking Units: 4
- EE 550 Data Networks: Design and Analysis Units: 4
- EE 555 Broadband Network Architectures Units: 3
- EE 597 Wireless Networks Units: 4

Note:

If a fourth required course is taken it can be counted toward elective credit.

Suggested elective courses include:

- CSCI 530 Security Systems Units: 4
- CSCI 555L Advanced Operating Systems Units: 4
- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3
- CSCI 570 Analysis of Algorithms Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 535 Wireless Communications Units: 4
- EE 554 Cyber-Physical Systems: A Computing Perspective Units: 4
- EE 557 Computer Systems Architecture Units: 4
- EE 558 Optical Fiber Communication Systems Units: 3
- EE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- EE 649 Stochastic Network Optimization Units: 3
- EE 650 Advanced Topics in Computer Networks Units: 3
- EE 652 Low-Power Wireless Networks Units: 3
- EE 659 Interconnection Networks Units: 3

Note:

Any other course must be approved by a faculty adviser.

Total units required for the degree: 27

Electrical Engineering (MS)

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in electrical engineering. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree and through an accumulation of no more than 12 units beyond the minimum needed for the specific degree program. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Electrical Engineering is also subject to the following requirements: (1) a total of at least 28 units is required; (2) every non-EE course for graduate credit requires prior written adviser approval recorded each semester on a special request form in the student's department file; (3) no more than three courses (maximum 12 units) may be counted at the 400-level - at least 19 adviser-approved units must be taken at the 500- or 600-level; (4) at least 20 units must be taken in electrical engineering, those not in EE require written adviser approval and must be technical in nature; (5) a maximum of eight units of EE 599 Special Topics courses may be counted toward the MSEE; (6) at most, 4 units of EE 590 (Directed Research) and 1 unit of seminar, EE 598 (or other seminar with adviser approval), may be counted toward the MSEE; (7) units to be transferred (maximum 4 with adviser approval) must have been taken prior to taking classes at USC - interruption of residency is not allowed. Curricular Practical Training units do not count toward the 28 required units in the MSEE program.

Students following the MS Thesis Option must have at least 16 units at the 500 level and take EE 594a and EE 594b. A maximum of 2 units for EE 590 may be counted in conjunction with EE 594a and EE 594b registrations.

Aerospace Controls Option

The aerospace controls option is available as an area of emphasis for MSEE students interested in learning to apply innovative control techniques to aerospace control problems. In addition to 20 approved units of electrical engineering courses, students in this option will take at least two of the following aerospace and mechanical engineering courses:

- AME 453 Engineering Dynamics Units: 3
- AME 532a Flight Vehicle Stability and Control Units: 3
- AME 532b Flight Vehicle Stability and Control Units: 3
- AME 525 Engineering Analysis Units: 4
- AME 526 Introduction to Mathematical Methods in Engineering II Units: 4
- ASTE 580 Orbital Mechanics I Units: 3

Electrical Engineering (VLSI Design) (MS)

The Master of Science in Electrical Engineering (VLSI design) is earned by successfully completing the normal requirements for the Master of Science in electrical engineering, with the following additional required courses: EE 479 or EE 536a; EE 577a; EE 577b or EE 536b; and EE 552. If a student chooses to take the first of the OR courses, the other course may be counted in the VLSI/CAD, Circuits and Devices and Computer Systems areas as indicated, below.

For Admission Requirements, refer to Viterbi Graduate Degrees and Requirements.

No more than three courses (maximum 12 units) may be counted at the 400 level — at least 18 adviser-approved units must be taken at the 500 or 600 level.

The students must also take two courses from one of the following areas and one course from a second area:

VLSI/CAD Area

- CSCI 455x Introduction to Programming Systems Design Units: 4
- EE 560L Digital System Design Units: 4
- EE 580 System Verification Units: 4
- EE 581 Mathematical Foundations for System Design: Modeling, Analysis, and Synthesis Units: 4
- EE 658 Diagnosis and Design of Reliable Digital Systems Units: 3
- EE 680 Computer-Aided Design of Digital Systems I Units: 3
- EE 681 Computer-Aided Design of Digital Systems II Units: 3

Circuits and Devices Area

- EE 448L Communication Electronics Units: 4
- EE 504L Solid-State Processing and Integrated Circuits Laboratory Units: 4
- EE 505 Analog, Mixed-Signal, and RF Integrated-Circuit Tape-Out Units: 4
- EE 536a Analog Integrated Circuits Units: 4
- EE 536b Analog Integrated Circuits Units: 4
- EE 582 CMOS:Nano Neuromorphic Circuits Units: 4
- EE 537 Modern Solid-State Devices Units: 4
- EE 632 Integrated Communication Systems Units: 4

Computer Systems Area

- CSCI 455x Introduction to Programming Systems Design Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- EE 557 Computer Systems Architecture Units: 4
- EE 560L Digital System Design Units: 4
- EE 577b VLSI System Design Units: 2
- EE 580 System Verification Units: 4
- EE 659 Interconnection Networks Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3

Note:

With explicit approval of a faculty adviser, EE 599 Special Topics and/or 3 units of EE 590 Directed Research may be used to meet requirements for any of the approved areas.

The remaining courses must be technical electives approved by the adviser, and can including the following:

- EE 457 Computer Systems Organization Units: 4
- EE 477L MOS VLSI Circuit Design Units: 4
- EE 479 Analog Integrated Circuit Design Units: 4
- EE 501 Solid State Units: 4
- EE 502 Advanced Solid State Units: 3
- EE 504L Solid-State Processing and Integrated Circuits Laboratory Units: 4
- EE 506 Semiconductor Physics Units: 4
- EE 540 Introduction to Quantum Electronics Units: 4
- EE 554 Cyber-Physical Systems: A Computing Perspective Units: 4
- EE 560L Digital System Design Units: 4
- EE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- EE 601 Advanced Semiconductor Device Physics Units: 4
- EE 677 VLSI Architectures and Algorithms Units: 3

Electrical Engineering (Wireless Health Technology) (MS)

The Master of Science in Electrical Engineering (Wireless Health Technology) reflects a partnership between the Viterbi School of Engineering, the Keck School of Medicine, and other institutions engaged in health care research. The program of study features targeted engineering courses, a rigorous exposure to general medicine, and relevant internship practice (a total of 29-32 units). Units to be transferred (maximum 4 with adviser approval) must have been taken prior to taking classes at USC - interruption of residency is not allowed.

Required Courses (20 Units)

- EE 450 Introduction to Computer Networks Units: 4
- EE 579 Wireless and Mobile Networks Design and Laboratory Units: 3
- MEDS 530a Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 530b Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 530c Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 597a Health Technology Internship Units: 1
- MEDS 597b Health Technology Internship Units: 1

Take three electives from the following list (9-12 units)

- CSCI 545 Robotics Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4

- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 519 Speech Recognition and Processing for Multimedia Units: 3
- EE 535 Wireless Communications Units: 4
- EE 550 Data Networks: Design and Analysis Units: 4
- EE 559 Machine Learning I: Supervised Methods Units: 4
- EE 564 Digital Communication and Coding Systems Units: 4
- EE 567 Communication Systems Units: 3
- MEDS 500 Basic Concepts in Global Health Units: 4
- MEDS 501 Critical Issues in Global Health Units: 4

Total units: 29-32

Students are expected to have a background in linear algebra equivalent to EE 441 and experience with a programming language such as C or C++. Admitted students who do not meet prerequisites by placement examination will be assigned courses to complete the deficiencies.

Electrical Engineering (Wireless Networks) (MS)

The Master of Science in Electrical Engineering (Wireless Networks) is a unique interdisciplinary degree program that prepares graduates for the design and improvement of future wireless networks such as the "Internet of Things." The program combines courses related to radio hardware, transmission techniques, the medium-access control layer, networking, applications and standards.

No more than three courses (maximum 12 units) may be counted at the 400 level — at least 18 adviser-approved units must be taken at the 500 or 600 level. Units to be transferred (maximum 4 with adviser approval) must have been taken prior to taking classes at USC — interruption of residency is not allowed.

For Admission Requirements, refer to USC Viterbi School of Engineering.

The Master of Science in Electrical Engineering (Wireless Networks) requires at least 28 units.

Required Courses (16 Units)

- CSCI 402 Operating Systems Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 535 Wireless Communications Units: 4
- EE 597 Wireless Networks Units: 4

Elective Courses (12-14 Units, at Least One Course from Two Areas)

Transmission Techniques and Signal Processing

- EE 483 Introduction to Digital Signal Processing Units: 4
- EE 558 Optical Fiber Communication Systems Units: 3
- EE 564 Digital Communication and Coding Systems Units: 4
- EE 583 Statistical Signal Processing Units: 3
- EE 586L Advanced DSP Design Laboratory Units: 4

Architectures, Protocols, and Applications

- EE 519 Speech Recognition and Processing for Multimedia Units: 3
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 550 Data Networks: Design and Analysis Units: 4
- EE 555 Broadband Network Architectures Units: 3
- EE 652 Low-Power Wireless Networks Units: 3

Communication Hardware and Design

- EE 448L Communication Electronics Units: 4
- EE 541 A Computational Introduction to Deep Learning Units: 2
- EE 544 Radio Frequency Systems and Hardware Units: 3

Note:

This program assumes prerequisite preparation in the area of computer networks. Students who do not meet this requirement or who do not pass a related placement exam will be required to take EE 450 Introduction to Computer Networks.

Electrical Engineering/Engineering Management (MS)

The Ming Hsieh Department of Electrical Engineering in conjunction with the Daniel J. Epstein Department of Industrial and Systems Engineering offers a program leading to the degree of Master of Science in Electrical Engineering/Master of Science in Engineering Management. This program is designed for graduate electrical engineers whose career objectives lead to increasing technical management responsibilities.

In addition to the general requirements of the USC Viterbi School of Engineering, the dual degree of Master of Science in Electrical Engineering and Master of Science in Engineering Management is also subject to the following requirements:

(1) All applicants must meet the admissions requirements of both the Department of Electrical Engineering and the Department of Industrial and Systems Engineering; (2) a total of at least 48 units is required; (3) 24 of these must satisfy the requirements of the master's degree in electrical engineering; (4) 21 units must satisfy the required courses towards the master's degree in engineering management; (5) 3 units of electives approved by the program director or adviser; (6) all courses counted towards the dual degree must be at the 500 level, except those 400-level courses required by the master's degree in electrical engineering.

Financial Engineering (MS)

The objective of this program is the training of graduate students with engineering, applied mathematics or physics backgrounds in the application of mathematical and engineering tools to finance. Financial engineering is a multidisciplinary education program that involves the Viterbi School of Engineering, the USC Marshall School of Business and the USC Dornsife College of Letters, Arts and Sciences (Department of Economics). Financial engineering uses tools from finance and economics, engineering, applied mathematics and statistics to address problems such as derivative securities valuation, strategic planning and dynamic investment strategies, and risk management, which are of interest to investment and commercial banks, trading companies, hedge funds, insurance companies, corporate risk managers and regulatory agencies.

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in financial engineering. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average. In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Financial Engineering is also subject to the following requirements: (1) a total of at least 30 units is required; (2) every plan of study requires prior written approval by the contact faculty of the program; (3) units to be transferred (maximum of four with adviser approval) must have been taken prior to taking classes at USC; interruption of residency is not allowed.

For Admission Requirements, refer to USC Viterbi School of Engineering.

Curriculum

The degree requirements include six required courses and two courses from each of two lists of electives for a minimum total of 30 units.

Required

- GSBA 548 Corporate Finance Units: 2, 3
  (Note: GSBA 548 for 3 units satisfies this requirement. Do not register for the 2 unit version.)
- FBE 559 Management of Financial Risk Units: 3 or
- ISE 563 Financial Engineering Units: 3
- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 518 Mathematics and Tools for Financial Engineering Units: 4

- EE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
  (1 unit required)

Electives (Adviser-Approved)

Finance, Business, Economics Area:

Two courses (6-8 units) from the following:

- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 501 Macroeconomic Analysis and Policy Units: 4
- ECON 613 Economic and Financial Time Series I Units: 4
- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
  (3 units required)
- FBE 540 Hedge Funds Units: 3
- FBE 543 Forecasting and Risk Analysis Units: 3
- FBE 554 Trading and Exchanges Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3
- FBE 589 Mortgages and Mortgage-Backed Securities and Markets Units: 3
- ISE 566 Financial Accounting Analysis for Engineering Units: 3

Optimization, Simulations, Stochastic Systems:

Two courses (6-8 units) from the following:

- CSCI 455x Introduction to Programming Systems Design Units: 4
  or
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 567 Machine Learning Units: 4
- EE 588 Optimization for the Information and Data Sciences Units: 4
- ISE 525 Design of Experiments Units: 3
  or
- ISE 529 Predictive Analytics Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 536 Linear Programming and Extensions Units: 3
- ISE 539 Stochastic Elements of Simulation Units: 3

Units Required: 30

Quantum Information Science (MS)

The Master of Science in Quantum Information Science program requires a minimum of 28 graduate units with at least 20 units at the 500 level. A minimum grade point average of 3.0 must be earned on all course work applied toward the degree. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree. A maximum of 4 units of Directed Research (590 or 790) may be counted toward the degree. A maximum of 4 transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

Foundations (12 units)

Three courses are required.

- EE 514 Quantum Error Correction Units: 4
- EE 520 Introduction to Quantum Information Processing Units: 4
- PHYS 513 Applications of Quantum Computing Units: 4

Core (7-8 units)

Take at least two courses from this list (7-8 units):

- EE 589 Quantum Information Theory Units: 4
- PHYS 550 Theory of Open Quantum Systems Units: 4
- PHYS 559 Quantum Devices Units: 4
- PHYS 660 Quantum Information Science and Many-Body Physics Units: 3

Approved Electives (8-9 units)

- CHEM 544 Introduction to Quantum Chemistry Units: 4
- CHEM 545 Theory and Practice of Molecular Electronic Structure Units: 4
- CHEM 555 Computational Quantum Chemistry: Methods and Applications Units: 2, 3, 4
- CSCI 513 Autonomous Cyber-Physical Systems Units: 4
- CSCI 556 Introduction to Cryptography Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 596 Scientific Computing and Visualization Units: 4
- CSCI 653 High Performance Computing and Simulations Units: 4
- DSCI 510 Principles of Programming for Data Science Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 506 Semiconductor Physics Units: 4
- EE 507 Micro- and Nano-Fabrication Technology Units: 4
- EE 510 Linear Algebra for Engineering Units: 4
- EE 539 Engineering Quantum Mechanics Units: 4
- EE 540 Introduction to Quantum Electronics Units: 4
- EE 553 Computational Solution of Optimization Problems Units: 3
- EE 565 Information Theory and Its Application to (Big) Data Sciences Units: 4
- EE 577a VLSI System Design Units: 4
- EE 577b VLSI System Design Units: 2
- EE 589 Quantum Information Theory Units: 4
- EE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- EE 598 Electrical Engineering Research Seminar Units: 1
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 500 Graduate Colloquium Units: 1
- PHYS 516 Methods of Computational Physics Units: 3
- PHYS 558a Quantum Mechanics Units: 3
- PHYS 558b Quantum Mechanics Units: 3
- PHYS 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PHYS 660 Quantum Information Science and Many-Body Physics Units: 3
- PHYS 668 Advanced Quantum Mechanics Units: 3
- PHYS 678 Relativistic Quantum Field Theory Units: 3
- PHYS 680 Advanced Quantum Field Theory Units: 3

Note:

Courses taken to satisfy the core requirement may not be double counted as electives.

Minimum Units Required: 28

Doctoral Degree

Electrical Engineering (PhD)

The Doctor of Philosophy with a major in electrical engineering is awarded in strict conformity with the general requirements of the USC Graduate School. See general requirements for graduate degrees. Departmental requirements for this degree consist of a concentrated program of study and research and a dissertation. Each student wishing to undertake a doctoral program must first be admitted to the program and then take the screening examination. This examination will emphasize comprehension of fundamental material in one of the 13 specialized areas of electrical engineering listed below. Listed under each area are courses offered by the Department of Electrical Engineering, which will provide basic background for the examination and partial preparation for the dissertation. Not all courses listed are required for preparation for the screening examination in any specific area. Consult a separately published guide, available from the department office, for more information concerning examination content and scheduling. Further guidance concerning the full completion of courses, including those given outside the department, which are recommended for preparation for the dissertation, can be obtained from the faculty in each technical area.

Green Technologies

Electrical and Computer Engineering
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Professors: Jiin-Jen Lee, PhD, PE* *(Civil and Environmental Engineering)*; John Silvester, PhD *(Electrical and Computer Engineering)*; James E. Moore, II, PhD *(Industrial and Systems Engineering, Civil and Environmental Engineering, Public Policy)*; Priya Vashishta *(Chemical Engineering and Materials Science, Computer Science)*
Associate Professors: Burcin Becerik-Gerber, DDes *(Civil and Environmental Engineering)*; Geoffrey R. Shiflett, PhD* *(Aerospace and Mechanical Engineering)*
Professors of the Practice: Edward Maby, PhD *(Electrical and Computer Engineering)*; Azad Madni, PhD *(Astronautical Engineering, Systems Architecting and Engineering)*
Emeritus Professor: Mansour Rahimi, PhD *(Industrial and Systems Engineering)*
**Recipient of university-wide or school teaching award.*

Master's Degree

Green Technologies (MS)

Green Technologies is a highly interdisciplinary degree program that emphasizes green systems and the environment, energy technology and efficiency, and sustainability and society. The discipline seeks opportunities for alternative sourcing, conservation, efficiency and repurposing through an understanding of product life cycles from origins to recycling or inevitable disposal. Green technologists will design products, processes and complex infrastructure systems to promote sustainable attributes of importance to the environment and the global community.

The Green Technologies program requires a minimum of 27 units (typically nine courses). At least 18 units must be at the 500-level or above, and at least 18 units must be completed in the Viterbi School of Engineering. These 18 units may reflect courses offered by other schools if cross-listed in a department in the Viterbi School. Students with BS degrees in engineering and science disciplines can be accepted into the program.

Required Courses

Students are required to take two courses in each of three topical areas:

Green Systems and the Environment (two courses)

- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- SAE 515 Sustainable Infrastructure Systems Units: 4

Energy Technology and Efficiency (two courses)

- CHE 510 Energy and Process Efficiency Units: 3 or
- AME 577 Survey of Energy and Power for a Sustainable Future Units: 3

Also take only one of the following:

- EE 513 Solid State Energy Devices Units: 3
- EE 526 Renewable Energy in Power Systems Units: 4
- ENE 505 Energy and the Environment Units: 4

Sustainability and Society (two courses)

- CE 469 Sustainable Design and Construction Units: 2

Also take one of the following:*

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- CE 567 Smart Infrastructures Units: 3
- ENE 502 Environmental and Regulatory Compliance Units: 4
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3
- PPD 692 Transportation and the Environment Units: 4
- PPDE 632 Sustainable Cities Units: 4

Electives (three courses): 9 Units

Electives shall be chosen in consultation with an adviser to develop technical specialization in an area of interest to the student. This may include up to 3 units of directed research.

Note:

**Additional courses from this list may be used to fulfill the elective requirement.*

Industrial and Systems Engineering – Daniel J. Epstein Department of Industrial and Systems Engineering

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Associate Chair: Kurt Palmer, PhD

Faculty

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Kenneth C. Dahlberg Early Career Chair: Rahul Jain, PhD *(Electrical and Computer Engineering)*
Daniel J. Epstein Chair in Industrial and Systems Engineering: Sheldon M. Ross, PhD
Kellner Family Early Career Chair: John Gunnar Carlsson, PhD
David Packard Chair in Manufacturing Engineering: Stephen C-Y Lu, PhD *(Aerospace and Mechanical Engineering, Computer Science)*
John and Dorothy Shea Early Career Chair in Civil Engineering: Ketan Savla, PhD *(Civil and Environmental Engineering)*
J.A. Tiberti Chair in Ethics and Decision Making: Detlof von Winterfeldt, PhD
Dean's Professor in Industrial and Systems Engineering: Maged Dessouky, PhD; Carl Kesselman, PhD
Epstein Family Professor of Industrial and Systems Engineering: Jong-Shi Pang, PhD
IBM Professor of Engineering Management: Neil Siegel, PhD
TRW Professor of Software Engineering: Barry Boehm, PhD *(Computer Science)*
Professors: Ali Abbas, PhD *(Public Policy)*; Barry Boehm, PhD *(Computer Science)*; Yong Chen, PhD; Maged Dessouky, PhD*; Randolph Hall, PhD; Julia Higle, PhD; Carl F. Kesselman, PhD *(Computer Science)*; Stephen C-Y Lu, PhD *(Aerospace and Mechanical Engineering, Computer Science)*; Najmedin Meshkati, PhD* *(Civil and Environmental Engineering)*; James E. Moore II, PhD *(Civil and Environmental Engineering; Public Policy)*; Jong-Shi Pang, PhD; Sheldon M. Ross, PhD; Suvrajeet Sen, PhD *(Electrical and Computer Engineering; Computer Science)*; Detlof von Winterfeldt, PhD *(Public Policy)*

Associate Professors: John Gunnar Carlsson, PhD; Qiang Huang, PhD; Ketan Savla, PhD (*Civil and Environmental Engineering, Electrical and Computer Engineering Systems*); Victoria Stodden, PhD; Shinyi Wu, PhD *(Suzanne Dworak-Peck School of Social Work)*
Assistant Professors: Andrés Gómez, PhD; Meisam Razaviyayn, PhD; Sze-Chuan Suen, PhD; Phebe Vayanos, PhD; Renyuan Xu, PhD
Research Professors: Yigal Arens, PhD; Mayank Kejriwal, PhD
Adjunct Research Professors: Wanda M. Austin, PhD; Mohamed I. Dessouky, PhD; Fernando Ordoñez, PhD *(Computer Science)*
Professor of the Practice of Industrial and Systems Engineering: Neil Siegel, PhD
Associate Professors of the Practice of Industrial and Systems Engineering: Cesar Acosta-Mejia, PhD; Geza Bottlik, Engineer, PE; Nitin Kale, MS *(Information Technology Program)*; Kurt Palmer, PhD*
Senior Lecturers: Nathan Greenfield, MS *(Information Technology Program)*; Mike Lee, *(Information Technology Program)*; Richard Vawter, MS *(Information Technology Program)*
Lecturers: Shalini Gupta, PhD; Yalda Khashe, PhD
Emeritus Professors: Gerald A. Fleischer, PhD, PE; Homer H. Grant, MS; Ralph Keeney, PhD *(Data Sciences and Operations)*; Mansour Rahimi, PhD; Peter Will, PhD *(Astronautical Engineering, Chemical Engineering)*
**Recipient of university-wide or school teaching award.*

Honor Societies

Alpha Pi Mu

Alpha Pi Mu is the industrial engineering honor society. Qualifications for election are: juniors in the upper one-fifth of their class; seniors in the upper one-third of their class; master's degree students who have completed at least one-third of the courses required for their degree and rank among the top 10 students in all ISE master's degree programs; and doctoral students recommended by the department chair. The adviser is Kurt Palmer, associate professor of the practice of industrial and systems engineering, (213) 740-5960.

Omega Rho

Omega Rho is the operations research honor society to recognize academic excellence in operations research and encourage study of operations research, management science and closely associated disciplines. Election is by nomination only during the spring semester.

Undergraduate Degree Requirements

Undergraduate Education Program Mission

The mission of the Daniel J. Epstein Department of Industrial and Systems Engineering undergraduate program is to:

- Provide students: the skills and knowledge to obtain employment and achieve leadership with the industrial and systems engineering profession or to proceed with graduate education; the intellectual resources to continue life-long learning; and the knowledge of professional ethics and critical reasoning skills necessary for contributing to society.
- Provide employers of industrial and systems engineering professionals with candidates who are technically competent, business aware, collaborative, able to communicate effectively, and ethically grounded.
- Maintain and enhance the reputation of the Epstein department within the engineering, business and academic communities.

Undergraduate Program Educational Objectives

Graduates of the Bachelor of Science in Industrial and Systems Engineering program are prepared to achieve any of the following accomplishments:

- Obtain employment in an organization that values people who demonstrate both technical competence and business awareness.
- Pursue graduate or professional education.
- Assume a leadership role in their employment organization or community.
- Utilize critical reasoning, collaboration and creativity to contribute to society.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Industrial and Systems Engineering prepares graduates to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy. The curriculum includes in-depth instruction to accomplish the integration of systems using appropriate analytical, computational, and experimental practices.

For additional information, visit usc.edu/dept/ise.

Graduate Degree Requirements

Master of Science in Product Development Engineering

This interdisciplinary program is offered jointly with the Department of Aerospace and Mechanical Engineering. The program is available via distance education. See the listing under Product Development Engineering.

Master of Science in Systems Architecting and Engineering

See the listing under Systems Architecting and Engineering Program. The program is available via distance education.

Dual Degree Program (MS, Electrical Engineering / MS, Engineering Management)

See listing in the Electrical and Computer Engineering section.

Engineer in Industrial and Systems Engineering

Requirements for the Engineer in Industrial and Systems Engineering are the same as set forth in the general requirements.

Graduate Certificates

Graduate Certificate in Network Centric Systems

See listing under Systems Architecting and Engineering Program. The program is available via distance education.

Graduate Certificate in Optimization and Supply Chain Management

This abbreviated interdisciplinary program is offered jointly with the Department of Data Sciences and Operations in the USC Marshall School of Business. See here for program requirements.

Graduate Certificate in Systems Architecting and Engineering

See listing under Systems Architecting and Engineering Program. The program is available via distance education.

Graduate Certificate in Transportation Systems

This abbreviated interdisciplinary program is offered jointly with the Astani Department of Civil and Environmental Engineering and the USC Price School of Public Policy. See listing under Civil Engineering.

Bachelor's Degree

Industrial and Systems Engineering (BS)

The Epstein Department of Industrial and Systems Engineering offers a Bachelor of Science degree in Industrial and Systems Engineering.

The requirement for the degree is 128 units. A cumulative grade point average of C (2.0) is required for all upper division courses applied toward the major, regardless of the department in which the courses are taken. See the common requirements for undergraduate degrees.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

- WRIT 340 Advanced Writing Units: 3, 4 (3)

General Education

- General Education* Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226g Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Biology Elective

- BISC 103Lgx General Biology for the Environment and Life Units: 4 or
- BISC 104Lgx How the Body Works Units: 4 or
- BISC 230Lgx The Biology of the Brain Units: 4 or
- HBIO 205Lgx The Science of Sport Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 or
- MASC 110L Materials Science Units: 4

Major Requirements

Engineering Requirement

- ENGR 102 Engineering Freshman Academy Units: 2

Industrial and Systems Engineering Requirement

- ISE 105 Introduction to Industrial and Systems Engineering Units: 2
- ISE 150 Solving Engineering Problems via Computer Programming Units: 3
- ISE 220 Probability Concepts in Engineering Units: 3
- ISE 225 Engineering Statistics I Units: 3
- ISE 315L Engineering Project Management Units: 3
- ISE 330 Introduction to Operations Research: Deterministic Models Units: 3
- ISE 331 Introduction to Operations Research: Stochastic Models Units: 3
- ISE 410 Planning and Scheduling Units: 3
- ISE 435 Discrete Systems Simulation Units: 3
- ISE 440 Work, Technology, and Organization Units: 3
- ISE 460 Engineering Economy Units: 3
- ISE 495ax Senior Design Project Units: 2
- ISE 495bx Senior Design Project Units: 2

Database Design Elective

- ISE 382 Database Systems: Concepts, Design and Implementation Units: 4 or
- DSO 435 Enterprise Data Architecture Units: 4

Human Factors Elective

- ISE 370L Human Factors in Work Design Units: 4 or
- ISE 470 Human/Computer Interface Design Units: 3

Major Electives

Major Electives: 23-24 Units
At least 12 units must be from one of the approved Focus Groups
At least 9 units must be from the Approved Engineering Electives

Total units: 128

**GE Category D is fulfilled by Biology Elective*
GE Category E is fulfilled by PHYS 151 or CHEM 105a.
GE Category F is fulfilled by MATH 125.

Focus Groups

Students must select at least 12 units from one group; however, all courses in a group are recommended.

Operations Group

- ISE 335L Supply Chain Design Units: 3
- ISE 375L Facilities Design Units: 3
- ISE 426 Statistical Quality Control Units: 3

Plus at least one course from among the following:

- ACCT 410x Foundations of Accounting Units: 4
- ISE 232L Manufacturing Processes Units: 3
- ISE 327 Six Sigma and Lean Operations Units: 3
- ISE 350 Principles of Systems Engineering Units: 3

Information Systems Group

- ITP 320 Enterprise Information Systems Units: 4

Plus at least 8 units from among the following

- DSO 431 Digital Innovation as Competitive Advantage Units: 4
- DSO 433 Designing Digital Processes and User Experiences Units: 4
- ISE 350 Principles of Systems Engineering Units: 3
- ITP 482 Engineering Database Applications Units: 3
- ITP 487 Enterprise Data Analytics Units: 4

Approved Engineering Electives

Students must select at least 9 units. Courses not listed may be petitioned for approval through the department.
AME 341a, AME 341b, CE 408, CE 460, CE 471, DSO 427, EE 326, ENGR 345, ENGR 401x, ISE 232, ISE 310, ISE 327, ISE 335L, ISE 344, ISE 350, ISE 375L, ISE 426, ITP 215, ITP 320, ITP 325, ITP 421, ITP 422, ITP 454, ITP 457, ITP 466, ITP 482, ITP 486, ITP 487, ITP 488, NSC 335, NSC 337

Minor

Engineering Management Minor

This minor is designed to provide students who have a sound foundation in mathematics and the sciences with tools and skills for managerial analysis and problem solving.

Science and technology are driving significant portions of American and global economies. Individuals, companies and governments are demanding products, services and systems, which grow more complicated every day. Suppliers are forced by competition to provide goods and services efficiently and economically.

Scientists and engineers are trained in scientific and technical subjects which form an excellent base for building complex, technical products, services and systems. But more and more, scientists and engineers are managing the financial, material and human resources required to turn abstract ideas into physical and virtual reality, often without any formal management training. This minor provides that training, a complement to any science or technology degree.

Application Procedures

Applicants must be upper division students in good standing and complete the Change/Addition of Major, Minor or Degree Objective form. The minor is not open to industrial and systems engineering majors.

Prerequisites

- ISE 220 Probability Concepts in Engineering Units: 3 (or equivalent)
- ISE 225 Engineering Statistics I Units: 3 (or equivalent)
- MATH 125g Calculus I Units: 4
- MATH 126g Calculus II Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 (or equivalent)
- MATH 226g Calculus III Units: 4

Required Courses

- BUAD 301 Technology Entrepreneurship Units: 3
- ISE 330 Introduction to Operations Research: Deterministic Models Units: 3
- ISE 370L Human Factors in Work Design Units: 4
- ISE 440 Work, Technology, and Organization Units: 3
- ISE 460 Engineering Economy Units: 3

Master's Degree

Analytics (MS)

Ethel Percy Andrus
Gerontology Center 240
(213) 740-4893

The Master of Science in Analytics is designed to satisfy the growing demand for professionals equipped with significant technical and quantitative training in the fundamentals of analytics for solving engineering and management problems in today's data-extensive digital world.

Analytics is a multidisciplinary field that relates the application of engineering approaches and methods to the analysis and management of engineering and enterprise processes based on data. Learning objectives of this program involve data collection, cleansing, fusing and curating, for the purpose of analyzing trends, discovering patterns and building decision models for well-reasoned decision support. Rigorous mathematical modeling and computational methods tools are at the heart of the program.

Graduates of this program will be prepared to convert data into meaningful information, embedded in decision support systems that can help organizations make important operational decisions and help set strategic direction and policy.

Master of Science in Analytics

The core of the MS in Analytics program consists of seven foundational courses, and three elective courses, totaling 30 units. The foundational courses cover the fundamentals of optimization, Data Management, Data Mining and Predictive Analytics modeling and the computational tools needed to implement them. The elective courses expose the students to different business domains such as data analytics consulting, analytics of web data, predictive modeling with big data, among others.

Core Courses (12 units)

- DSCI 559 Introduction to Data Management Units: 3
- ISE 529 Predictive Analytics Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 535 Data Mining Units: 3

Methodology Courses (6 units)

Select two courses.

- ISE 533 Integrative Analytics Units: 3 *
- ISE 537 Financial Analytics Units: 3
- ISE 538 Performance Analysis Using Markov Models Units: 3
- ISE 540 Text Analytics Units: 3
- ISE 543 Enterprise Business Intelligence and Systems Analytics Units: 3
- ISE 562 Decision Analysis Units: 3
- ISE 580 Performance Analysis with Simulation Units: 3 *

May count toward Methodology or Project but not both.

Project Course (3 units)

Select one course.

- ISE 533 Integrative Analytics Units: 3 *
- ISE 534 Data Analytics Consulting Units: 3
- ISE 580 Performance Analysis with Simulation Units: 3 *

Electives (9 units), subject to approval by adviser

- ISE Elective (3 units)
- Additional electives (6 units)

Total units required for the degree: 30

Engineering Management (MS)

Master of Science in Engineering Management
Gerontology Center 240
(213) 740-4893

Program Director: Geza Bottlik, Engineer, PE

This program is designed primarily, but not exclusively, for graduate engineers whose career objectives lead to increasing technical management responsibilities. Students interested in the engineering management objectives may also want to consider the MS, Industrial and Systems Engineering/MBA dual degree program.

Master of Science in Engineering Management

A total of 30 units is required for the degree. A minimum of 18 units must be taken in the Epstein Department of Industrial and Systems Engineering. A total of 21 units must be at the 500 level or above. The program is available via distance education.

Applicants to the program are expected to have a degree in engineering or the equivalent.

Required Courses (18-19 Units)

- ISE 500 Statistics for Engineering Managers Units: 3
- ISE 515 Engineering Project Management Units: 3
- ISE 544 Leading and Managing Engineering Teams Units: 3
- ISE 561 Economic Analysis of Engineering Projects Units: 3

Analytics Course

Select one.

- DSCI 552 Machine Learning for Data Science Units: 4
- ISE 529 Predictive Analytics Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 543 Enterprise Business Intelligence and Systems Analytics Units: 3
- ISE 562 Decision Analysis Units: 3

Technology Course

Select one.

- CE 576 Invention and Technology Development Units: 3
- ISE 545 Technology Development and Implementation Units: 3
- ISE 585 Strategic Management of Technology Units: 3

Select One of the Following Tracks (9-10 units)

The technology course and the analytics course selected above may not be applied to a track below.

Management Track

Select three courses.

- CE 502 Construction Accounting, Finance and Strategy Units: 4
- ISE 506 Lean Operations Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- MOR 557 Strategy and Organization Consulting Units: 3

Analytics Track

Select three courses.

- DSCI 552 Machine Learning for Data Science Units: 4
- ISE 529 Predictive Analytics Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 533 Integrative Analytics Units: 3
- ISE 534 Data Analytics Consulting Units: 3
- ISE 543 Enterprise Business Intelligence and Systems Analytics Units: 3
- ISE 562 Decision Analysis Units: 3

Innovation and Technology Commercialization Track

Select three courses.

- BAEP 556 Technology Feasibility Units: 3
- BAEP 557 Technology Commercialization Units: 3
- CE 576 Invention and Technology Development Units: 3
- ISE 545 Technology Development and Implementation Units: 3
- ISE 585 Strategic Management of Technology Units: 3

Supply Chain and Operations Track

Select three courses.

- DSO 581 Supply Chain Management Units: 3
- DSO 583 Operations Consulting Units: 3
- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 583 Enterprise Wide Information Systems Units: 3

Custom Track

Select three courses from Industrial and Systems Engineering or Business in consultation with an adviser.

Elective (3 units):

Select one course from Industrial and Systems Engineering or Business with adviser approval.

Total units required for the degree: 30-32

Health Systems Management Engineering (MS)

Gerontology Center 240
(213) 740-4893
Program Director: David Belson, PhD

This program is jointly sponsored by the Epstein Industrial and Systems Engineering Department, the USC Price School of Public Policy and the USC Keck School of Medicine and is administered by the Epstein Industrial and Systems Engineering Department. This degree is designed for students with sufficiently quantitative bachelor's degrees in engineering, the sciences or applied social science who are interested in operations management and health care applications, and whose career objectives lead to increasing technical management responsibilities in large healthcare organizations, such as hospitals. Graduates will be particularly prepared for employment in work to improve healthcare systems in terms of performance and quality. Course work will include various aspects of health care such as information systems, project management and models of care. The USC Master of Science in Health Systems Management Engineering uniquely blends management, clinical and engineering disciplines into a single degree.

Master of Science in Health Systems Management Engineering

At least 31 units are required for the degree. Some combinations of courses may require students to complete more than 31 units. Admitted students may count courses taken for completion of the Graduate Certificate in Health Systems Operations toward this degree. This program is available via distance education.

Applicants to the program are expected to have mathematical competence such as provided by an undergraduate degree in engineering; understanding of basic statistics; and competence in microeconomics. Admitted students who do not meet the course work requirements will be assigned courses to complete the deficiencies.

Required Courses (22 Units)

- ISE 508 Health Care Operations Improvement Units: 3
- ISE 509 Practicum in Health Care Systems Units: 3
- ISE 515 Engineering Project Management Units: 3
- PM 508 Health Service Delivery in the U.S. Units: 4
- PPD 511 Health Information Systems Units: 2

Health Care - Select One Option (4 units)

- PM 504 Quality in Health Care Units: 4
  or
- PPD 518 Quality of Care Concepts Units: 2 and
- PPDE 610 Population Health Management Units: 2

Data Analytics - Select One Course (3 Units)

- ISE 500 Statistics for Engineering Managers Units: 3
- ISE 529 Predictive Analytics Units: 3

Adviser Approved Electives (9 Units)

Total Units: 31

Industrial and Systems Engineering (MS)

The Master of Science in Industrial and Systems Engineering is awarded in strict conformity with the general requirements of the Viterbi School of Engineering. This program enhances the technical capabilities of the industrial engineer. The program is available via distance education.

The MS program is for students who want to become technical leaders in the field of industrial and systems engineering. Applicants to the program are expected to have a bachelor's degree in an engineering discipline with undergraduate course work in computing, probability and statistics, and engineering economy. Admitted students who do not meet prerequisites will be assigned courses to complete the deficiencies.

A total of 30 units is required for the degree, of which at least 18 units must be completed in the Epstein Department of Industrial and Systems Engineering. Of the 30 units, 20 must be at the 500 level or above.

Required Courses (12 units)

- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 515 Engineering Project Management Units: 3
- ISE 583 Enterprise Wide Information Systems Units: 3

Group A (3 units required)

Select one course

- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 536 Linear Programming and Extensions Units: 3

Group B (3 units required)

Select one course

- ISE 525 Design of Experiments Units: 3
- ISE 527 Quality Management for Engineers Units: 3

Group C (3 units required)

Select one course

- ISE 538 Performance Analysis Using Markov Models Units: 3
- ISE 580 Performance Analysis with Simulation Units: 3

Adviser approved electives (9 units)

Total Units 30

Operations Research Engineering (MS)

Ethel Percy Andrus
Gerontology Center 240
(213) 740-4891
Program Director: Maged Dessouky, Ph.D.

Master of Science in Operations Research Engineering

The Master of Science in Operations Research Engineering is conferred upon candidates who hold bachelor's degrees in engineering, mathematics, science or related fields who successfully complete an integrated program (with departmental approval in advance) of not less than 30 units. The program must include not less than 21 units of industrial and systems engineering courses related to operations research and 9 units of approved electives. Students will be required to make up deficiencies in mathematics and statistics. Additional courses or examinations may be required at the discretion of the department before full admission to the program. The General Test of the Graduate Record Examinations (GRE) is required. Additional information is available from the department. This program is available via distance education.

Required Courses

- ISE 532 Network Flows Units: 3
- ISE 536 Linear Programming and Extensions Units: 3

- ISE 538 Performance Analysis Using Markov Models Units: 3
- ISE 580 Performance Analysis with Simulation Units: 3
- ISE 582 Web Technology for Industrial Engineering Units: 3

or

- ISE 583 Enterprise Wide Information Systems Units: 3

Select at least two of the following 10 courses: 6 units

- CE 645 Uncertainty Modeling and Stochastic Optimization Units: 3
- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 520 Optimization Theory and Algorithms: Numerical Optimization Units: 3
- ISE 525 Design of Experiments Units: 3
- ISE 539 Stochastic Elements of Simulation Units: 3
- ISE 562 Decision Analysis Units: 3
- ISE 563 Financial Engineering Units: 3
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3
- 400- or 500-level computer science course, approved by faculty adviser Units: 3
- Two electives, approved by faculty adviser Units: 6

Total units: 30

Dual Degree

Master of Science, Industrial and Systems Engineering/Master of Business Administration (MS/MBA)

The USC Marshall School of Business in conjunction with the Epstein Department of Industrial and Systems Engineering offers a program leading to the degree of Master of Business Administration/Master of Science in Industrial and Systems Engineering.

This alternative requires 66 units for graduates of industrial and systems engineering undergraduate curricula and leads to both a Master of Science in Industrial and Systems Engineering and the Master of Business Administration. The dual degree provides an education of great depth.

The total number of units required for the MBA program is 48 including all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units.

Required Courses (Minimum 18 Units)

- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 515 Engineering Project Management Units: 3

ISE Electives (Choose One from Each Group)

Systems Design (3 units)

- ISE 525 Design of Experiments Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3

Information Systems (3 units)

- ISE 580 Performance Analysis with Simulation Units: 3
- ISE 582 Web Technology for Industrial Engineering Units: 3
- ISE 583 Enterprise Wide Information Systems Units: 3

Quantitative Methods (3 units)

- ISE 532 Network Flows Units: 3
- ISE 536 Linear Programming and Extensions Units: 3
- ISE 538 Performance Analysis Using Markov Models Units: 3
- Elective Chosen with adviser approval Units: 3

Total units: 18

Graduate Certificate

Health Systems Operations Graduate Certificate

This graduate certificate is designed for students with bachelor's degrees in applied social science, engineering or the sciences, who are interested in operations management and health care topics. This program is available via distance education.

Required Courses

- ISE 508 Health Care Operations Improvement Units: 3
- ISE 509 Practicum in Health Care Systems Units: 3
- PM 504 Quality in Health Care Units: 4
- PM 508 Health Service Delivery in the U.S. Units: 4

Data Analytics - Select One Course (3 Units)

- ISE 500 Statistics for Engineering Managers Units: 3
- ISE 529 Predictive Analytics Units: 3

Total Units: 17

Doctoral Degree

Industrial and Systems Engineering (PhD)

The degree Doctor of Philosophy in Industrial and Systems Engineering is also offered. See general requirements for graduate degrees.

Data Science Program

Henry Salvatori Computer Science Center 104
(213) 740-4494
Fax: (213) 740-7285
Email: datascience@usc.edu
datascience.usc.edu

Director: Yolanda Gil, PhD
Associate Director, Applied Data Science and Undergraduate Programs: Emilio Ferrara, PhD

Faculty

Professors: Ellis Horowitz, PhD *(Computer Science, Electrical and Computer Engineering);* Julia Higle, PhD *(Industrial and Systems Engineering)*; Carl Kesselman, PhD *(Industrial and Systems Engineering, Computer Science)*;Yan Liu, PhD *(Computer Science);* Nenad Medvidovic, PhD *(Computer Science)*; Viktor Prasanna, PhD *(Electrical and Computer Engineering)*; Paul Rosenbloom, PhD *(Computer Science)*; Cyrus Shahabi, PhD *(Computer Science, Electrical and Computer Engineering)*; Gaurav Sukhatme, PhD *(Computer Science, Electrical and Computer Engineering)*; John Wilson, PhD *(Spatial Science)*
Associate Professors: Emilio Ferrara, PhD *(Communication)*; Shahram Ghandeharizadeh, PhD (*Computer Science)*
Assistant Professor: Aleksandra Korolova, PhD *(Computer Science)*
Research Professors: Yigal Arens, PhD *(Industrial & Systems Engineering);* Craig Knoblock, PhD *(Computer Science)*; Yolanda Gil, PhD *(Computer Science)*
Research Associate Professors: Jelena Mirkovic, PhD *(Computer Science)*; Pedro Alejandro Szekely, PhD *(Computer Science)*
Research Assistant Professors: Yao-Yi Chiang, PhD *(Spatial Science)*; Rafael Ferreira da Silva *(Computer Science)*; Gale Lucas, PhD *(Computer Science)*; Jay Pujara, PhD *(Computer Science)*; Satish Kumar Thittamaranahalli, PhD *(Computer Science)*
Associate Professors of the Practice: Joseph Greenfield *(Information Technology Program);* Clifford Neuman, PhD *(Computer Science);* Wensheng Wu, PhD

Senior Lecturer: Tatyana Ryutov, PhD (*Computer Science*)
Lecturer: Mohammad Reza Rajati, PhD *(Computer Science)*
In addition to the programs listed below, the Data Science department also offers a Master of Science in Spatial Data Science in conjunction with the Spatial Sciences department in Dornsife College and a Master of Science in Public Policy Data Science with the Price School of Public Policy.

Bachelor's Degree

Data Science (BA)*

datascience.usc.edu

Program Director: Emilio Ferrara, PhD

Computer-based information systems facilitate, enable and often define the relationships between corporations and consumers, buyers and suppliers, businesses of all sizes, social networks and citizens and their governments. Understanding these relationships and effectively addressing the collection, flow and distribution of information is vital to the effectiveness of any modern organization, enterprise or government agency.

The Bachelor of Arts in Data Science is a cooperative degree program involving the USC Dornsife College of Letters, Arts and Sciences and the USC Viterbi School of Engineering. Students complete 128 units, including at least 70 units of courses in Dornsife College and at least 38 units of courses in Viterbi School of Engineering. Units completed in Viterbi include the basic programming and data science requirements while units completed in Dornsife College include the general education and writing requirements, the Dornsife College foreign language requirement and an adviser-approved disciplinary specialization of at least 24 units, (including at least 16 units of upper-division course work).

The specialization must form a coherent focus on a discipline that provides students with insight into a domain in which data science can be usefully applied; this is normally another departmental or interdepartmental major for the BA degree, permitting students to satisfy most or all of the requirements for a double major (see Undergraduate Degree Programs for rules governing the overlap of courses allowed for a double major).

The program teaches students to understand, design and implement effective solutions to meet organizational, societal and management needs for information and decision support.

All students undertaking this degree program must have knowledge of the following areas (the core):

- Information systems and technology fundamentals
- Programming basics
- Statistics
- Data management
- Machine learning
- Data visualization

Admission

Admissions are made by the USC Dornsife College of Letters, Arts and Sciences. Students normally apply to the program in the spring of the freshman year.

**The program falls under the jurisdiction of the Dornsife College of Letters, Arts and Sciences.*

Major Core Requirements (30-32 units, 8-9 Courses)

A grade of C (2.0) or better is required for each of the courses taken for the core major requirements: programming requirement, data science requirement, statistics/probability requirement, and basic math requirement.

Programming Requirement (6-8 units)

- ITP 115 Programming in Python Units: 2

  And choose one option:

Option One:

- ITP 265 Object-Oriented Programming Units: 4

Option Two:

- CSCI 102L Fundamentals of Computation Units: 2
- CSCI 103L Introduction to Programming Units: 4

Data Science Requirement (16 units)

- DSCI 250 Introduction to Data Science Units: 4
- DSCI 351 Foundations of Data Management Units: 4
- DSCI 352 Applied Machine Learning and Data Mining Units: 4
- DSCI 454 Data Visualization and User Interface Design Units: 4

Statistics/Probability Requirement – Choose One Course (4 units)

- BUAD 310g Applied Business Statistics Units: 4
- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- MATH 407 Probability Theory Units: 4
- MATH 408 Mathematical Statistics Units: 4

Basic Math Requirement – Choose One Course (4 units)

- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4

Data Science Electives – Choose Four Courses (16 units)

- DSCI 429 Security and Privacy Units: 4
- ITP 301 Front-End Web Development Units: 4
- ITP 310 Design for User Experience Units: 4
- ITP 487 Enterprise Data Analytics Units: 4
- ITP 489 In-Memory Data Modeling and Analytics Units: 4

Disciplinary Specialization (24 units)

Complete at least 24 units of courses in an adviser-approved area of disciplinary specialization relying on coursework in the USC Dornsife College of Letters, Arts, and Sciences. At least 16 units must be at the upper-division level. The disciplinary specialization must form a coherent focus on a discipline that provides students with insight into a domain in which data science can be usefully applied.

Minor

Foundations of Data Science Minor

The Foundations of Data Science minor teaches students the skills to apply techniques in data science to problems in their own discipline. Students will learn the basics of programming, how to apply statistics to evaluate data and techniques in data management, machine learning and visualization. Choosing from a variety of electives, students will be able to tailor this minor to learn the techniques most relevant to their needs.

Required Introductory Courses (6 units)

- DSCI 250 Introduction to Data Science Units: 4
- ITP 115 Programming in Python Units: 2

Statistics/Probability Requirement (4 units)

Choose one course:

- BUAD 310g Applied Business Statistics Units: 4
- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 4 *
- MATH 208x Elementary Probability and Statistics Units: 4 *
- MATH 407 Probability Theory Units: 4 *
- MATH 408 Mathematical Statistics Units: 4 *

Note:
*Requires prerequisite.

Data Science Electives (12 units)

Choose three courses:

- DSCI 351 Foundations of Data Management Units: 4
- DSCI 352 Applied Machine Learning and Data Mining Units: 4
- DSCI 429 Security and Privacy Units: 4

- DSCI 454 Data Visualization and User Interface Design Units: 4
- ITP 249 Introduction to Data Analytics Units: 4
- ITP 265 Object-Oriented Programming Units: 4
- ITP 487 Enterprise Data Analytics Units: 4
- ITP 489 In-Memory Data Modeling and Analytics Units: 4

Total Units: 22

Joint Degree

Communication Data Science Dual Degree with Tsinghua University School of Journalism and Communication (MS)

The Master of Science in Communication Data Science Dual Degree with Tsinghua University School of Journalism and Communication leads to two Master degrees, one from each institution: a Master of Science in Communication Data Science (a cross-disciplinary joint degree offered by the USC Viterbi School of Engineering and the USC Annenberg School for Communication and Journalism) and a Master of Journalism and Communication from the Tsinghua University (THU) School of Journalism and Communication. The two institutions, USC and THU, have a formal partnership to amplify cooperation between USC and THU and between the United States and China to capitalize on the synergies of the respective curricula and to provide students with the opportunity for a unique transcultural and cross-discipline experience that will position them to be global leaders in their field.

Graduates of the Master of Science in Communication Data Science Dual Degree will be experts in the emerging fields of data science for journalism and communication. In the course of their studies, students will learn about theories and principles underlying human communication and their integration into emerging communication technologies. They will also understand the technical underpinnings of a diverse range of emerging communication platforms, including digital newsrooms, social media, enterprise collaboration systems, and virtual and augmented reality. They will have the capability to build these technologies and effectively manage teams to create effective communication frameworks for a variety of goals. Finally, they will master powerful techniques for analyzing large volumes of data generated by digital communication platforms using machine learning and artificial intelligence.

The dual degrees are subject to the following stipulations:

1. The requirements for both degrees must be satisfied to complete the dual degree.
2. The program description for the Tsinghua University Master of Journalism and Communication is online at *www.tsjc.tsinghua.edu.cn/publish/jcen/363/index.html*.
3. The general requirements for the MS in Communication Data Science (MS CMDS) in this dual degree program are the same as those for the USC general MS Communication Data Science except that at least 24 units (of the 32 required units) must be completed at USC, and up to 8 units of preapproved course work transferred from Tsinghua University may be counted toward the degree requirements at USC. This is due to a special partnership established by a Memorandum of Understanding between the two Universities.
4. Other requirements for the MS CMDS are the same as set forth in the general requirements for Viterbi School of Engineering Master of Science degrees.
5. Students who elect to receive only the USC degree must change their degree objective from the USC-Tsinghua University dual degree to the general USC MS CMDS.
6. Generally, students must take at USC the "Foundation" courses of the USC MS CMDS. There must be justification for the omission of a required course in either degree; for example, a certain course in one degree may provide comparable content to the omitted course in the other degree.
7. The USC Data Science Program and the Annenberg School of Communication have identified a list of transferable THU courses that can be considered USC equivalents but are also willing to entertain transfer, on a case by case basis, of unique relevant THU courses for which no obvious mapping to a USC course exists.

Foundation (20 units):

- CMGT 515 Innovation and the Information Economy Units: 4
- COMM 502 Theoretical Approaches to Multidisciplinary Design Projects Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Data Science Core (4 units):

- DSCI 529 Security and Privacy Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 560 Data Science Professional Practicum Units: 4

Communication Core (8 units):

- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 520 Social Roles of Communication Media Units: 4
- CMGT 530 Social Dynamics of Communication Technologies Units: 4
- CMGT 537 The Industry, Science and Culture of Video Games Units: 4
- CMGT 541 Integrated Communication Strategies Units: 4
- CMGT 555 Online Marketing Communication Development and Analysis Units: 4
- CMGT 587 Audience Analysis Units: 4

Master's Degree

Applied Data Science (MS)

datascience.usc.edu

Program Director: Emilio Ferrara, PhD

The USC Viterbi Master of Science in Applied Data Science will train students as data scientists. This degree provides students with the knowledge and skill to solve real-world world challenges that require a combination of data management and data analytics skills. Students will learn how to use the latest big-data infrastructures, such as Hadoop and Spark. They will learn how to use the various analytical tools, including machine learning, data mining and data visualization. And students will learn how to apply these tools to real-world problems.

This degree is designed for students with a range of backgrounds, but students are expected to have at least a strong math and science background to pursue this degree. Students that do not have much training in computer science will first learn the basics of data science, including data formats, tools and techniques. They learn how to build data processing programs in Python, and they will learn how to apply the latest analytical tools through hands-on homework and projects. Students with a computer science background will be able to jump directly into the more advanced data science courses including data management, machine learning, data mining and statistics for data science. Once students have completed the introductory and core courses, they are given a choice of electives to allow them to pursue their own interests within data science.

For Admission Requirements, refer to Viterbi Graduate Degrees and Requirements.

A total of 32 units is required for the degree.

Core Courses

- DSCI 551 Foundations of Data Management Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4

Electives*

Take five courses.

- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 550 Advanced Data Stores Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 572 Information Retrieval and Web Search Engines Units: 4
- CSCI 587 Geospatial Information Management Units: 4
- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 529 Security and Privacy Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 555 Interaction Design and Usability Testing Units: 4
- DSCI 556 User Experience Design and Strategy Units: 4
- DSCI 558 Building Knowledge Graphs Units: 4
- DSCI 560 Data Science Professional Practicum Units: 4
- DSCI 564 Probability and Statistics for Data Science Units: 4
- DSCI 599 Special Topics Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 units of DSCI 599 required if chosen)

*Notes:

A maximum of two CSCI electives can be applied toward the degree.

Students with limited or no training in computer science should take DSCI 549, DSCI 510 and DSCI 550 before taking any other classes.

DSCI 550 should be taken prior to or in parallel with DSCI 551 and prior to taking DSCI 552 and DSCI 553.

Directed Research (CSCI 590), thesis courses (CSCI 594a, CSCI 594b, CSCI 594z), and internship courses (ENGR 595a, ENGR 595b, ENGR 595z, ENGR 596) are not eligible for elective credit.

Communication Data Science (MS)

Master of Science in Communication Data Science

Program Director: Yolanda Gil, PhD

Program Co-Director: Jessica Neff, PhD

The Master of Science in Communication Data Science is a cross-disciplinary joint degree program offered by the Viterbi School of Engineering and the Annenberg School for Communication and Journalism. Students must be admitted by both schools.

Students will be experts in the emerging field of data science for communication. Graduates will learn about theories and principles underlying human communication and the ways in which people utilize and engage with communication technologies. They will also understand the technical underpinnings of emerging communication platforms, ranging from social media to enterprise collaboration platforms to virtual and augmented reality. They will have the capability to build these technologies and effectively manage teams that do so. They will also master the theoretical and technical tools to investigate and analyze large volumes of data generated by digital communication platforms using machine learning and artificial intelligence.

There are many career opportunities for students completing the Master of Science in Communication Data Science degree. Traditional media outlets ranging from newspapers to network/cable news are hungry for individuals who understand the new technology-enabled social communication paradigms and can help translate this knowledge into new sources of information. An example is the coverage of natural disasters, where it is difficult for media to get on the ground, but where social media allows victims to relay experiences and provide accounts of these situations. How to collect, manage, distribute and capitalize from these news sources is a major challenge in current media.

There are also careers in exploiting emerging communication platforms for marketing and communication. Many technology companies realize the value in employing experts who understand the reception of their products by the public. Communication is now so vital to the function of many products that success and failure are often determined by how well communication is performed, and how seamlessly it integrates into existing platforms. In the corporate world, the need to understand and capitalize on social media is pervasive, and the unique expertise this degree provides leaves graduates well positioned to design creative approaches to reach new audiences. In addition, as technology becomes ubiquitous in society, the role of the informed communicator has become very important in formal and informal formats. There is need for individuals who understand the basics of communication and have enough technology knowledge to provide analysis at a meaningful level. Finally, there are careers using data science to analyze online activities from a variety of contexts, including entertainment sites, online games, and mobile apps. Recommender systems, opinion mining, and social information diffusion are emerging technologies for the entertainment industry. Online games generate rich data about social interaction and individual behaviors. Many startups seek a combination of communication and data science skills to improve their products and reach new markets.

For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering.

Requirements for completion (32 units minimum):

Foundations (20 units, 5 Courses)

- COMM 502 Theoretical Approaches to Multidisciplinary Design Projects Units: 4
- COMM 557 Data Science for Communication and Social Networks Units: 4
- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Data Science Core (4 units, 1 course)

- DSCI 529 Security and Privacy Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 560 Data Science Professional Practicum Units: 4
- DSCI 564 Probability and Statistics for Data Science Units: 4
- DSCI 599 Special Topics Units: 1, 2, 3, 4, 5, 6, 7, 8 (with adviser approval)

Communication Core (8 Units, 2 Courses)

- CMGT 507 Information Management Units: 4
- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 515 Innovation and the Information Economy Units: 4
- CMGT 528 Web Strategies for Organizations Units: 4
- CMGT 530 Social Dynamics of Communication Technologies Units: 4
- CMGT 537 The Industry, Science and Culture of Video Games Units: 4
- CMGT 541 Integrated Communication Strategies Units: 4
- CMGT 555 Online Marketing Communication Development and Analysis Units: 4
- CMGT 568 Influencer Strategies Units: 4
- CMGT 587 Audience Analysis Units: 4

Cyber Security Engineering (MS)

Associate Director of Informatics: Clifford Neumann, PhD

The Master of Science in Cyber Security Engineering is intended for: a) graduate students who desire to obtain jobs in which computer security knowledge and skills are required; b) graduate students who wish to continue on a path toward enrollment for a doctoral degree focusing on information security; c) individuals in degree programs or job fields that have

responsibility for information security. The typical admitted student will have the following qualifications:

- an undergraduate degree in computer science, electrical engineering or information security;
- programming capability;
- understanding of computer networking and computer operating systems.
- desire to learn information security techniques and tools that are directly applicable to current information security challenges; and
- above average mathematical foundation.

During completion of the program, students will learn the fundamentals of developing, engineering and operating secure information systems. They will become versed in the challenges and problems of secure operating systems, secure applications, secure networking, database security and privacy, use of cryptography and key management. They will learn to develop a security policy and how policy drives technology decisions. Students will gain the knowledge and skills necessary to administer environments that require high levels of information security, both from the standpoint of the principles of information protection and the role application technology has in meeting information protection needs. Students will understand the value of assets, the business model of threats, the threat matrix, mitigation strategies and how this integrates with the core organizational mission. They will understand why information security plans succeed or fail.

Students will have hands-on experience simulating real-world scenarios with extensive laboratory work that is designed by current and former information security practitioners.

For Admission Requirements, refer to Viterbi Graduate Degrees and Requirements.

Requirements for completion (28 units minimum).

Required Courses

(16 units)

- CSCI 530 Security Systems Units: 4
- DSCI 519 Foundations and Policy for Information Security Units: 4
- DSCI 523 Computer Systems Assurance Units: 4
- DSCI 529 Security and Privacy Units: 4

At least two of the following:

(8 units minimum)

- CSCI 531 Applied Cryptography Units: 4
- DSCI 525 Trusted System Design, Analysis and Development Units: 4
- DSCI 526 Secure Systems Administration Units: 4
- DSCI 528 Computer Forensics Units: 4

Plus an additional 4 units that may be composed of items from the above list or

- DSCI 590 Directed Research Units: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 6, 7, 8, 9, 10, 11, 12 **
- PTE 519 Integrated Physical and Cyber Security for Oil and Gas Operations Units: 3

Note:

**A maximum of 2 units of DSCI 590 may be applied.
Other courses may be approved in consultation with the department adviser, including classes in the student's proposed problem domain.

Environmental Data Science (MS)

datascience.usc.edu

Dornsife College of Letters, Arts and Sciences, Environmental Studies
Viterbi School of Engineering, Computer Science/Data Science
Program Director (Data Science): Yolanda Gil, PhD
Program Co-Director (Environmental Studies): John Heidelberg, PhD

A minimum of 32 units with an overall cumulative GPA of at least 3.0 is required. Students can complete the degree in either three or four semesters, depending on whether they take courses in the summer.

The proposed curriculum relies on existing courses currently taught at USC. The degree will consist of a set of required core and elective courses in both data science and course related to environmental studies. On the data science side, students will learn about artificial intelligence (particularly machine learning and semantic data models), data management, privacy, and data visualization. Courses in environmental studies will provide a foundation in natural resource dynamics and management, as well as today's most pressing environmental challenges. Courses in environmental studies will provide a foundation in natural resource dynamics and management, as well as today's most pressing environmental challenges. Capstone courses based on real-world projects will enable students to acquire practical experience applying data science to address particular environmental problems of interest.

For Admission Requirements, refer to Viterbi Graduate Degrees and Requirements.

Required Core (6 courses, 24 units)

Data Science

- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Environmental/Sustainability Studies

- ENST 500 Interdisciplinary Approaches to Environmental Studies Units: 4
- ENST 530 Environmental Risk Analysis Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Electives (2 courses, 8 units)

Data Science

Choose one 4-unit course:

- DSCI 551 Foundations of Data Management Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 555 Interaction Design and Usability Testing Units: 4
- DSCI 556 User Experience Design and Strategy Units: 4
- DSCI 564 Probability and Statistics for Data Science Units: 4
- DSCI 599 Special Topics Units: 1, 2, 3, 4, 5, 6, 7, 8

Environmental Studies and Related

Choose one 4-unit course:

- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- ENST 500 Interdisciplinary Approaches to Environmental Studies Units: 4
- ENST 520 Environmental Law and Policy Units: 4
- ENST 540 California Coastal Zone Science and Policy Units: 4
- ENST 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (4 units required)
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4

Healthcare Data Science (MS)

datascience.usc.edu

Program Director (Data Science): Yolanda Gil, PhD
Program Co-Director (Biomedical Engineering): Brent J. Liu, PhD
The USC Master of Science in Healthcare Data Science provides students with the knowledge and skills to:

- Understand the requirements and techniques to manage health and healthcare process data collected by health

care providers and organizations, use it to improve patient care, and analyze it to improve the business processes in and between hospitals, insurance companies, public health agencies, and other components of the healthcare ecosystem
- Understand the use of data science in clinical research and translational medicine
- Understand the design and development of personal devices and mobile apps to collect health data and to monitor health-related variables
- Understand the use of emerging technologies in data science and their application to health and healthcare delivery processes
- Gain direct experiences in finding and articulating challenges in healthcare settings that can be met through integrative engineering solutions.

The degree consists of a set of required core courses in both data science and health and a set of electives that include courses in data science and health. On the data science side, students will learn about artificial intelligence (particularly machine learning and semantic data models), data management, privacy, and data visualization. On the health side, students will be integrated into teams working with medical students in healthcare settings. Capstone courses with real-world projects will enable students to acquire practical experience with a data science project based in a healthcare service setting.

Core Courses*

- BME 501 Advanced Topics in Biomedical Systems Units: 4
- BME 566a Topics in Health, Technology and Engineering Units: 2
- BME 566b Topics in Health, Technology and Engineering Units: 2
- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Elective Courses

Students must take one course from the Data Science electives and one from the Health Science electives and the remaining units can be chosen from either group.

Data Science*

Choose at least one course from the following:

- CSCI 530 Security Systems Units: 4
- CSCI 548 Information Integration on the Web Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 571 Web Technologies Units: 4
- DSCI 556 User Experience Design and Strategy Units: 4
- DSCI 558 Building Knowledge Graphs Units: 4
- DSCI 529 Security and Privacy Units: 4
- DSCI 551 Foundations of Data Management Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 555 Interaction Design and Usability Testing Units: 4

Health Science

Choose at least one course from the following:

- BME 525 Advanced Biomedical Imaging Units: 4
- BME 527 Integration of Medical Imaging Systems Units: 4
- BME 528 Medical Diagnostics, Therapeutics and Informatics Applications Units: 4
- BME 566c Topics in Health, Technology and Engineering Units: 2
- BME 566d Topics in Health, Technology and Engineering Units: 2
- PM 504 Quality in Health Care Units: 4
- PM 508 Health Service Delivery in the U.S. Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 538 Introduction to Biomedical Informatics Units: 3

*Note:

Students with a computer science background will have the option of replacing DSCI 510, DSCI 549, and DSCI 550 with DSCI 551, DSCI 552, and DSCI 553. As a result, they will be able to take additional data science elective courses.

Total Units: 32

Graduate Certificate

Applied Data Science Graduate Certificate

Students who complete this certificate will be able to pursue professional careers in data science. They will be eligible to be considered for admission to the following MSc programs in data science: Applied Data Science, Communications Data Science, Spatial Data Science, Healthcare Data Science, Public Policy Data Science, and Environmental Data Science.

Students will first learn advanced techniques in data science, including building scalable data systems, core algorithms in machine learning, and practical approaches to mining diverse kinds of data. Through class projects and homeworks, students will create a portfolio of their work to demonstrate their skills to potential employers.

Students will need to complete the three required courses and an elective with no possibility of substitutions or waivers.

Required Core Courses (3 courses, 12 units)

- DSCI 551 Foundations of Data Management Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4

Elective Courses (take 1 course, 4 units)

- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 550 Advanced Data Stores Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 572 Information Retrieval and Web Search Engines Units: 4
- CSCI 587 Geospatial Information Management Units: 4
- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 529 Security and Privacy Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 555 Interaction Design and Usability Testing Units: 4
- DSCI 556 User Experience Design and Strategy Units: 4
- DSCI 558 Building Knowledge Graphs Units: 4
- DSCI 560 Data Science Professional Practicum Units: 4
- DSCI 599 Special Topics Units: 1, 2, 3, 4, 5, 6, 7, 8 (with adviser approval)

Data Science Foundations Graduate Certificate

This graduate certificate program teaches students the foundations of data science from a computing perspective. This degree is designed for students with a wide range of backgrounds who have no formal computer science education but have strong math and science skills.

Students who complete this certificate will be able to pursue professional careers in data science. They will be eligible to be considered for admission to the following MSc programs in data science: Applied Data Science, Communications Data Science, Spatial Data Science, Healthcare Data Science, Public Policy Data Science, and Environmental Data Science.

Students will first learn the basics of data science, including data processing, algorithms, parallel computing, statistical methods, and machine learning. They will also learn how to write basic data processing programs in Python. These introductory

classes will prepare them to tackle the complexity of real-world problems to build scalable data systems. Through class projects and homework, students will create a portfolio of their work to demonstrate their skills to potential employers.

Students will need to complete the three required courses with no possibility of substitutions or waivers.

Must complete the following (3 courses, 12 units)

- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Information Technology Program

Rapp Research 201 (RRB 201)
(213) 740-4542
Email: itp@usc.edu
itp.usc.edu
Director: Jeffrey Miller, PhD
Associate Director: Kendra Walther, MS
Professors of Engineering Practice: Jeffrey Miller, PhD; Nitin Kale, MS
Associate Professors of Engineering Practice: Joseph Greenfield, PhD; Trina Gregory, MS; Sanjay Madhav, MS; Rob Parke, MS
Senior Lecturers: Nathan Greenfield, MS; Gregg Ibbotson, MA; Nayeon Kim, BS; Raymond Kim, MS; Barrett Koster, PhD; Mike Lee, BS; Zune Nguyen, BS; Richard Vawter, MS, MBA; Kendra Walther, MS; Matthew Whiting, MS
Lecturers: Kristof Aldenderfer, BS; Yifei Ding, MS

The Information Technology Program (ITP) embodies the idea "Technology for All through X+Tech," allowing students to couple any major (X) with technology (Tech). Students explore how practical technology education can be used to enhance their knowledge in other fields. ITP offers 15 minors and specializations in Applied Analytics, Applied Computer Security, Blockchain, Cloud Computing with DevOps, Computer and Digital Forensics, Computer Programming, Connected Devices and Making, Education and Computing Minor (with Rossier School of Education), Enterprise Information Systems, Innovation: The Digital Entrepreneur, Mobile App Development, Technical Game Art, Video Game Design and Management, Video Game Programming, and Web Technologies and Applications.

ITP courses are open to all USC students.

Minors

ITP minors are open to undergraduate students in all majors.

To apply for a minor, students should meet the regular admissions standards and have a declared USC major. For specific information on admission and application procedures, see itp.usc.edu. Students should consult ITP's advisers about course sequencing, departmental clearance, and course substitutions.

Please see the catalogue page for each minor for program descriptions and requirements.

Specializations

ITP specializations are open to students in all majors. Specializations are an alternative for students interested in gaining experience who do not have space to complete a full minor program. Specializations do not appear on transcripts, but students are eligible to receive certificates from ITP upon completion of required course work to document their successful completion of the specialization.

For specific information on admission and application procedures, see itp.usc.edu. Students should consult ITP's advisers about course sequencing, departmental clearance, and course substitutions.

Please see itp.usc.edu/academics for program requirements.

Interdisciplinary Programs

ITP collaborates with other USC academic units that offer the following major and minor programs:

- Data Science (BA)*
- Education and Computing Minor
- Foundations of Data Science Minor
- Intelligence and Cyber Operations (BA)

Minor

3D Computer Graphics and Modeling Minor

The 3D Computer Graphics and Modeling minor merges theoretical concepts with state-of-the-art techniques to prepare students to apply 3D computer graphics across a wide range of industry applications. Hands-on courses build from a core foundation throughout the spectrum of advanced cutting edge technologies as they are used in real-world application and culminate with the production of a portfolio of work commensurate with the needs of 3D industries.

The minor requires a minimum of 16 units, including a minimum of 12 upper-division units.

Required Course (2 units)

- ITP 215L Introduction to 3D Modeling, Animation, and Visual Effects Units: 2

Electives (14 units minimum)

At least 12 units from the following

- ITP 305 Intermediate 3D Modeling and Procedural Asset Pipelines Units: 4 *
- ITP 308 Computer-Aided Design for Bio-Mechanical Systems Units: 3
- ITP 315x 3D Character Rigging and Animation Units: 4 *
- ITP 360 Advanced Visual Effects and Compositing Units: 4 *
- ITP 415 3-D Design and Prototyping Units: 2 *

The remaining two units may be selected from the list above or from the following

- ARCH 207 Computer Applications in Architecture Units: 2
- CSCI 420 Computer Graphics Units: 4 *
- DES 213 Digital Tools in 3D Design Units: 2 *
- DES 230 3D Design: Materials and Tools Units: 4 *
- ITP 190 Introduction to Adobe Photoshop Units: 2
- ITP 211 Techniques of Visual Persuasion - Still Images Units: 4
- ITP 470 Information Technology Practicum Units: 1, 2, 3, 4 * (1-4 units)
- ITP 480 Information Technology Internship Units: 1, 2, 3, 4 * (1-4 units)
- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 409 Advanced Drafting: Vectorworks Units: 3 *

Note:

*Prerequisite required

Applied Analytics Minor

The minor in Applied Analytics prepares undergraduate students in the field of data analytics as applied to real-world problems. Applications vary from business to health care, social media to sports. The goal is to educate students to become *data analysts*. Students in the minor will learn all aspects of analytics: technology infrastructure to stage data, techniques to analyze data, tools to visualize results, and systems to publish and share the findings.

Requirements for minor completion: Minimum units 18

Required Courses (14 units)

- ITP 115 Programming in Python Units: 2
- ITP 249 Introduction to Data Analytics Units: 4
- ITP 449 Applications of Machine Learning Units: 4
- ITP 487 Enterprise Data Analytics Units: 4

Electives (Choose a minimum of 4 units)

- DSO 424 Business Forecasting Units: 4
  ** Students must take BUAD 310g prior to taking DSO 424.*
- DSO 428 Essentials and Digital Frontiers of Big Data Units: 4
- ITP 489 In-Memory Data Modeling and Analytics Units: 4
  ** Students must take ITP 249 or ITP 320 prior to taking ITP 489.*

Applied Computer Security Minor

The minor in applied computer security combines both theoretical concepts and technical skills to prepare students for a career in information security while incorporating their major field of work. Students will study various areas of computer security, including hacking, ethics, forensics, networking and security management. Electives are available depending on the students' academic and professional goals.

Requirements for completion (five core courses plus one elective)

Minimum units: 18

Required Courses (14 Units)

- ITP 125L From Hackers to CEOs: Introduction to Information Security Units: 2
- ITP 325 Ethical Hacking and Systems Defense Units: 3
- ITP 357 Enterprise Network Design Units: 3
- ITP 370 Information Security Management Units: 3
- ITP 375 Digital Forensics Units: 3

Elective (4 Units)

- ITP 425 Web Application Security Units: 4
- ITP 457 Network Security Units: 4
- ITP 475 Advanced Digital Forensics Units: 4

Blockchain Minor

Blockchain is a way of recording peer-to-peer transactions in a distributed public ledger. The Blockchain Minor explores the fundamentals of the public (and private), transparent, secure, tamper-resistant, and distributed databases known as blockchains. Students will learn how to develop smart contracts as self-executing programs that run on the blockchain and be introduced to cutting-edge research results and developments as blockchain technology evolves. Finally, students will apply their knowledge in a project-oriented capstone course during which they will design and develop a practical application of blockchain technology.

Required Courses (16 units)

- ITP 256 Blockchain Units: 4
- ITP 356 Blockchain: Decentralized Applications Units: 4 (Prerequisite: ITP 256)
- ITP 366 Blockchain: Advances and Use Cases Units: 4 (Prerequisite: ITP 256)
- ITP 456 Blockchain: Capstone Units: 4 (Prerequisite: ITP 356 and ITP 366)

Cloud Computing with DevOps Minor

The minor in Cloud Computing with DevOps teaches undergraduate students how to design and implement services on a variety of Cloud providers to satisfy an organization's needs. Organizations are not buying their own servers. They are relying on resources provided by Cloud computing services. This minor will explore a variety of Cloud providers and how to architect the services they offer to build globally available services like social media platforms, video streaming services, and more.

Students who complete the minor will be able to explain, "What is the Cloud, and what can it do?" They will be equipped to analyze, build and evaluate things built on the Cloud. Students will learn about DevOps — which is the use of software development skills to manage digital infrastructure operations. With the skills and knowledge from this minor, students will be able to step into the roles of technology management or systems administration.

Students should meet the regular USC admissions standards and have a declared USC major. Students will complete an application for the minor with the Viterbi School of Engineering. For specific information on admission and application procedures, contact the Information Technology Program at (213) 740-4542.

Required Courses (16 units)

- ITP 111 What is the Cloud?: An Introduction to DevOps Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 222 Linux and Containers Units: 4
- ITP 333 Digital Infrastructure Units: 4
- ITP 444 Digital Architecture Units: 4

Computer and Digital Forensics Minor

The computer and digital forensics minor combines both theoretical concepts and practical skills to prepare students for a career as a digital forensics investigator. Students will study various areas of cyber-forensics, including forensic methodologies and processes, digital evidence-gathering and preservation, investigations and examinations, and court presentation. Electives are available depending on the students' academic and professional goals.

Requirements for completion (core courses plus electives)

Minimum units: 18

Required Courses (4 Courses, 12 Units)

- ITP 125L From Hackers to CEOs: Introduction to Information Security Units: 2
- ITP 375 Digital Forensics Units: 3 *
- ITP 475 Advanced Digital Forensics Units: 4 *
- ITP 479 Cyber Law and Privacy Units: 3

Forensic Electives (Choose Two, 6 Units)

- ITP 325 Ethical Hacking and Systems Defense Units: 3 *
- ITP 445 Macintosh, OSX, and iOS Forensics Units: 3 *
- ITP 446 Cyber Breach Investigations Units: 3 *
- ITP 447 Mobile Device Security and Forensics Units: 3 *
- ITP 468 Connected Devices Project Units: 4 *

Note:

**Prerequisite required*

Computer Programming Minor

The minor in computer programming focuses on the practical programming skills necessary to solve problems in a variety of domains including on desktops, laptops, mobile devices, the Web, the cloud and for video games. Upon completion of the minor, students will have strong experience with the application of programming languages in several different contexts.

Students with a declared major in computer science, computer science and computer engineering, computer science (games), or computer science and business administration are not eligible for this minor. Students with a declared minor in computer science are likewise not eligible.

Choose one introductory programming course (2 units)

- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
  ** ITP 115 is recommended.*
- ITP 165 Introduction to C++ Programming Units: 2

Complete the following (8 units)

- ITP 265 Object-Oriented Programming Units: 4
- ITP 365 Managing Data in C++ Units: 4

Choose two electives from the following (8 units)

- ITP 303 Full-Stack Web Development Units: 4
- ITP 341 Android App Development Units: 4
- ITP 342 iOS App Development Units: 4
- ITP 344 Advanced iOS App Development Units: 4
- ITP 345 Advanced Android App Development Units: 4

- ITP 368 Programming Graphical User Interfaces Units: 4
- ITP 380 Video Game Programming Units: 4
- ITP 435 Professional C++ Units: 4
- ITP 439 Compiler Development Units: 4

Connected Devices and Making Minor

The minor in Connected Devices and Making teaches undergraduate students how to design, develop and control electronic devices. With more and more connected devices gathering data both for industrial applications as well as to help inform consumer decisions, the opportunity for skills in this area has increased rapidly. The goal is to produce students that can interface with hardware, design and manufacture physical systems, as well as program the software for control and communication.

Devices are now becoming data collection tools that can act, inform, and interface with many different aspects of our world. Being at the forefront of this technology offers vast career opportunities from startups in wearables and home automation to corporations working on cutting-edge medical devices. Students will learn to work with electronics, sensors, microcontrollers, and communication technologies. Students will also produce custom printed circuit boards and implement design and manufacturing concepts to produce a physical prototype for testing and demonstration. Lastly, students will learn to integrate their design into existing infrastructures for connectivity and data acquisition.

Students should meet the regular USC admissions standards and have a declared USC major. Students will complete an application for the minor with the Viterbi School of Engineering. For specific information on admission and application procedures, contact the Information Technology Program at (213) 740-4542.

Students with a declared major in Electrical Engineering are not eligible for this minor.

The minor requires a minimum of 16 units.

Required Courses (8 units)

Complete one of the following (2 units)

- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2

Complete both of the following (6 units)

- ITP 228 Computer-Aided Modeling for 3D Product Design Units: 2
- ITP 348 Making Smart Devices: Introduction to Electronics/ Wearables Units: 4
  Prerequisite: ITP 109, ITP 115 or ITP 165 must be completed before ITP 348.

Electives (choose a minimum of 8 units)

- ITP 249 Introduction to Data Analytics Units: 4
- ITP 341 Android App Development Units: 4
  Prerequisite: ITP 265 or CSCI 103L must be completed before ITP 341.
- ITP 342 iOS App Development Units: 4
  Prerequisite: ITP 265 or CSCI 103L must be completed before ITP 342.
- ITP 388 Developing Connected Devices Units: 4
  Prerequisite: ITP 348 must be completed before ITP 388.
- ITP 466 Building the High Tech Startup Units: 4
- ITP 468 Connected Devices Project Units: 4
  Prerequisite: ITP 228 and ITP 348 must be completed before ITP 468.
- ITP 476 Technologies for Interactive Marketing Units: 4

Enterprise Information Systems Minor

The first two decades of the 21st century have seen tremendous growth of global business which has required robust and integrated information systems to support streamlined business processes. These Enterprise Information Systems, also known as Enterprise Resource Planning (ERP) systems, have continued to mature and dominate the information systems of corporations. Most Fortune 500 companies have adopted ERP systems. This minor combines business process management and information technology to prepare students for a career in technical as well as business consulting in the ERP domain. Students will study various areas of ERP implementation, configuration, business intelligence, security and supply chain management. Electives are available depending on the students' academic and professional goals.

The minor requires a minimum of 16 units.

Required Courses (12 Units)

- ITP 320 Enterprise Information Systems Units: 4
- ITP 422 Configuring Enterprise Resource Planning Systems Units: 4
- ITP 487 Enterprise Data Analytics Units: 4

Electives (Choose Minimum 4 Units)

- ITP 454x Enterprise Resource Planning, Design, and Implementation Units: 3
- ITP 470 Information Technology Practicum Units: 1, 2, 3, 4
- ITP 486 Securing and Auditing Enterprise Resource Planning Systems Units: 3
- ITP 488 Managing Supply Chains with Advanced Planning & Optimization Units: 3
- ITP 489 In-Memory Data Modeling and Analytics Units: 4

Innovation: The Digital Entrepreneur Minor

The Minor in Innovation: The Digital Entrepreneur is jointly sponsored by the Information Technology Program in the Viterbi School of Engineering and the Lloyd Greif Center for Entrepreneurial Studies in the USC Marshall School of Business. The minor is designed for students from a wide range of backgrounds who are interested in starting their own digital ventures, working for start-up companies, or pursuing traditional jobs with large corporations and consulting firms that may involve launching new digital business units. Students will learn all major elements of launching a digital venture including digital disruption, ideation, high-tech product management, online customer acquisition, technology implementation, online business models, digital marketing and monetization. Students will work on launching a digital venture in a team-based environment in the capstone class.

A minimum of 21 units are required to complete the minor, with at least 16 unique units outside of the student's major.

The Information Technology Program in the Viterbi School of Engineering handles advising and admissions relating to the minor, consulting as needed with the Greif Center for Entrepreneurial Studies in the Marshall School of Business. See Information Technology Program for course requirements.

Required Courses (19 Units)

- BAEP 452 Feasibility Analysis Units: 4 *
- BUAD 301 Technology Entrepreneurship Units: 3
- ITP 466 Building the High Tech Startup Units: 4
- ITP 476 Technologies for Interactive Marketing Units: 4
- ITP 496 The Startup Launchpad Lab Units: 2 *+ (capstone course; *Corequisite:* BAEP 496)
- BAEP 496 The Digital Startup Launchpad Units: 2 *+(capstone course; Corequisite: ITP 496)

Elective Courses (Minimum of 2 units)

- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- DSO 431 Digital Innovation as Competitive Advantage Units: 4
- ITP 310 Design for User Experience Units: 4
- ITP 320 Enterprise Information Systems Units: 4
- ITP 411 Techniques of Visual Persuasion - Moving Images Units: 4

- ITP 470 Information Technology Practicum Units: 1, 2, 3, 4
- ITP 479 Cyber Law and Privacy Units: 3

Note:

**Prerequisite required*
+ITP 496 *and* BAEP 496 *must be taken in the same semester.*

Mobile App Development Minor

Students will study and gain experience with the technologies, tools, frameworks, and languages that are most commonly used in developing apps for mobile devices such as smartphones and tablets. They will learn the fundamentals of the programming languages, how to design mobile interfaces, how to use the libraries to build apps that have the proper look and feel, how to design and handle user input, and other aspects. Students will go through the process of building a mobile app from idea to product. Students will learn the essential principles of mobile apps in order to be prepared for the new technologies and frameworks that are constantly being developed.

Students should meet the regular admissions standards and have a declared USC major. Students will complete an application for the minor with the Viterbi School of Engineering. For specific information on admission and application procedures, contact the Information Technology Program at (213) 740-4542.

The minor requires a minimum of 18 units.

Required courses (10 units)

Complete the following (6 units)

- ITP 115 Programming in Python Units: 2
- ITP 265 Object-Oriented Programming Units: 4

Complete one of the following (4 units)

- ITP 341 Android App Development Units: 4
- ITP 342 iOS App Development Units: 4

Choose two elective courses (8 units minimum)

- ITP 303 Full-Stack Web Development Units: 4
- ITP 310 Design for User Experience Units: 4
- ITP 341 Android App Development Units: 4
- ITP 342 iOS App Development Units: 4
- ITP 344 Advanced iOS App Development Units: 4
- ITP 345 Advanced Android App Development Units: 4
- ITP 382 Mobile Game Development Units: 4
- ITP 442 Mobile App Project Units: 4

Technical Game Art Minor

The Technical Game Art minor is a unique 16-unit program, offered by the Information Technology Program that combines an engineering background with the production practice of character modeling, rigging and animation to prepare students for a professional career in the field of 3d games and cinematics. Focuses on creative orchestrations per project, user-friendly toolsets and production planning.

Required Courses (14 units)

Complete all of the following:

- ITP 215L Introduction to 3D Modeling, Animation, and Visual Effects Units: 2
- ITP 351 3D Character Modeling for Games Units: 4
- ITP 361 Character Rigging for Games Units: 4
- ITP 371 Technical Character Animation for Games Units: 4

Electives (2 units)

Complete one of the following:

- ITP 115 Programming in Python Units: 2
- ITP 116 Accelerated Programming in Python Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 462 Visual Effects Units: 2

Video Game Design and Management Minor

The video game design and management minor integrates theoretical concepts and practical skills to prepare students for a career in interactive entertainment, specifically the video game industry. Students will be exposed to a variety of design concepts related to creating video games including: level design, game-play control, user interface, multiplayer, game mechanics, and storytelling. As opposed to the video game programming minor in which students will be writing code and programming game engines, students in the video game design and management minor will apply design concepts to different game genres and use game design software tools to create a working demo of a video game during the course of the minor program.

Required Courses (14 Units Minimum)

- ITP 230x Video Game Quality Assurance Units: 4 or
- ITP 280 Video Game Production Units: 4

- ITP 392 Designing and Producing Video Games Units: 4 *
- CTIN 404L User Research for Games Units: 2
- CTIN 488 Game Design Workshop Units: 4

Elective Courses (4 Units Minimum)

- ITP 230x Video Game Quality Assurance Units: 4
- ITP 280 Video Game Production Units: 4
- ITP 491 Level Design and Development for Video Games Units: 4 *
- CTIN 458 Business and Management of Games Units: 2
- CTIN 478 Level Design Workshop Units: 2
- CTIN 497 Interactive Media Startup Units: 1

Note:

** Students must take ITP 230x or ITP 280 prior to taking ITP 392 or ITP 491.*

Video Game Programming Minor

The video game programming minor integrates the theoretical concepts and practical skills to prepare students for a career in interactive entertainment. Students will gain exposure to a variety of programming concepts related to creating video games including: 3-D graphics, artificial intelligence, particle systems, rendering, collision detection, game algorithms, physics concepts and math formulas. In contrast to the video game design minor where the focus is applying design concepts and using software design tools, students in the video game programming minor will evaluate, write and debug code.

This minor features an optional capstone that is a team-based, year-long game development project. Students are only eligible for the capstone after having completed all the core courses. The capstone must be taken in both the fall and spring semesters of a single academic year.

Requirements for completion (four core courses plus 4 units of electives)

The minor requires a minimum of 18 units.

Core Courses (14 Units)

- ITP 165 Introduction to C++ Programming Units: 2 *
- ITP 265 Object-Oriented Programming Units: 4 **
- ITP 365 Managing Data in C++ Units: 4 **
- ITP 380 Video Game Programming Units: 4

Elective Courses (4 Units)

- ITP 382 Mobile Game Development Units: 4
- ITP 435 Professional C++ Units: 4
- ITP 439 Compiler Development Units: 4
- ITP 485 Programming Game Engines Units: 4
- CSCI 491aL Final Game Project Units: 4 ***
- CSCI 491bL Final Game Project Units: 2 ***

Note:

** Students with prior programming experience may request to take a placement test. Students who pass this placement test with have their ITP 165 requirement waived.*
*** Students who have completed CSCI 103L and CSCI 104L may replace the ITP 265 and ITP 365 requirements with 8 units from the list of elective courses. Additionally, these students may have their ITP 165 requirement waived.*
**** Optional capstone. See details above for requirements.*

Web Technologies and Applications Minor

The Web Technologies and Applications minor is designed to introduce students to the web development field. Upon completion of the minor, students will be able to design and develop websites and web applications from the ground up using major web technologies, standards, and frameworks. Students can use the theoretical concepts and practical applications of web technologies not only in the web industry, but also within a different major field of study. The broad areas of study include web publishing, programming, databases, security, and multimedia. Electives will be chosen based on the students' academic and professional goals.

The minor requires a minimum of 18 units.

Required courses (14 units)

- ITP 104L Web Publishing Units: 2
- ITP 301 Front-End Web Development Units: 4
- ITP 304 Back-End Web Development Units: 4
- ITP 460 Web Application Project Units: 4

Choose one elective course (4 units)

- ITP 302 Advanced Web Publishing Units: 4
- ITP 310 Design for User Experience Units: 4
- ITP 404 Advanced Front-End Web Development Units: 4
- ITP 405 Advanced Back-End Web Development Units: 4
- ITP 425 Web Application Security Units: 4

Manufacturing Engineering

Ethel Percy Andrus
Gerontology Center 240
(213) 740-4893
FAX: (213) 740-1120
Email: isedept@usc.edu
Program Director: B. Khoshnevis, PhD

Master's Degree

Manufacturing Engineering (MS)

Manufacturing engineering at USC is a multidisciplinary program that confers the degree of Master of Science and is designed to produce graduates capable of responding to the needs of modern, up-to-date manufacturing. These graduates should be able to design, install and operate complex manufacturing systems made up of people, materials, automated machines and information systems. The Departments of Computer Science, Electrical Engineering, Industrial and Systems Engineering, Materials Science, Mechanical Engineering, and Entrepreneurship participate in the Manufacturing Engineering Program.

Course work in the program will train students in traditional manufacturing engineering topics, such as materials selection and process design. Additional courses will include modern technologies such as 3D printing and system-level concepts of integrated product and process design, applications of modern information technology to design and manufacturing, hands-on laboratories using advanced manufacturing equipment and commercial software, and innovation and entrepreneurship.

Curriculum

A total of 30 units is required beyond the BS degree. A minimum of 21 units must be at the 500 level or above. A maximum of 6 units of electives may be taken from non-engineering departments. At least three courses must be taken in the student's selected area of specialization.

Required Courses

- CSCI 585 Database Systems Units: 4 or
- ISE 510 Advanced Computational Design and Manufacturing Units: 3
- ISE 511L Mechatronic Systems Engineering Units: 3
- ISE 517 Modern Enterprise Systems Units: 3 or
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- ISE 525 Design of Experiments Units: 3 or
- AME 525 Engineering Analysis Units: 4
- Approved electives Units: 18 *

Total units: 30

**A list of approved electives in specialization areas is available from the department. Departmental approval is required for courses not listed.*

Product Development Engineering

Denney Research Center, 528
(213) 740-8459
FAX: (213) 740-8071
Email: mspde@usc.edu
Program Director: Stephen C-Y Lu, PhD

Master's Degree

Product Development Engineering (MS)

The Master of Science in product development engineering (MS PDE) is an interdisciplinary graduate degree program at USC jointly offered by the Aerospace and Mechanical Engineering and the Daniel J. Epstein Industrial and Systems Engineering (ISE) departments. The Daniel J. Epstein Industrial and Systems department manages this joint degree program. Students can enter this program in either the fall or spring semesters, and it is available to full-time and part-time students.

Admission

The program has the following admission requirements:

- A bachelor's degree in an area of engineering or science;
- An undergraduate cumulative GPA of 3.0 or above; and
- Satisfactory general GRE scores of at least 146 verbal and 151 quantitative.

The MS PDE program requires a minimum of 27 units to complete. Although it is mainly a course work-based program, students can choose to complete the program with or without a thesis requirement. For the thesis option, 4 of the 27 units are to be thesis. At least 16 units, not including thesis, must be at the 500 level or higher, and at least 18 units must be from the AME and ISE departments. For the non-thesis option, 18 of the 27 units must be at the 500 level or higher from the AME and ISE departments, and/or closely related departments. Students may choose to take up to 6 units of directed research (e.g., AME 590 or ISE 590). Students must maintain a minimal cumulative GPA of 3.0 in USC course work to graduate.

The program's prerequisite is a minimum of one 400 level course in either engineering design or engineering economy. Admitted students who do not meet this prerequisite will be assigned appropriate USC course(s) to complete the deficiencies. Deficiency courses, if taken at the 400 level, may be counted toward 27 units as general electives with adviser approval.

Depending on the academic background and career interests of students, the program offers two areas of specialization, product development technology and product development systems. The product development technology specialization will prepare students for a career as future product development engineers, while the product development systems specialization will prepare students as future product development managers. Students entering this program must declare their choice of an area of specialization and follow the requirements of each area of specialization to graduate.

Core Courses (6 units)

- ISE 501 Innovative Conceptual Design for New Product Development Units: 3
- ISE 545 Technology Development and Implementation Units: 3

Product Development Systems Specialization (12-13 units)

- ISE 515 Engineering Project Management Units: 3
- ISE 544 Leading and Managing Engineering Teams Units: 3

Product Development Systems Electives

Select two courses.

- BAEP 557 Technology Commercialization Units: 3
- CE 576 Invention and Technology Development Units: 3
- DSCI 552 Machine Learning for Data Science Units: 4
- ISE 510 Advanced Computational Design and Manufacturing Units: 3
- ISE 511L Mechatronic Systems Engineering Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 525 Design of Experiments Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- ISE 561 Economic Analysis of Engineering Projects Units: 3
- ISE 562 Decision Analysis Units: 3
- ISE 567 Collaborative Engineering Principles and Practice Units: 3
- ISE 580 Performance Analysis with Simulation Units: 3
- ISE 583 Enterprise Wide Information Systems Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- ISE 610 Advance Design of Experiments and Quality Engineering Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3
- SAE 549 Systems Architecting Units: 3

Product Development Technology Specialization (13-14 units)

- AME 503 Advanced Mechanical Design Units: 3
- AME 525 Engineering Analysis Units: 4

Product Development Technology Electives

Select two courses.

- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 410 Engineering Design Theory and Methodology Units: 3
- AME 502 Modern Topics in Aerospace Design Units: 3
- AME 505 Engineering Information Modeling Units: 3
- AME 527 Elements of Vehicle and Energy Systems Design Units: 3
- AME 544 Computer Control of Mechanical Systems Units: 3
- AME 546 Design for Manufacturing Assembly Units: 4
- AME 547 Foundations for Manufacturing Automation Units: 4
- AME 578 Modern Alternative Energy Conversion Devices Units: 3
- ASTE 523 Design of Low Cost Space Missions Units: 3
- CE 576 Invention and Technology Development Units: 3
- ISE 510 Advanced Computational Design and Manufacturing Units: 3
- ISE 567 Collaborative Engineering Principles and Practice Units: 3
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- MASC 551 Mechanical Behavior of Engineering Materials Units: 4
- MASC 583 Materials Selection Units: 4
- SAE 549 Systems Architecting Units: 3

General Electives (9 Units)

Adviser approved electives must be upper-division 400- or 500-level courses. Up to 4 units can be transferred from other institutions.

Minimum units required for degree: 27

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Five plans of study for the master of science degree allow for specialization based on background and interest.

Master's Degree

Civil Engineering (Water and Waste Management) (MS)

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Four plans of study for the Master of Science degree allow for specialization based on background and interest.

Total units for the degree is 28.

For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering.

Electrical Engineering (Electric Power) (MS)

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Four plans of study for the Master of Science degree allow for specialization based on background and interest.

Master of Science in Electrical Engineering (Electric Power)

Required Courses

- EE 443 Introduction to Power Systems Units: 4
- EE 444 Power Systems Technology Units: 4
- EE 521 Power Systems Analysis and Design Units: 4
- SAE 515 Sustainable Infrastructure Systems Units: 4

Elective Courses (At least four courses, take at least one from each area)

Transmission, Distribution and Planning

- CE 501 Construction Practices Units: 4
- EE 516 High-Voltage DC Transmission Systems Units: 4
- EE 524 Transients in Power Systems Units: 3

- EE 525 Power System Protection Units: 4
- EE 526 Renewable Energy in Power Systems Units: 4

High-Voltage Equipment and Design

- EE 515 High-Voltage Technology Units: 3
- EE 528 Power Electronics Units: 4

Power-System Control and the Smart Grid

- EE 482 Linear Control Systems Units: 4
- EE 527 Net-Centric Power-System Control Units: 3
- EE 543aL Digital Control Systems Units: 3
- EE 585 Linear System Theory Units: 4
- EE 593 Robust Multivariable Control Units: 4

Additional Requirements

Students with MS degrees in engineering or science disciplines can be accepted in these programs. Students must satisfy all other departmental degree requirements.

Total Minimum Units: 28

Mechanical Engineering (Energy Conversion) (MS)

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Four plans of study for the Master of Science degree allow for specialization based on background and interest.

Master of Science in Mechanical Engineering (Energy Conversion)

Students with MS degrees in engineering or science disciplines can be accepted in these programs. Students must satisfy all other departmental degree requirements. Admission requirements follow the general admission rules for aerospace and mechanical engineering graduate programs. For admission requirements, refer to Viterbi Graduate Degrees and Requirements at USC Viterbi School of Engineering. The program requires completion of a minimum of 27 units, with at least 18 units at the 500 level, and a cumulative GPA of at least 3.0 for graduation. Students will be given advisement in the first semester of their study. A minimum of 15 units must be 500-level courses in major department. Four of the required units must be in engineering analysis AME 525.

In addition to AME 525, students are required to take five core courses covering energy and propulsion, sustainable energy, alternative energy conversion devices, construction management, and sustainable infrastructure systems. Elective courses can be chosen in areas of specific interest to the student. Specifically, students are encouraged to consider electives from other Sustainable Infrastructure Systems programs.

Information on the current approved courses that comprise these core and elective requirements is available from the department website *ame.usc.edu*.

Systems Architecting and Engineering

Robert Glenn Rapp Engineering Research Building (RRB) 225
(213) 821-5817
Email: info@sae.usc.edu
Website: sae.usc.edu
Admissions: viterbigradadmission.usc.edu/programs/masters/msprograms/systems-architecting-engineering/ms-systems-architecting/
Executive Director: Azad M. Madni, PhD
Email: azad.madni@usc.edu; (213) 740-9211
Student Services Adviser: Luis Saballos
Email: Lsaballo@usc.edu; (213) 821-4234

Faculty

A.V. "Bal" Balakrishnan Chair: Petros Ioannou, PhD (*Electrical and Computer Engineering*)
David Packard Chair in Manufacturing Engineering: Stephen C-Y Lu, PhD *(Computer Science, Aerospace and Mechanical Engineering, Industrial and Systems Engineering)*
Gordon S. Marshall Professor of Engineering Technology: Roger Ghanem, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering)*
John and Dorothy Shea Early Career Chair in Civil Engineering: Ketan Savla, PhD (*Civil and Environmental Engineering, Industrial and Systems Engineering, Electrical and Computer Engineering)*
Louise L. Dunn Professor: Behrokh Khoshnevis, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering, Industrial and Systems Engineering)*
TRW Professor of Software Engineering: Barry Boehm, PhD *(Computer Science, Industrial and Systems Engineering)*
Professors: Barry Boehm, PhD *(Computer Science, Industrial and Systems Engineering)*; Daniel Erwin, PhD* *(Aerospace and Mechanical Engineering, Astronautical Engineering)*; Roger Ghanem, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering)*; Mike Gruntman, PhD *(Aerospace and Mechanical Engineering, Astronautical Engineering)*; Petros Ioannou, PhD *(Electrical and Computer Engineering)*; Yan Jin, PhD *(Aerospace and Mechanical Engineering)*; Behrokh Khoshnevis, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering, Industrial and Systems Engineering)*; Stephen C-Y Lu, PhD *(Computer Science, Aerospace and Mechanical Engineering, Industrial and Systems Engineering)*; Edward W. Maby, PhD *(Electrical and Computer Engineering);* Azad M. Madni, PhD *(Astronautical Engineering);* James E. Moore, II, PhD *(Industrial and Systems Engineering, Civil and Environmental Engineering, Public Policy)*; Cyrus Shahabi, PhD *(Computer Science)*; Firdaus E. Udwadia, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering, Data Science and Operations, Mathematics)*
Associate Professor: Ketan Savla, PhD *(Civil and Environmental Engineering, Industrial and Systems Engineering, Electrical and Computer Engineering)*
**Recipient of university-wide or school teaching award.*
***Recipient of university-wide or school research award.*

Systems Architecting and Engineering (MS)

This program is recommended for graduate engineers and engineering managers responsible for the conception and implementation of complex systems. Emphasis is on the creative processes and methods by which complex systems are conceived, planned, designed, built, tested and certified. The architecture experience can be applied to defense, space, aircraft, communications, navigation, sensors, computer software, computer hardware, and other aerospace and commercial systems and activities.

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in systems architecting and engineering. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Systems Architecting and Engineering is also subject to the following requirements:

- a total of at least 27 units is required, consisting of 15 units of required courses, 3 units of SAE core electives, 3 units in the technical management area, and 6 units in the technical specialization area;

- every plan of study requires prior written approval by the director of the systems architecting and engineering program recorded on the study plan in the student's file;
- no more than 6 units at the 400 level may be counted toward the degree — the remaining units must be taken at the 500 or 600 level;
- at least 21 of the 27 units must be taken in the Viterbi School of Engineering;
- units to be transferred (maximum of seven with adviser approval) must have been taken prior to taking classes at USC; interruption of residency is not allowed;
- no more than 6 units of Special Topics courses (499 or 599) may be counted for this degree;
- thesis and directed research registrations may be allowed to individual students only by special permission of the supervising faculty member and the program director;
- a bachelor's degree in an engineering field and a minimum of three years systems experience are recommended prior to taking Systems Architecting and Design Experience courses. This program is not recommended for recent bachelor's degree graduates.

Required Courses

- ISE 460 Engineering Economy Units: 3 or
- SAE 560 Economic Considerations for Systems Engineering Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3
- SAE 542 Advanced Topics in Systems Engineering Units: 3
- SAE 547 Model-Based Systems Architecting and Engineering Units: 3 or
- SAE 548 Systems/System-of-Systems Integration and Communication Units: 3
- SAE 549 Systems Architecting Units: 3

SAE Elective

An additional adviser-approved SAE course (minimum 3 units)

Technical Management Area: Take one course (minimum 3 units) from the following:

- CE 569 Project Controls Units: 4
- DSO 580 Project Management Units: 3
- ISE 515 Engineering Project Management Units: 3
- ISE 517 Modern Enterprise Systems Units: 3
- ISE 544 Leading and Managing Engineering Teams Units: 3
- ISE 562 Decision Analysis Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- MOR 561 Strategies in High-Tech Businesses Units: 3
- SAE 550 Systems Architecting and the Political Process Units: 3

Technical Specialization Area:

Two courses (minimum 6 units total) are required, usually in the student's present or intended technical specialty. The courses must be from the same Viterbi School major and are selected in consultation with an adviser.

Dual Degree

Master of Science, Systems Architecting and Engineering/Master of Business Administration (MS/MBA)

The Viterbi School of Engineering Program in Systems Architecting and Engineering, in conjunction with the Marshall School of business, offers a program leading to two degrees - the Master of Science in Systems Architecting and Engineering and the Master of Business Administration.

Prospective students apply for admission to both programs simultaneously and must be admitted to both programs to qualify for consideration for conversion to the dual degree program. Applicants must provide proof of a four-year bachelor's degree and GRE scores. International applicants must also provide TOEFL or IELTS scores.

This alternative requires at least 72 units (75 for the online MBA). The MS SAE portion of the program requires 24 units. Students in the dual degree program do not complete a course in Engineering Economy nor a Technical Management Area elective as part of the MS SAE portion of the program. These concepts are presented in the MBA portion of the program.

The total number of units required for the MBA degree is at least 48 including all required courses in an MBA program (51 units for online MBA, excluding electives) and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units.

Required Courses*

- SAE 541 Systems Engineering Theory and Practice Units: 3
- SAE 542 Advanced Topics in Systems Engineering Units: 3
- SAE 547 Model-Based Systems Architecting and Engineering Units: 3
  or
- SAE 548 Systems/System-of-Systems Integration and Communication Units: 3
- SAE 549 Systems Architecting Units: 3

Note:

*Students in the dual degree program do not complete a course in Engineering Economy as part of the MS SAE portion of the program.

Electives**

- Adviser-approved electives in general technical area Units: 3
- Adviser-approved electives in technical specialization area Units: 9

Note:

**Students in the dual degree program do not complete a Technical Management Area elective as part of the MS SAE portion of the program.

Graduate Certificate

Network Centric Systems Graduate Certificate

This 15-19 unit graduate certificate is jointly sponsored by the Epstein Industrial and Systems Engineering, Hsieh Electrical Engineering and Computer Science departments, and administered by the Epstein ISE Department. The computer science emphasis requires at least 16 units to complete, and may require more depending on the combination of courses students select.

This certificate is designed for practicing engineers engaged in the creation and design of complex innovative network centric systems in aerospace and commercial fields. Entering students are expected to have a bachelor's degree in engineering or a related field from an accredited institution. Three years of industry experience are recommended. Students are required to earn a cumulative B average or higher in courses taken for the certificate. The courses taken for the certificate may be applied later to the Master of Science in Computer Science, Electrical Engineering or Systems Architecting Engineering with departmental approval.

Required Courses

- SAE 574 Net-Centric Systems Architecting and Engineering Units: 3

Choose four courses from one area of emphasis (12-16 units):

Computer Science Emphasis

Required CSCI course

- CSCI 551 Computer Networking Units: 4

CSCI Electives (choose three courses, at least 9 units)

- CSCI 530 Security Systems Units: 4
- CSCI 531 Applied Cryptography Units: 4
- CSCI 555L Advanced Operating Systems Units: 4
- CSCI 556 Introduction to Cryptography Units: 4

- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 573 Probabilistic Reasoning Units: 3
- CSCI 576 Multimedia Systems Design Units: 4
- CSCI 585 Database Systems Units: 4

Electrical Engineering Emphasis

Required EE course

- EE 535 Wireless Communications Units: 4

EE Electives (choose three courses, 9 units)

- EE 541 A Computational Introduction to Deep Learning Units: 2
- EE 544 Radio Frequency Systems and Hardware Units: 3
- EE 550 Data Networks: Design and Analysis Units: 4
- EE 555 Broadband Network Architectures Units: 3
- EE 562 Random Processes in Engineering Units: 4
- EE 564 Digital Communication and Coding Systems Units: 4
- EE 567 Communication Systems Units: 3

Total units: 15-19

Systems Architecting and Engineering Graduate Certificate

The graduate certificate in systems architecting and engineering is designed for practicing engineers engaged in the creation and design of complex innovative systems, in aerospace and commercial fields. Entering students are expected to have a bachelor's degree in engineering or a related field from an accredited institution. Three years of industry experience are recommended. Students are required to earn a cumulative B average or higher in courses taken for the certificate. The courses taken for the certificate may be applied later to the Master of Science in Systems Architecting and Engineering.

Required Courses - Choose Five

- ISE 460 Engineering Economy Units: 3 or
- SAE 560 Economic Considerations for Systems Engineering Units: 3

- ISE 515 Engineering Project Management Units: 3
- ISE 544 Leading and Managing Engineering Teams Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3
- SAE 542 Advanced Topics in Systems Engineering Units: 3
- SAE 547 Model-Based Systems Architecting and Engineering Units: 3
- SAE 548 Systems/System-of-Systems Integration and Communication Units: 3
- SAE 549 Systems Architecting Units: 3
- SAE 574 Net-Centric Systems Architecting and Engineering Units: 3

Note:

All programs of study will be approved by the technical director of the Systems Architecting and Engineering program.

USC Leonard Davis School of Gerontology

The USC Leonard Davis School of Gerontology explores all aspects of human development and aging. Course work and research opportunities in biology, psychology, sociology, policy and aging services make up its multidisciplinary curriculum.

Founded in 1975, the USC Leonard Davis School is the nation's premier school of gerontology. Named in honor of Leonard Davis, a philanthropist and businessman who pioneered insurance plans for the elderly through his involvement in AARP and his own company Colonial Penn Life Insurance, the school provides ground-breaking solutions to issues facing an aging population.

The USC Leonard Davis School is committed to providing students with a broad theoretical understanding of lifespan development as well as dynamic post-graduate career placement. Students on all levels often enroll in semester-long internship programs. Working with our internship director, students can apply their gerontological knowledge to an array of industries such as health, medicine, business, finance, policy, direct services, program development, counseling and many other fields.

The Davis School's Bachelor of Science degrees can be pursued with a health science, a social science or a global emphasis. The school also offers ten master's degrees, six dual master's programs, a graduate certificate, PhD programs in gerontology and the biology of aging, and a doctorate program in longevity arts and sciences.

The school is located in the Ethel Percy Andrus Gerontology Center and is home to the Center for Digital Aging, the Center for Global Aging, the Fall Prevention Center of Excellence, the Long Beach Longitudinal Study, the Longevity Institute, the USC/UCLA Center on Biodemography and Population Health and the Los Angeles Caregiver Resource Center.

USC Leonard Davis School of Gerontology
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Administration

Pinchas Cohen, MD, *Dean and Executive Director of the Ethel Percy Andrus Gerontology Center*
Kelvin JA Davies, PhD, DSc, *Vice Dean and Director of the Ethel Percy Andrus Gerontology Center*
Maria Henke, MA, *Senior Associate Dean, USC Leonard Davis School of Gerontology*

Faculty

William and Sylvia Kugel Dean's Chair in Gerontology: Pinchas Cohen, MD
AARP University Chair in Gerontology: Eileen Crimmins, PhD*
ARCO/William F. Kieschnick Chair in the Neurobiology of Aging: Caleb E. Finch, PhD*
James E. Birren Chair in Gerontology: Kelvin J.A. Davies, PhD, DSc*
Edna M. Jones Chair in Gerontology: Valter D. Longo, PhD
Rita and Edward Polusky Chair in Education and Aging: Elizabeth M. Zelinski, PhD*
UPS Foundation Chair in Gerontology: Jon Pynoos, PhD*
Mary Pickford Foundation Professor of Gerontology: Kathleen H. Wilber, PhD*
Professors: Mara Mather, PhD; Christian Pike, PhD*; Edward L. Schneider, MD
Associate Professors: Sean Curran, PhD*; Susan H. Enguidanos, PhD*; Mireille Jacobson, PhD; Carin B. Kreutzer, EdD, MPH, RD, FAND; John P. Walsh, PhD*
Assistant Professors: Jennifer Ailshire, PhD; Bérénice Benayoun, PhD; Teal Eich, PhD; Jessica Ho, PhD; Andrei Irimia, PhD; Changhan David Lee, PhD; Reginald Tucker-Seeley, ScD; Marc Vermulst, PhD
Research Professors: Henry Jay Forman, PhD; Todd Morgan, PhD
Research Associate Professors: Donna Benton, PhD; Jung Ki Kim, PhD
Research Assistant Professors: T. Em Arpawong, PhD, MPH; Sebastian Brandhorst, PhD; Amy Christensen, PhD; Alexandra Ycaza Herrera, PhD; Su-Jeong Kim PhD; Kaoru Nashiro, PhD; Junxiang Wan, MD, PhD; Kelvin Yen, PhD; Hongqiao Zhang, MD, PhD
Instructional Associate Professors: Caroline Cicero, PhD, MSW, MPL; Cary Kreutzer, EdD, MPH, RD, FAND; Paul Nash, PhD; George Shannon, PhD
Instructional Assistant Professors: Wilber Escorcia, PhD; Min-Kyoung Rhee, PhD; Roberto Vicinanza, MD, PhD
Joint Appointees: Maria Aranda, PhD *(Social Work)*; Raquel D. Arias, MD *(Obstetrics & Gynecology)*; Christopher Beam, PhD *(Psychology)*; Michael A. Bonaguidi, PhD *(Stem Cell & Regenerative Medicine)*; Enrique Cadenas, MD, PhD *(Pharmacology and Pharmaceutical Sciences)*; Lucio Comai, PhD *(Molecular Microbiology & Immunology)*; Alexis Coulourides Kogan, PhD (*Family Medicine*); Gerald C. Davison, PhD *(Psychology and Gerontology)*; Steven Finkel, PhD *(Biological Sciences)*; Margaret Gatz, PhD *(Psychology)*; Dana Goldman, PhD (*Public Policy, Pharmacy, Economics*); Myron F. Goodman, PhD *(Molecular Biology and Chemistry)*; Duke Han, PhD *(Family Medicine)*; Diana Homeier, MD *(Family Medicine)*; Kurt Hong MD, PhD *(Clinical Medicine)*; Yuri Jang, PhD (*Social Work*); Ralf Langen, PhD *(Physiology & Neuroscience)*; Martin Levine, PhD *(Law, Psychiatry and the Behavioral Sciences)*; Michael R. Lieber, MD, PhD *(Pathology)*; Rong Lu, PhD (*Stem Cell & Regenerative Medicine*); John J. McArdle, PhD *(Psychology)*; Jeffrey McCombs, PhD *(Pharmacy)*; Michalle Mor-Barak, DSW *(Social Work)*; Laura A. Mosqueda, MD, FAAFP, AGSF *(Family Medicine)*; Roseann Mulligan, DDS, MS *(Dentistry)*; Robert C. Myrtle, DPA *(Public Administration)*; Mike Nichol, PhD *(Health Policy)*; Victor Regnier, FAIA *(Architecture)*; Lon Schneider, MD *(Psychiatry and Neurology)*; Freddi Segal-Gedan, PhD *(Neurology & Family Medicine)*; John Strauss, PhD *(Economics)*; John Tower, PhD *(Biological Sciences)*; Bradley R. Williams, PharmD *(Clinical Pharmacy)*; Ann Marie Yamada, PhD *(Social Work)*; Julie Zissimopoulos, PhD (*Economics*)
Lecturers: Jim Biggs, MPA; Josh Johnson, MAG; Sally Ramirez, RN, MBA; Leah Marie Buturain Schneider, PhD; Julia R. Walsh, JD; Karlton Wong, MD
Adjunct Professors: Julie K. Andersen, PhD; Chris Benz, MD; Martin Brand, PhD; Judith Campisi, PhD; Joanna Davies, MD; Lisa Ellerby, PhD; Tyler B Evans, MD; Pejmun Haghighi, PhD; Andrea Hevener, PhD; Heinrich Jasper, PhD; Scott Kaiser, MD; Pankaj Kapahi, PhD; Brian K. Kennedy, PhD; Gordon Lithgow, PhD; Simon Melov, PhD; Fernando Torres-Gil, PhD*; Eric Verdin, MD; Jianjun Wang, PhD; Kai Zhou, PhD
Adjunct Associate Professors: Rachel Brem, PhD; Janet C. Frank, DrPH; David Furman, PhD; Lei Lei, PhD; Monika White, PhD, MSW; Daniel Winer, MD
Adjunct Assistant Professors: Wen Dombrowski, MD, MBA; Jennifer Garrison, PhD; Shiying Jin, PhD; John Newman, MD, PhD; Arvind Ramanathan, PhD; Birgit Schilling, PhD; Tara Tracy, PhD
Adjunct Research Assistant Professor: Hiroshi Ueda, PhD
Adjunct Scholar: Marie-Therese Connolly, JD
Visiting Scholars: Paul Irving (Milken Institute); Guoxin Tao, PhD
Emeritus Professor: Phoebe Liebig, PhD
**Recipient of university-wide or college teaching award.*

Programs

The USC Leonard Davis School of Gerontology offers a Bachelor of Science in Human Development and Aging; a Bachelor of Science in Lifespan Health; undergraduate classes through the health and humanity major in the USC Dornsife College of Letters, Arts and Sciences; two minors in gerontology; and four progressive degrees for Master of Science

in Gerontology, Master of Arts in Aging Services Management, Master of Arts in Senior Living Hospitality, and Master of Arts in Medical Gerontology, open to all undergraduate students.

The school offers several graduate degrees including a Master of Science in Gerontology; a Master of Arts in Gerontology; a Master of Arts in Aging Services Management; a Master of Arts in Long Term Care Administration (with the Marshall School of Business and the Price School of Public Policy); a Master of Arts in Medical Gerontology; a Master of Arts in Senior Living Hospitality; a Master of Arts in Foodservice Management and Dietetics; a Master of Science in Lifespan, Nutrition and Dietetics; a Master of Science in Nutritional Science; and a Master of Science in Nutrition, Healthspan and Longevity. All master's degrees are offered online and onsite. The Leonard Davis School of Gerontology offers the premier PhD in Gerontology program in the nation and also offers a PhD in the Biology of Aging as well as a Doctor of Longevity Arts and Sciences. The PhD programs are not offered online. Non-degree graduate students may complete 16 units of gerontology and be awarded a graduate level certificate in gerontology (also available online).

Master's degree students may pursue one of several dual degrees, which are jointly offered with other professional schools. These are the Master of Science in Gerontology and the Master of Business Administration (MS/MBA) with the Marshall School of Business; the Master of Science in Gerontology and the Juris Doctor (MS/JD) with the Gould School of Law; the Master of Science in Gerontology and the Master of Public Administration (MS/MPA), and the Master of Science in Gerontology and the Master of Health Administration (MS/MHA) with the Price School of Public Policy; the Master of Science in Gerontology and the Master of Social Work (MS/MSW) with the Suzanne Dworak-Peck School of Social Work; and the Master of Science in Gerontology and the Doctor of Pharmacy (MS/PharmD) with the School of Pharmacy.

In addition to the degree and minor programs, overview courses in aging are offered for undergraduates enrolled in other units of the university. Many gerontology courses can be credited as elective units.

Honor Society

The student honor society is Sigma Phi Omega, the national honor society formed in 1980 to recognize the excellence of those who study gerontology. The organization seeks to promote scholarship and professionalism, and to recognize exemplary attainment in the field of aging. Undergraduates must have a GPA of at least 3.3 and graduate students a GPA of at least 3.5. Sigma Phi Omega is administered by the Association for Gerontology in Higher Education, an educational unit of the Gerontological Society of America.

Ethel Percy Andrus Gerontology Center

The Andrus Gerontology Center initiates, designs and executes basic and applied research on the many phases of development and aging and provides for graduate and post-graduate training in the biological, social, behavioral and policy sciences. Specific areas of study include neurobiology, cognitive science, biology, social organization behavior, human service delivery, biodemography and social policy.

The Andrus Center offers a multidisciplinary research training program in gerontology. It is directed toward graduate students pursuing the PhD as well as a limited number of post-doctoral fellows who develop research and academic careers in specialized areas of gerontology. Research training is carried out within individual disciplines.

Undergraduate Programs

Minors in Gerontology

The undergraduate minor program gives students the option of combining their major with an emphasis in gerontology. The minors provide students with the opportunity to supplement their education with a life course perspective of aging processes.

The minor programs, which are multidisciplinary in nature, allow the student to survey the sociological, political, psychological and biological aspects of aging; to gain an understanding of the current services available to older persons; and to examine the contemporary policy issues facing the field.

The two minors include the social science-focused Individuals, Societies and Aging and the health science-focused Science, Health and Aging.

Bachelor of Science in Human Development and Aging

The Bachelor of Science in Human Development and Aging is an undergraduate degree offered at the USC Leonard Davis School of Gerontology that allows students to specialize within a social science or health science track. Students specializing in the social science track often pursue careers related to older adults in business, law, the nonprofit sector or government agencies, psychology and sociology. The health science track combines the core gerontology curriculum with the prerequisites for admission to medical school and other health-related fields including: dentistry, pharmacy, nursing and others. In addition, students will participate in a supervised practicum experience in which they will become directly involved with aging clients in a health care setting.

Bachelor of Science in Lifespan Health

The Bachelor of Science in Lifespan Health prepares students for admission to a graduate or professional school with an emphasis on the biomedical aspects of health including disease prevention, detection and treatment. This program is designed for students wishing to pursue graduate studies in an allied health field such as dental hygiene, occupational/physical therapy, physician assistant, nutrition and other related fields.

Bachelor of Arts in Health and Humanity

The USC Leonard Davis School of Gerontology offers undergraduate classes through the Health and Humanity major in the USC Dornsife College of Letters, Arts and Sciences (see the Health and Humanity page).

Progressive Degree in Gerontology/Master of Science in Gerontology, Master of Arts in Aging Services Management, Master of Arts in Senior Living Hospitality, or Master of Arts in Medical Gerontology

The progressive degree program allows high performing students to integrate their current undergraduate major with a Master of Science in Gerontology, Master of Arts in Aging Services Management, Master of Arts in Senior Living Hospitality, or Master of Arts in Medical Gerontology.

Students will meet with the gerontology student adviser to develop a course plan that must be approved by the USC Leonard Davis School of Gerontology and the student's home department. Students admitted into the progressive degree program begin taking master's level courses in their senior year and will complete the master's degree in year five. For more information on the admission process, see the gerontology student adviser. The total number of units for the master's degree, however, may be reduced by a maximum of one third. Students must obtain permission from both the bachelor's degree granting program and the USC Leonard Davis School of Gerontology. This program may be particularly attractive to students majoring in biology, psychology, policy and sociology. For more information on progressive degrees, see the entry under Undergraduate Programs or Graduate and Professional Education.

Graduate Degrees

Master of Science in Gerontology

The Master of Science in Gerontology prepares graduates to assume major leadership roles in the field of aging, primarily in the planning, administration and evaluation of programs in the private and public sectors, as well as executive positions in the delivery of direct services to older people and their families and in

the instruction of older adults and service providers. The Master of Science in Gerontology requires 44 units of course work. This includes 32 units of required courses and 12 units of electives. As part of this curriculum, a field practicum assures that these skills can be applied in agencies and institutional settings. This program is offered in both residential and online formats.

Master of Arts in Gerontology

The Master of Arts in Gerontology provides an opportunity to acquire skills and formal training in gerontology. This program is offered in both residential and online formats. Admission standards and prerequisites are the same as listed for the Master of Science in Gerontology with the exception that students in the online MA program are expected to have a significant amount of experience working in human services, health care, business or similar settings. The program consists of 28 units of course work.

Master of Arts in Aging Services Management

The Master of Arts in Aging Services Management provides an opportunity for those seeking careers in the aging services industries to acquire skills and knowledge related to management of services, products and programs for older persons. The program requires a minimum of 12 units of core courses (three courses) and 20 units of electives (five courses). This program is offered in both residential and online formats. Continuous registration in the program is required.

Master of Arts in Long Term Care Administration

The Master of Arts in Long Term Care Administration provides an opportunity for professionals who are currently working in a long term care profession to acquire skills and formal training in long term care administration. The online program requires 28 units of course work. This program is offered in both residential and online formats.

Master of Science in Nutrition, Healthspan and Longevity

This degree is for those who want to pursue a career in nutrition and dietetics. It can lead to working in health care facilities, long-term care and supported living environments, tertiary and community hospitals, university and school food service programs, a business involving personal wellness, private practice, scientific research on nutrition's role in health and longevity, or in policy and advocacy. The program promotes health and longevity based on scientific evidence, integrating academic study with professional practice experience. The program requires 44 units of course work and 1,200 hours of supervised practice in hospital, community, and food service settings. Prerequisite courses are required as well as 40 hours of paid or volunteer work experience with a Registered Dietitian. The program is a candidate for accreditation by the Accreditation Council for Education in Nutrition and Dietetics. Graduates are eligible to take the Commission of Dietetics Registration's national registration examination and receive the Registered Dietitian Nutritionist (RDN) credential upon passing the examination.

Master of Arts in Senior Living Hospitality

The Master of Arts in Senior Living Hospitality (MASLH) provides an opportunity for those seeking careers in the senior living industry to acquire skills and knowledge related to management of senior living organizations. The program requires a minimum of 31 units of core courses and 12 units of electives.

Master of Arts in Medical Gerontology

The Master of Arts in Medical Gerontology prepares graduates to become leaders in providing care to older persons throughout the world. The program requires 33 units of course work. This includes 25 units of required courses and 8 units of electives.

Master of Arts in Foodservice Management and Dietetics

The Master of Arts in Foodservice Management and Dietetics focuses on the principles and practices of lifespan nutrition and wellness, food safety, the design and organization of food service systems, purchasing and personnel management using classroom learning as well as research application to address industry problems and find solutions. The program requires 32 units of course work.

Master of Science in Lifespan, Nutrition and Dietetics

The Master of Science in Lifespan, Nutrition and Dietetics prepares graduates with advanced training in nutrition through both course work, research and internship experience. The MSLND requires 38 units of course work.

Master of Science in Nutritional Science

The Master of Science in Nutritional Science provides students with advanced understanding of lifespan human nutrition through course work and research. The program requires 32 units of course work. The program offers both on-campus and online asynchronous courses and can be completed in 1-3 years.

Graduate Level Certificate in Gerontology

The graduate certificate in gerontology program provides an opportunity for those who have completed a bachelor's degree in another profession or discipline and are employed in the field of aging to acquire a greater understanding of gerontology theory and research. The program consists of 16 units of gerontology content designed to familiarize the student with several areas of the field that relate to professional practice. This program is offered in both residential and online formats.

Doctor of Philosophy in Gerontology

PhD in Gerontology students learn about the physiology of human development and aging, examining social policies related to aging as well as the psychological, behavioral and sociological impact on lifespan development. Working closely with a faculty mentor, they concentrate on a specific area of interest and begin the process of discovering and shaping their own academic specialization. They work closely with faculty on research and publications, participate in colloquia, attend and present at national organization meetings, acquire teaching experience and develop a rich academic, personal, and professional network. The program requires 60 units of course work and at least four additional dissertation units and is only available as a residential program.

Doctor of Philosophy in the Biology of Aging

The PhD in the Biology of Aging program is designed for students who want to become leaders in biogerontology. The focus is on molecular, cellular, and regenerative medicine as well as the integrative biology of aging. This unique doctoral program, the first of its kind in the field, brings together two world-renowned institutions: the USC Leonard Davis School and the Buck Institute for research on Aging in Northern California. Students can choose a mentor and PhD faculty committee from either the Buck Institute or USC. Students' academic and research activities take place on both the Southern and Northern California locations. Candidates take core courses on the molecular and cellular biology of aging and age-related diseases, and then select a track among neuroscience, molecular, and cellular biology, stem cell and regenerative sciences, and biomedical sciences. The program requires 60 units of work, including courses, seminars and research credit. At least 24 of the 60 units must be formal graduate course work (lectures or seminars). It is only available as a residential program.

Doctorate of Longevity Arts and Sciences

Students enrolled in the Doctorate of Longevity Arts and Sciences (DLAS) will learn about the human potential for healthspan, lifespan and meaning. This program seeks to provide a framework to advance the concept of meaning-making through the biological, sociological and psychological sciences. The program requires 60 units of work.

Dual Degree Programs

The USC Leonard Davis School of Gerontology cooperates with five other professional schools at USC in offering programs in which the student receives two master's degrees. These degrees provide the student with the knowledge and skills of gerontology as well as those of the other professional field. The dual degrees require more course work than the MS alone but offer the graduate greater breadth of education and employment options.

Dual degrees currently available are the Master of Science in Gerontology and the Master of Business Administration (MS/MBA) with the Marshall School of Business; the Master of Science in Gerontology and the Juris Doctor (MS/JD) with the Gould School of Law; the Master of Science in Gerontology and the Master of Public Administration (MS/MPA), and the Master of Science in Gerontology and the Master of Health Administration (MS/MHA) with the Price School of Public Policy; the Master of Science in Gerontology and the Master of Social Work (MS/MSW) with the Suzanne Dworak-Peck School of Social Work; and the Master of Science in Gerontology and the Doctor of Pharmacy (MS/PharmD) with the School of Pharmacy. Students must apply to both schools and if accepted to both, participate in specially designed programs combining the courses of each school.

Applicants to any of the dual degree programs must submit two separate applications to the Office of Admissions; one for the gerontology program and one indicating the other degree program. Each of the schools must accept the student for admission. Acceptance into one school's degree program does not imply acceptance into the dual degree program.

Gerontology and Business Administration

See Marshall Research Centers and Institutes for requirements.

Gerontology and Public Administration

The MS/MPA dual degree offers the student interested in management of agencies and institutions the opportunity to gain in-depth knowledge of the administrative and organizational processes and management skills necessary for the effective delivery of services to older persons. See the USC Price School of Public Policy for course requirements.

Gerontology and Health Administration

Students can specialize in health care administration (profit and non-profit) through the dual degree with the Price School of Public Policy's Health Administration Program. See the USC Price School of Public Policy for course requirements.

Gerontology and Social Work

See Master of Science, Gerontology/Master of Social Work (MS/MSW) for requirements.

Gerontology and Pharmacy

See Doctor of Pharmacy/Master of Science, Gerontology (PharmD/MS) for requirements.

Gerontology and Law

The MS/JD dual degree combines the knowledge of the older population with understanding of the legal system. The program prepares graduates for a number of roles in both public and private sector organizations. Students are required to complete 110 units of course work, 74 from the Gould School of Law and 36 from the Leonard Davis School of Gerontology. The first year is devoted to required law courses, and the second, third and fourth years combine gerontology and law courses. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to the rule for students enrolled in the law school honors program. See the USC Gould School of Law for course requirements.

Bachelor's Degree

Human Development and Aging (BS)

The Bachelor of Science in Human Development and Aging is an undergraduate degree offered at the USC Leonard Davis School of Gerontology in the social sciences. Students in this program often pursue careers related to older adults in business, law, the nonprofit sector or government agencies.

Students may also specialize in a health science track. The health science track combines the core gerontology curriculum with the prerequisites for admission to medical school and other health-related fields including: dentistry, pharmacy, occupational/physical therapy, physician assistant programs and others. In addition, students will participate in a supervised practicum experience in which they will become directly involved with aging clients in a health care setting.

Students planning to pursue a BS are urged to notify the school of this intent as early as possible during their undergraduate study. This will help ensure that the student receives proper advisement and that the student is alerted to any special requirements or program modifications.

During the freshman and sophomore years, students enroll primarily in general education required courses as specified by the university and the Human Development and Aging course (GERO 200).

During their junior and senior years, students enroll in required and elective courses in the School of Gerontology as well as other courses throughout the university. These courses are selected in consultation with an adviser and reflect the personal and professional interests of the students.

The honors program is available to juniors who maintain a GPA of 3.5 in gerontology and a GPA of 3.3 in other USC course work. The honors program includes mentored training in research and course work relevant to research methodology and statistics.

A grade point average of at least C (2.0) on all units attempted at USC is required for undergraduate degrees. The School of Gerontology requires a minimum 2.0 grade point average in upper division courses applied toward the major.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies). See *dornsife.usc.edu/2015ge* for more information.

Foreign Language or Programming Skills (12 Units)

Students must satisfy the skill level requirement in one language or complete ITP 101 and additional ITP 100-level programming courses to total 12 units. Students in the health science track are required to complete only ITP 101 and ITP 102 .

Degree Requirements

Required Courses

- GERO 200 Gerontology: The Science of Adult Development Units: 4
- GERO 320g Psychology of Adult Development Units: 4
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 416 Health Issues in Adulthood Units: 4
- GERO 491 Practicum Units: 2-8 (4 units)
- GERO 492 Senior Seminar Units: 4
- General Education Units: 24
- Writing Requirement Units: 8
- Foreign Language or Programming Units: 12
- Gerontology electives Units: 20
- One approved statistics course Units: 4
- General electives in gerontology or related disciplines (8 units upper division) Units: 32

Total Units: 128

Recommended General Electives

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- GERO 481 Case Management for Older Adults Units: 4
- HP 402 Maternal and Child Health Units: 4

- LING 405 Child Language Acquisition Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 336L Developmental Psychology Units: 4 *
- PSYC 437 Adolescent Development Units: 4 *
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 369 The Family in a Changing Society Units: 4

Note:

**Prerequisite required.*

Human Development and Aging, Health Science Track (BS)

The Bachelor of Science in Human Development and Aging is an undergraduate degree offered at the USC Leonard Davis School of Gerontology in the social sciences. Students in this program often pursue careers related to older adults in business, law, the nonprofit sector or government agencies.

The health science track combines the core gerontology curriculum with the prerequisites for admission to medical school and other health-related fields including: dentistry, pharmacy, occupational/physical therapy, physician assistant programs and others. In addition, students will participate in a supervised practicum experience in which they will become directly involved with aging clients in a health care setting.

Requirements for Admission

The listed requirements for admission to the health science track in human development and aging will not differ from existing requirements for admission to the Bachelor of Science in Human Development and Aging. However, because health professional schools are very competitive, USC students interested in this program will be expected to have achieved at least a 3.0 grade point average (A = 4.0). Students entering the program from high schools or transferring from community colleges will also be expected to meet the minimum admission standards.

Degree Requirements

Science and Mathematics

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4 *
- CHEM 105bL General Chemistry Units: 4 *
- CHEM 322aL Organic Chemistry Units: 4 *
- CHEM 322bL Organic Chemistry Units: 4 *
- MATH 125g Calculus I Units: 4 *
- PHYS 135ag Physics for the Life Sciences Units: 4 *
- PHYS 135bL Physics for the Life Sciences Units: 4 *

Total units: 36

Gerontology Upper Division Core Courses

- GERO 310 Physiology of Aging Units: 4 *
- GERO 320g Psychology of Adult Development Units: 4 or
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 414 Neurobiology of Aging Units: 4 *
- GERO 495 Practicum in Geriatric Care Units: 4

Total units: 20

Additional Requirements

- General Education Units: 24
- Writing Requirement Units: 8
- Gerontology upper division electives Units: 12
- General electives in gerontology or related disciplines (8 units upper division) Units: 28

Total units: 72

Total units: 128

Recommended General Electives

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- BISC 480L Developmental Biology Units: 4 *
- HP 402 Maternal and Child Health Units: 4
- LING 405 Child Language Acquisition Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 336L Developmental Psychology Units: 4 *
- PSYC 437 Adolescent Development Units: 4 *
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 369 The Family in a Changing Society Units: 4

Note:

**Prerequisite required.*

Human Development and Aging, Honors Programs (BS)

USC Davis offers an honors program to outstanding students already pursuing studies for the BS in Human Development and Aging degree. This program offers students an opportunity to participate in mentored undergraduate research, taking course work in research methods and statistics in aging, and experience in writing an honors thesis that summarizes the research project. Honors students are required to complete GERO 497a, GERO 497b, GERO 497c for a total of 6–8 units, beginning in the fall or spring of the junior year. In the senior year, they must complete GERO 593 Research Methods with a minimum grade of B. GERO 593 is offered only in the fall semester. Completion of the program requires a minimum GPA of 3.5 in gerontology and 3.3 in other courses. The program leads to the designation on the transcript of Bachelor of Science in Human Development and Aging with Honors.

The student takes 2 units of GERO 497a in the fall or spring of the junior year as a mentored research course to begin the process of developing an honors thesis. This would be in lieu of elective units. In the fall of the junior or senior year the student would complete GERO 593 for 4 units and 2 units of GERO 497b, both in lieu of elective units. Also during the fall semester, the research design and methods for the honors thesis are finalized and the research project begun. In the spring, the student would register for 2–4 units of GERO 497c in lieu of elective units. The goal for that semester is to complete the research and write the honors thesis.

Degree Requirements

Required Courses

- GERO 200 Gerontology: The Science of Adult Development Units: 4
- GERO 320g Psychology of Adult Development Units: 4
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 350 Administrative Problems in Aging Units: 2 or 4
- GERO 416 Health Issues in Adulthood Units: 4
- GERO 481 Case Management for Older Adults Units: 4
- GERO 491 Practicum Units: 2-8
- GERO 492 Senior Seminar Units: 4
- General Education Units: 24
- Writing Requirement Units: 8
- Foreign Language or Programming Units: 12
- Gerontology electives Units: 12
- One approved statistics course Units: 4
- Electives in gerontology and related disciplines Units: 20–22

Total units: 116-118

Gerontology Honors Courses

- GERO 497a Honors Seminar Units: 2 *
- GERO 497b Honors Seminar Units: 2 *
- GERO 497c Honors Seminar Units: 2-4 *
- GERO 593 Research Methods Units: 4

Total units: 10-12

Total units: 128

**Prerequisite required.*

Requirements for Completion of the Health Science Honors Track

Science and Mathematics

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4 *
- CHEM 105bL General Chemistry Units: 4 *
- CHEM 322aL Organic Chemistry Units: 4 *
- CHEM 322bL Organic Chemistry Units: 4 *
- MATH 125g Calculus I Units: 4 *
- PHYS 135ag Physics for the Life Sciences Units: 4 *
- PHYS 135bL Physics for the Life Sciences Units: 4 *

Total units: 36

Gerontology Upper Division Core Courses

- GERO 310 Physiology of Aging Units: 4 *
- GERO 320g Psychology of Adult Development Units: 4 or
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 414 Neurobiology of Aging Units: 4 *
- GERO 495 Practicum in Geriatric Care Units: 4

Total units: 20

Additional Requirements

- ITP 101 Introduction to Business Information Technologies Units: 2

Total units: 60-62

Gerontology Honors Courses

- GERO 497a Honors Seminar Units: 2 *
- GERO 497b Honors Seminar Units: 2 *
- GERO 497c Honors Seminar Units: 2-4 *
- GERO 593 Research Methods Units: 4

Total units: 10-12

Total units: 128

**Prerequisite required.*

Lifespan Health (BS)

The Bachelor of Science in Lifespan Health prepares students for admission to a graduate or professional school with an emphasis on the biomedical aspects of health including disease prevention, detection and treatment. This program is designed for students wishing to pursue graduate studies in a health field such as medicine, pharmacy, occupational/physical therapy, psychology and other related fields.

Admission to this program is granted through USC's admission process, described in the admission section of this catalogue. The same foreign language or programming skills requirement for the Bachelor of Science in Human Development and Aging default Social Science track (12 units total) is required as well as the USC General Education program. Students must enroll in the following courses:

Gerontology Required Courses (28 units)

- GERO 200 Gerontology: The Science of Adult Development Units: 4
- GERO 310 Physiology of Aging Units: 4
- GERO 320g Psychology of Adult Development Units: 4
- GERO 416 Health Issues in Adulthood Units: 4
- GERO 483 Global Health and Aging Units: 4
- GERO 492 Senior Seminar Units: 4
- GERO 495 Practicum in Geriatric Care Units: 4

Choose Three from the Following Five Courses (12 units)

- GERO 414 Neurobiology of Aging Units: 4 *
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4 **
- GERO 440 Biodemography of Aging Units: 4 *
- GERO 475 Ethical Issues in Geriatric Health Care Units: 4
- GERO 481 Case Management for Older Adults Units: 4

Gerontology Electives (12 units)

Electives (32 units)

Notes:

**Prerequisite required.*

***GERO 437 must be taken for 4 units of credit*

Minor

Individuals, Societies and Aging Minor

This minor is a fit for students in business, engineering, communication, cinematic arts, or arts and sciences interested in developing a broad knowledge of issues in aging. Based largely on disciplines in the behavioral and social sciences, students learn how aging will impact their lives, families and careers. Upon completion of 20 units and graduation, the minor is noted on the student's transcript.

Required Courses

- GERO 320g Psychology of Adult Development Units: 4
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4

Select two from the following:

- GERO 380m Diversity in Aging Units: 4
- GERO 416 Health Issues in Adulthood Units: 4
- GERO 435m Women and Aging: Psychological, Social and Political Implications Units: 4
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4
- GERO 481 Case Management for Older Adults Units: 4
- GERO 491 Practicum Units: 2-8

Total units: 20

Science, Health and Aging Minor

The science, health and aging minor is appropriate for students working toward careers in medicine, dentistry, pharmacy, biological sciences, public health or other health related fields. Admission to the minor is only available to students who have completed 4 units of prerequisites (BISC 220 or BISC 221) as part of their major requirements. Upon completion of 20 units and graduation, the minor is noted on the student's transcript.

Required Courses

- GERO 310 Physiology of Aging Units: 4
- GERO 414 Neurobiology of Aging Units: 4
- GERO 416 Health Issues in Adulthood Units: 4 or
- GERO 496 Introduction to Clinical Geriatrics Units: 4

Select two from the following:

- GERO 315g A Journey into the Mind Units: 4
- GERO 415 Neuroaffective Disorders of Aging Units: 4
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4
- GERO 440 Biodemography of Aging Units: 4
- GERO 475 Ethical Issues in Geriatric Health Care Units: 4
- GERO 495 Practicum in Geriatric Care Units: 4

Total units: 20

Master's Degree

Advanced Placement Gerontology (MS)

The Advanced Placement MS program allows the outstanding student who has completed a Bachelor of Science in Gerontology to waive several courses in order to complete the master's degree in 36 units rather than the 44 units for the regular program.

Required Courses

- GERO 510 Physiology of Development and Aging Units: 4 or
- GERO 520 Life Span Developmental Psychology Units: 2 or 4 or
- GERO 530 Life Span Developmental Sociology Units: 4 or
- GERO 540 Social Policy and Aging Units: 4

- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- Gerontology skill requirements Units: 12
- Gerontology electives Units: 4

Total units: 36

Program Adaptation

Three of the following courses, GERO 510, GERO 520, GERO 530 and GERO 540, will be waived for students in the advanced placement track. Advanced placement students admitted to dual degree programs must meet curriculum requirements for the respective programs.

Aging Services Management (MA)

The Master of Aging Services Management provides an opportunity for those seeking careers in the aging services industries to acquire skills and knowledge related to management of services, products and programs for older persons. The program requires a minimum of 12 units of core courses (three courses) and 20 units of electives (five courses). All graduate level courses are offered on campus and via the Internet. Continuous registration in the program is required. Leaves of absence are available for limited times and are excluded from the total time.

In order to participate in online courses, students will be required to have access to a computer with multimedia capability including a laptop or desktop computer with broadband (high speed) internet capability including a web browser, word processing software and presentation software, as well as a printer. Specific details regarding the computer requirements will be provided by the department. This program is available as a progressive degree (see Progressive Degree in Gerontology).

Students applying to the Master of Aging Services Management must have a bachelor's degree from an accredited college or university with a GPA of 3.0. If the applicant's GPA falls below 3.0 the GRE will be required.

Students must choose a minimum of 12 units of core courses from the following:

Core Courses (12 units)

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 501 Applied Legal and Regulatory Issues in Aging Units: 4
- GERO 502 Marketing and Shifts in Consumer Decision Making Units: 4
- GERO 504 Current Issues in Aging Services Management Units: 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4

Elective Courses (20 units)

Students must select five electives (for a total of 20 units) of Gerontology courses from the list below. Core courses may not double count as electives, but core courses taken in excess of the 12 units required may be used toward the elective units. Students may take any elective courses below with a few limitations:

1. GERO 499 and GERO 599 may be taken in consultation with the academic adviser
2. A maximum of two GERO 400-level courses from the list below
3. A maximum of 4 units of GERO 590
4. A maximum of 8 units of GERO 591

- GERO 493p Longevity and Death among Ancient and Modern European Populations (Italy) Units: 2
- GERO 494 Emotion-Cognition Interactions and Aging Units: 4
- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 499 Special Topics Units: 2-4
- GERO 505 Housing and Community Policies and Programs Units: 4
- GERO 506 Technological Innovations in Aging (Gerontechnology) Units: 4
- GERO 507 End of Life Care Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 509 Mindful Aging: Spirituality, Gratitude, and Resilience Units: 4
- GERO 510 Physiology of Development and Aging Units: 4
- GERO 514 The Art of Geriatric Symptom Management Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 541 Health Care Delivery Models: Comparative Approaches Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 551 Applied Policy Skills in Aging Units: 4
- GERO 552 Human Resources and Aging Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 561 Introduction to Aging and Normal Changes with Aging Units: 4
- GERO 562 Diseases of Aging with Emphasis on Cardiovascular Disease and Diabetes Units: 4
- GERO 563 Geronpsychology Units: 4
- GERO 564 Multiple Chronic Conditions and Older Adults Units: 4
- GERO 565 Novel Technologies in Aging and Assisted Living Units: 4
- GERO 566 Cognitive Decline: Alzheimer's Disease and Dementia and Advances in Imaging Units: 4
- GERO 567 Prevention of Chronic Diseases through Nutrition, Physical Activity and Lifestyle Changes Units: 4
- GERO 568 Adaptive Age-Friendly Environments and Injury Prevention Units: 4
- GERO 585 The Aging Family Units: 2 or 4
- GERO 590 Directed Research Units: 1-12
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- GERO 599 Special Topics Units: 2-4

Total Units: 32

Applied Technology and Aging (MS)

This program is for those interested in applying technology to the challenges faced by an increasingly aging population. Ideally, for those with engineering, design or healthcare backgrounds or for those whose career objectives lead to application of technology in senior living or service organizations.

Applicants to the program are expected to have an undergraduate degree from an accredited college or university preferably from a relevant field of study.

Required Courses

Students must take 20 units of the following five courses plus 4 units of GERO 591 Field Practicum. (24 units total of required courses).

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4

- GERO 502 Marketing and Shifts in Consumer Decision Making Units: 4
- GERO 506 Technological Innovations in Aging (Gerontechnology) Units: 4
- GERO 565 Novel Technologies in Aging and Assisted Living Units: 4
- GERO 568 Adaptive Age-Friendly Environments and Injury Prevention Units: 4
- GERO 591 Field Practicum Units: 1-12

Electives

Students must choose two courses from the following electives (8 units). Students may take up to 8 units of Directed Research.

- GERO 501 Applied Legal and Regulatory Issues in Aging Units: 4
- GERO 510 Physiology of Development and Aging Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 563 Geronpsychology Units: 4
- GERO 564 Multiple Chronic Conditions and Older Adults Units: 4
- GERO 566 Cognitive Decline: Alzheimer's Disease and Dementia and Advances in Imaging Units: 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4
- GERO 590 Directed Research Units: 1-12
- GERO 592 Multidisciplinary Research Seminar in Aging Units: 2
- GERO 593 Research Methods Units: 4

Foodservice Management and Dietetics (MA)

The degree focuses on the principles and practices of lifespan nutrition and wellness, food safety, the design and organization of food service systems, purchasing and personnel management using classroom learning as well as research application to address industry problems and find solutions. Graduates may seek roles in long-term care, hospitals, government and other public and private foodservice operations. The degree prepares graduates to sit for the Certifying Board for Dietary Managers (CBDM®) Credentialing Exam. Graduates will work with multidisciplinary teams to provide quality food production, service and nutritional care and are an integral member of the health care team.

Continuous registration in the program is required. Leaves of absence are available for limited times and may require the student to wait until the next year to re-enroll as some courses are offered annually, and must be taken sequentially. A maximum of two leaves of absence is allowed.

In order to participate online, students will be required to have access to a computer with multimedia capability including high-speed Internet access, audio and a digital video camera. Specific details regarding computer requirements will be provided by the program.

Prerequisites for Admission

Students applying for admission to the Master of Science in LIfespan, Nutrition and Dietetics program must have a bachelor's degree from an accredited college or university. In addition, the following prerequisites must be complete before starting the program: human physiology, microbiology, biochemistry and introductory nutrition.

In selecting applicants for admission, the USC Leonard Davis School of Gerontology considers both academic potential (as reflected in undergraduate study with a GPA greater than 3.0) and professional potential (as reflected in experience, references and career goals). The school requests information from applicants to supplement that supplied by the USC Application for Graduate Admission. Supplemental information includes a résumé, statement of interest in nutrition and longevity and two letters of reference. Interviews may be required for highest ranking applicants.

Probation and Disqualification

Probation and Warning: Any graduate student with a cumulative or semester grade point average in the university falling below B (3.0) will be placed on academic probation. A graduate student whose semester average falls below B (3.0) but whose cumulative grade point average in the university is 3.0 (A = 4.0) or higher will be placed on academic warning. Students will not be allowed to begin supervised field practice in the second semester if any first semester grades fall below a B (3.0).

Disqualification: A graduate student on academic probation will be disqualified if his or her cumulative record accumulates more than 12 units of C work. A graduate student, whether on probation or not, will be subject to disqualification if the Student Affairs Committee of the USC Leonard Davis School of Gerontology at any time determines deficiency in academic achievement.

Required Courses

Students must take all 10 courses listed below which total 32 units.

- GERO 488 Food, Culture, Disease and Longevity in Italy and in the Mediterranean Units: 4
- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 512 Communicating Nutrition and Health Units: 2
- GERO 515L Food Production and Food Service Management Units: 4
- GERO 567 Prevention of Chronic Diseases through Nutrition, Physical Activity and Lifestyle Changes Units: 4
- GERO 577 Food Service and Senior Living Units: 2
- GERO 578 Revenue Management for Senior Living Units: 2
- GERO 591 Field Practicum Units: 1-12 (2 units required)
- GERO 592 Multidisciplinary Research Seminar in Aging Units: 2 (4 units required)
- GERO 593 Research Methods Units: 4

Gerontology (MA)

The MA in Gerontology provides an opportunity to acquire skills and formal training in gerontology. Most courses are offered online and on campus.

Continuous registration in the program is required. Leaves of absence are available for limited times and are excluded from the total time limit.

In order to participate in the online courses, students will be required to have access to a laptop or desktop computer with broadband (high speed) internet capability including a web browser, word processing software and presentation software, as well as a printer. Specific details regarding the computer requirements will be provided by the department.

Admission standards and prerequisites are the same as listed for the Master of Science in Gerontology with the exception that students in the online MA program are expected to have a significant amount of experience working in human services, health care, business or similar settings. Students are not required to have taken an approved additional course.

Required Courses (20 units)

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4

Elective Courses (8 units)

Students must select two electives (for a total of 8 units) of Gerontology courses from the list below. Students may take a maximum of one GERO 400 level course from the list below. Students may also take GERO 499 and GERO 599 in consultation with the academic adviser.

- GERO 493p Longevity and Death among Ancient and Modern European Populations (Italy) Units: 2
- GERO 494 Emotion-Cognition Interactions and Aging Units: 4
- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 499 Special Topics Units: 2-4

- GERO 501 Applied Legal and Regulatory Issues in Aging Units: 4
- GERO 502 Marketing and Shifts in Consumer Decision Making Units: 4
- GERO 504 Current Issues in Aging Services Management Units: 4
- GERO 505 Housing and Community Policies and Programs Units: 4
- GERO 506 Technological Innovations in Aging (Gerontechnology) Units: 4
- GERO 507 End of Life Care Units: 4
- GERO 509 Mindful Aging: Spirituality, Gratitude, and Resilience Units: 4
- GERO 510 Physiology of Development and Aging Units: 4
- GERO 514 The Art of Geriatric Symptom Management Units: 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 541 Health Care Delivery Models: Comparative Approaches Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 551 Applied Policy Skills in Aging Units: 4
- GERO 552 Human Resources and Aging Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 561 Introduction to Aging and Normal Changes with Aging Units: 4
- GERO 562 Diseases of Aging with Emphasis on Cardiovascular Disease and Diabetes Units: 4
- GERO 563 Geronpsychology Units: 4
- GERO 564 Multiple Chronic Conditions and Older Adults Units: 4
- GERO 565 Novel Technologies in Aging and Assisted Living Units: 4
- GERO 566 Cognitive Decline: Alzheimer's Disease and Dementia and Advances in Imaging Units: 4
- GERO 567 Prevention of Chronic Diseases through Nutrition, Physical Activity and Lifestyle Changes Units: 4
- GERO 568 Adaptive Age-Friendly Environments and Injury Prevention Units: 4
- GERO 585 The Aging Family Units: 2 or 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4
- GERO 593 Research Methods Units: 4
- GERO 599 Special Topics Units: 2-4

Total units: 28

Gerontology (MS)

The Master of Science in Gerontology prepares graduates to assume major leadership roles in the field of aging, primarily in the planning, administration and evaluation of programs in the private and public sectors, as well as executive positions in the delivery of direct services to older people and their families and in the instruction of older adults and service providers. The Master of Science in Gerontology requires 44 units of course work. This includes 32 units of required courses and 12 units of electives. As part of this curriculum, a field practicum assures that these skills can be applied in agencies and institutional settings.

All students take core courses in physiological, psychological, sociological, social policy and professional issues relating to aging, as well as research methods and the capstone course.

The course work includes instruction on the processes of aging and professional courses designed to develop the skills needed for practice. The field practicum includes one or two semesters of practical experience working in an organizational setting.

Continuous registration in the program is required. There is a five year completion time limit for the degree. Leaves of absence are available for limited times and are excluded from the total time limit. A maximum of two absences (one year each) is allowed. Most courses are offered on campus and online.

Prerequisites for Admission

Students applying for admission to the Master of Science in Gerontology program must have a bachelor's degree from an accredited college or university. In selecting applicants for admission, the School of Gerontology considers both academic potential (as reflected in undergraduate study or scores on the Graduate Record Examinations) and professional potential (as reflected in experience, references and career goals). The school requests information from applicants to supplement that supplied by the USC Application for Graduate Admission. Such supplemental information usually includes a resume, statement of interest in gerontology and letters of reference. Interviews may be required.

Probation and Disqualification

Probation and Warning: Any graduate student whose cumulative or semester grade point average in the university falls below B (3.0) will be placed on academic probation. A graduate student whose semester average falls below B (3.0) but whose cumulative grade point average in the university is 3.0 (A = 4.0) or higher will be placed on academic warning.

Disqualification: A graduate student on academic probation will be disqualified if his or her cumulative record accumulates more than 12 units of C work. A graduate student, whether on probation or not, will be subject to disqualification if the Student Affairs Committee of the USC Leonard Davis School at any time determines deficiency in academic achievement.

Common Requirements

All candidates for the Master of Science degree must complete the following common requirements:

Required Courses

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Total units: 28

Capstone Course

- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4

Suggested Electives (12 Units)

- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 551 Applied Policy Skills in Aging Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 591 Field Practicum Units: 1-12

Total units: 44

Additional Requirements

Common requirements for all programs include the 28 required units and GERO 555, totaling 32 units. In addition, each candidate must complete the 12 units of electives chosen from the complete list of electives approved by the student's adviser.

Field Practicum

The field practicum provides the opportunity for the student to gain valuable experience and develop needed skills by working in a community agency or institution. It involves a minimum of 240 hours of involvement. Students may elect to take an additional 4 units of GERO 591 Field Practicum as an elective.

Field placement assignments are made by the internship coordinator of the school in consultation with the student and in

accordance with the resources available in the community. Every effort is made to secure placement, which will reflect the student's capacity to assume the responsibilities of a professional in gerontology. Evaluations of the student's performance are sent to the school by the community agency; the student receives a grade of credit/no credit in GERO 591 Field Practicum.

Lifespan, Nutrition and Dietetics (MS)

The Master of Science in Lifespan, Nutrition and Dietetics (MSLND) prepares graduates with advanced training in nutrition through both course work, research and internship experience. The degree prepares graduates to assume positions internationally in nutrition and dietetics and equips graduates to plan, deliver and administer programs in the private and public sectors. The degree prepares graduates to assume leadership roles in the field of nutrition and dietetics with a focus on wellness and longevity. The MSLND requires 38 units of course work. As part of this curriculum, a field practicum assures that these skills can be applied in agencies and organizational settings. This program is offered in both residential and online formats. This program is *not* accredited by the Accreditation Council in Nutrition and Dietetics (ACEND). Graduates would be eligible to sit for the Certified Dietary Manager (CDM) Exam.

Continuous registration in the program is required. Leaves of absence are available for limited times and may require the student to wait until the next year to re-enroll as some courses are offered annually and must be taken sequentially. A maximum of two leaves of absence is allowed.

In order to participate online, students will be required to have access to a computer with multimedia capability including high-speed Internet access, audio and a digital video camera. Specific details regarding computer requirements will be provided by the program.

Prerequisites for Admission

Students applying for admission to the Master of Science in Lifespan, Nutrition and Dietetics program must have a bachelor's degree from an accredited college or university. In addition, the following prerequisites must be complete before starting the program: human physiology, microbiology, biochemistry and introductory nutrition.

In selecting applicants for admission, the USC Leonard Davis School of Gerontology considers both academic potential (as reflected in undergraduate study with a GPA greater than 3.0) and professional potential (as reflected in experience, references and career goals). The school requests information from applicants to supplement that supplied by the USC Application for Graduate Admission. Supplemental information includes a résumé, statement of interest in nutrition and longevity and two letters of reference. Interviews may be required for highest-ranking applicants.

Probation and Disqualification

Probation and Warning: Any graduate student with a cumulative or semester grade point average in the university falling below B (3.0) will be placed on academic probation. A graduate student whose semester average falls below B (3.0) but whose cumulative grade point average in the university is 3.0 (A = 4.0) or higher will be placed on academic warning. Students will not be allowed to begin supervised field practice in the second semester if any first semester grades fall below a B (3.0).

Disqualification: A graduate student on academic probation will be disqualified if his or her cumulative record accumulates more than 12 units of C work. A graduate student, whether on probation or not, will be subject to disqualification if the Student Affairs Committee of the USC Leonard Davis School of Gerontology at any time determines deficiency in academic achievement.

Course Requirements

All candidates for the Master of Science in Lifespan, Nutrition and Dietetics degree must complete the following required courses:

Required Courses

A minimum of 38 units is required.

- GERO 488 Food, Culture, Disease and Longevity in Italy and in the Mediterranean Units: 4
  or
- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 511 Fundamentals of Clinical Nutrition Screening and Assessment Units: 4
- GERO 512 Communicating Nutrition and Health Units: 2
- GERO 513 Fundamentals of Nutrition: Macronutrients Units: 2
- GERO 515L Food Production and Food Service Management Units: 4
- GERO 517L Advanced Therapeutic Nutrition Units: 4
- GERO 560 Fundamentals of Nutrition: Micronutrients Units: 4
- GERO 590 Directed Research Units: 1-12 (2 units required)
- GERO 591 Field Practicum Units: 1-12 (4 units required)
- GERO 593 Research Methods Units: 4
- GERO 599 Special Topics Units: 2-4 (4 units required)

Long Term Care Administration (MA)

The Long Term Care Administration (MA) provides an opportunity for professionals who are currently working in a long term care profession to acquire skills and formal training in long term care administration. The online program requires 28.5 units of course work.

The required courses are in sequential order and are restricted by availability. Continuous registration in the program is required. Leaves of absence are available for limited times and are excluded from the total time limit.

In order to participate in online courses, students will be required to have access to a computer with multimedia capability including a laptop or desktop computer with broadband (high speed) Internet capability including a web browser and word processing software. Specific details regarding the computer requirements will be provided by the department.

Admission standards are the same as for the Master of Science in Gerontology.

Transfer Credits

An admission credit evaluation is prepared for graduate students with previous graduate level course work. This review indicates which courses the university will approve but it is the relevant school (Gerontology, Business, or Public Policy) that determines if any of these courses are appropriate for this degree. A maximum of 4 units may be used toward the master's degree.

Graduate transfer credit will not be granted for life experience, credit by examination, non-credit extension courses, correspondence courses or thesis supervision. Graduate transfer credit will not be granted for any course work taken elsewhere after the student has been admitted and enrolled at USC unless the student receives prior written approval from the department.

Required Courses (24.5 units)

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 501 Applied Legal and Regulatory Issues in Aging Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4 or
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
  (4 units required)
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GSBA 504a Operations Management Units: 1.5
- GSBA 509 Marketing Management Units: 1.5
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
  (1.5 units required)
- PPD 601 Management of Long-Term Care Organizations Units: 4

Elective Courses (4 units)

Students must select one elective course from the following courses:

- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4

Medical Gerontology (MA)

The Master of Arts in Medical Gerontology prepares graduates to become leaders in providing care to older persons throughout the world. It may be completed in class or online. The goal of this program is to provide medical doctors and other health care professionals with gerontological training and expertise absent from their primary training. After completing this program health care professionals will have a greater understanding of older persons and will have the tools to take a whole person approach to aging and caring for older people. The program requires 33 units of course work. This includes 25 units of required courses and 8 units of electives.

Continuous registration in the program is required. There is a five year completion time limit for the degree. Leaves of absence are available for limited times and are excluded from the total time limit. A maximum of two absences (one year each) is allowed.

Prerequisites for Admission

Students applying for admission to the Master of Arts in Medical Gerontology program must have a bachelor's degree from an accredited college or university and it is preferable to have a primary professional degree in one of the health fields (e.g., occupational therapy, physical therapy, medicine, nursing, dentistry). In selecting applicants for admission, the School of Gerontology considers both academic potential, including an undergraduate GPA of 3.0 or higher, and advanced professional training and experience, as well as references and future goals. The school requests information from applicants to supplement that supplied by the USC Application for Graduate Admission. Such supplemental information usually includes a resume, statement of interest in gerontology and letters of reference. Interviews may be required. For more information on the application and admission please contact the USC Leonard Davis School Admissions Office at (213) 740-5156.

Probation and Disqualification

Probation and Warning: Any graduate student whose cumulative or semester grade point average in the university falls below B (3.0) will be placed on academic probation. A graduate student whose semester average falls below B (3.0) but whose cumulative grade point average in the university is 3.0 (A = 4.0) or higher will be placed on academic warning.

Disqualification: A graduate student on academic probation will be disqualified if his or her cumulative record accumulates more than 12 units of C work. A graduate student, whether on probation or not, will be subject to disqualification if the Student Affairs Committee of the USC Leonard Davis School at any time determines deficiency in academic achievement.

Required Courses (25 units)

All candidates for the Master of Arts in Medical Gerontology degree must complete the following common requirements:

- GERO 561 Introduction to Aging and Normal Changes with Aging Units: 4
- GERO 562 Diseases of Aging with Emphasis on Cardiovascular Disease and Diabetes Units: 4
- GERO 563 Geronpsychology Units: 4
- GERO 564 Multiple Chronic Conditions and Older Adults Units: 4
- GERO 566 Cognitive Decline: Alzheimer's Disease and Dementia and Advances in Imaging Units: 4
- GERO 567 Prevention of Chronic Diseases through Nutrition, Physical Activity and Lifestyle Changes Units: 4
- GERO 569 Healthcare Leadership and Administration Units: 1

Electives (8 units)

Courses are selected in consultation with an adviser. Suggested courses include:

- GERO 565 Novel Technologies in Aging and Assisted Living Units: 4
- GERO 568 Adaptive Age-Friendly Environments and Injury Prevention Units: 4

Nutrition, Healthspan and Longevity (MS)

The Master of Science in Nutrition, Healthspan and Longevity, a Coordinated Program (CP) in Nutrition and Dietetics, prepares graduates for roles in the field of nutrition and dietetics promoting personalized nutrition through work in hospitals and health care facilities, long-term care or school food service programs, business, teaching, research or private practice. The program has been fully accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) and integrates academic study with professional practice experience. Twenty-four students are admitted each year in the fall. Students can complete the full-time degree program in two years, on-campus or online (for those living more than 100 miles from USC). Online students will be required to find and utilize facilities in their community to complete the required course laboratory activities and supervised practice (verification of facilities will be required after acceptance, and before enrollment, for first-year rotations). Successful completion of 44 units of course work is required for graduation and includes 28 units of required courses, 10 units of supervised practice and 6 units of research. The program summative experience will be an electronic portfolio, including research completed throughout the program. Students will be required to present their work at a local, state or national dietetics conference as a requirement of graduation.

Continuous registration in the program is required. Leaves of absence are available for limited times and may require the student to wait until the next year to re-enroll as some courses are offered annually, and must be taken sequentially. A maximum of two leaves of absence is allowed. Upon completion of the Master of Science degree, students are eligible to write for the Credentialing Examination for Registered Dietitian Nutritionists.

In order to participate online, students will be required to have access to a computer with multimedia capability including high-speed Internet access, audio and a digital video camera. Specific details regarding computer requirements will be provided by the program.

Field Practicum

The field practicum provides the opportunity for students to gain valuable experience and develop needed skills by working in an institutional or community environment where nutrition services are provided by registered dietitians or food services professionals. Field placement assignments begin in the second semester of the program and continue every semester until graduation. Students attending the program on campus are placed by the program coordinator in consultation with the student as resources are available in the community. Evaluations of students are sent to the school by the community agency; the student receives a grade of credit/no credit in GERO 591 Field Practicum.

Prerequisites for Admission

Students applying for admission to the Master of Science in Nutrition, Healthspan and Longevity program must have a bachelor's degree from an accredited college or university. In addition, the following prerequisites must be complete before starting the program: cellular biology with lab, microbiology with lab, general chemistry with lab, organic chemistry with lab, biochemistry with lab, human physiology with lab, general psychology or sociology, algebra or pre-calculus or calculus or

statistics, speech or communications, introductory food science and human nutrition. All prerequisite courses cannot be more than 10 years old at the time of application. The exceptions are the general psychology course and the math course; there is no time limit on these two courses.

In selecting applicants for admission, the USC Leonard Davis School of Gerontology considers both academic potential (as reflected in undergraduate study with a GPA greater than 3.0) and professional potential (as reflected in experience, references and career goals). The school requests information from applicants to supplement that supplied by the USC Application for Graduate Admission. Supplemental information includes a résumé, statement of interest in nutrition and longevity and two letters of reference. Applicants are required to document at least 40 hours of paid or volunteer work experience with a registered dietitian. Interviews may be required for highest ranking applicants.

Probation and Disqualification

Probation and Warning: Any graduate student with a cumulative or semester grade point average in the university falling below B (3.0) will be placed on academic probation. A graduate student whose semester average falls below B (3.0) but whose cumulative grade point average in the university is 3.0 (A = 4.0) or higher will be placed on academic warning. Students will not be allowed to begin supervised field practice in the second semester if any first semester grades fall below a B (3.0).

Disqualification: A graduate student on academic probation will be disqualified if his or her cumulative record accumulates more than 12 units of C work. A graduate student, whether on probation or not, will be subject to disqualification if the Student Affairs Committee of the USC Leonard Davis School of Gerontology at any time determines deficiency in academic achievement.

Course Requirements

All candidates for the Master of Science in Nutrition, Healthspan and Longevity degree must complete the following required courses.

Required Courses

- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 511 Fundamentals of Clinical Nutrition Screening and Assessment Units: 4
- GERO 512 Communicating Nutrition and Health Units: 2
- GERO 513 Fundamentals of Nutrition: Macronutrients Units: 2
- GERO 515L Food Production and Food Service Management Units: 4
- GERO 517L Advanced Therapeutic Nutrition Units: 4
- GERO 518 Current Topics in Clinical Nutrition Units: 4
- GERO 560 Fundamentals of Nutrition: Micronutrients Units: 4
- GERO 590 Directed Research Units: 1-12
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Nutritional Science (MS)

The Master of Science in Nutritional Science provides students with advanced understanding of lifespan human nutrition through course work and research. Designed for the Registered Dietitian Nutritionist (RDN) or those with a Didactic Program in Dietetics (DPD) verification, the degree prepares graduates with the advanced knowledge, skills and intellectual maturity to become innovative and multidisciplinary practitioners and leaders in healthspan and longevity. The program offers both on-campus and online asynchronous courses and can be completed in 1-3 years.

Continuous registration in the program is required. Leaves of absence are available for limited times and may require the student to wait until the next year to re-enroll as some courses are offered annually and must be taken sequentially. A maximum of two leaves of absence is allowed.

In order to participate online, students will be required to have access to a computer with multimedia capability including high-speed Internet access, audio and a digital video camera. Specific details regarding computer requirements will be provided by the program.

Prerequisites for Admission

Students applying for admission to the Master of Science in Nutritional Science program must have a bachelor's degree from an accredited college or university in nutrition or dietetics.

In selecting applicants for admission, the USC Leonard Davis School of Gerontology considers both academic potential (as reflected in undergraduate study with a GPA greater than 3.0) and professional potential (as reflected in experience, references and career goals). The school requests information from applicants to supplement that supplied by the USC Application for Graduate Admission. Supplemental information includes a résumé, statement of interest in nutrition and longevity and two letters of reference. Interviews may be required for highest-ranking applicants.

Probation and Disqualification

Probation and Warning: Any graduate student with a cumulative or semester grade point average in the university falling below B (3.0) will be placed on academic probation. A graduate student whose semester average falls below B (3.0) but whose cumulative grade point average in the university is 3.0 (A = 4.0) or higher will be placed on academic warning. Students will not be allowed to begin supervised field practice in the second semester if any first semester grades fall below a B (3.0).

Disqualification: A graduate student on academic probation will be disqualified if his or her cumulative record accumulates more than 12 units of C work. A graduate student, whether on probation or not, will be subject to disqualification if the Student Affairs Committee of the USC Leonard Davis School of Gerontology at any time determines deficiency in academic achievement.

Required Courses

Students must take seven required courses (28 units) including four units of GERO 590 Directed Research.

- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 518 Current Topics in Clinical Nutrition Units: 4
- GERO 560 Fundamentals of Nutrition: Micronutrients Units: 4
- GERO 564 Multiple Chronic Conditions and Older Adults Units: 4
- GERO 590 Directed Research Units: 1-12 (4 units required)
- GERO 593 Research Methods Units: 4

Electives

Choose one 4-unit course from this list of electives.

- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 541 Health Care Delivery Models: Comparative Approaches Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 561 Introduction to Aging and Normal Changes with Aging Units: 4
- GERO 562 Diseases of Aging with Emphasis on Cardiovascular Disease and Diabetes Units: 4
- GERO 563 Geronpsychology Units: 4
- GERO 567 Prevention of Chronic Diseases through Nutrition, Physical Activity and Lifestyle Changes Units: 4
- GERO 577 Food Service and Senior Living Units: 2
- GERO 585 The Aging Family Units: 2 or 4

Senior Living Hospitality (MA)

The Master of Arts in Senior Living Hospitality (MASLH) provides an opportunity for those seeking careers in the senior living industry to acquire skills and knowledge related to management of senior living organizations. The program requires a minimum of 31 units of core courses and 12 units of electives. All graduate-level courses are offered on campus and via the Internet. Continuous registration in the program is required. Leaves of absence are available for limited times and are excluded from the total time.

In order to participate in online courses, students will be required to have access to a computer with multimedia capability including a laptop or desktop computer with broadband (high speed) Internet capability including a web browser, word processing software and presentation software, as well as a printer. Specific details regarding the computer requirements will be provided by the school.

Students applying to the Master of Arts in Senior Living Hospitality must have a bachelor's degree from an accredited college or university with a GPA of 3.0. If the applicant's GPA falls below 3.0, the GRE will be required.

Required Courses

Students must register for the following 10 core courses (31 units):

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 501 Applied Legal and Regulatory Issues in Aging Units: 4
- GERO 552 Human Resources and Aging Units: 4
- GERO 574 Leadership and Management in Senior Living Units: 3
- GERO 575 Marketing Senior Living Units: 3
- GERO 576 Finance and Senior Living Units: 3
- GERO 577 Food Service and Senior Living Units: 2
- GERO 578 Revenue Management for Senior Living Units: 2
- GERO 579 Branding Senior Living Units: 2
- GERO 589 Case Studies in Leadership and Change Management Units: 4

Electives

Students must select three electives (for a total of 12 units). Core courses may not double count as electives. Students may take any elective courses from the list below with a few limitations:

- GERO 599 may be taken in consultation with the academic adviser
- A maximum of two GERO 400-level courses from the list below
- A maximum of 4 units of GERO 590
- A maximum of 8 units of GERO 591
- GERO 494 Emotion-Cognition Interactions and Aging Units: 4
- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 502 Marketing and Shifts in Consumer Decision Making Units: 4
- GERO 504 Current Issues in Aging Services Management Units: 4
- GERO 505 Housing and Community Policies and Programs Units: 4
- GERO 506 Technological Innovations in Aging (Gerontechnology) Units: 4
- GERO 507 End of Life Care Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 541 Health Care Delivery Models: Comparative Approaches Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 551 Applied Policy Skills in Aging Units: 4
- GERO 585 The Aging Family Units: 2 or 4
- GERO 590 Directed Research Units: 1-12
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- GERO 599 Special Topics Units: 2-4

Advanced Standing Option

The USC Leonard Davis School of Gerontology offers an advanced standing option for students who have graduated with a bachelor's degree in Business Administration or a Master of Business Administration from an accredited college or university. To be eligible for the advanced standing option, students must have successfully completed their bachelor's degree with a minimum GPA of 3.00 for the last 60/90 units of undergraduate work or a 3.3 GPA for their MBA. A cumulative 3.5 GPA for all business courses with a grade of B or better is required for admission.

Students admitted with advanced standing will bypass 11 units of the MASLH program and will be required to complete 32 units, including 24 units of required courses and 8 units of electives.

Advanced Standing Required Courses

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 501 Applied Legal and Regulatory Issues in Aging Units: 4
- GERO 502 Marketing and Shifts in Consumer Decision Making Units: 4
- GERO 504 Current Issues in Aging Services Management Units: 4
- GERO 552 Human Resources and Aging Units: 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4

Advanced Standing Electives

Students select at least 8 units from the following courses:

- GERO 494 Emotion-Cognition Interactions and Aging Units: 4
- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 505 Housing and Community Policies and Programs Units: 4
- GERO 506 Technological Innovations in Aging (Gerontechnology) Units: 4
- GERO 507 End of Life Care Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 541 Health Care Delivery Models: Comparative Approaches Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 551 Applied Policy Skills in Aging Units: 4
- GERO 574 Leadership and Management in Senior Living Units: 3
- GERO 575 Marketing Senior Living Units: 3
- GERO 576 Finance and Senior Living Units: 3
- GERO 577 Food Service and Senior Living Units: 2
- GERO 578 Revenue Management for Senior Living Units: 2
- GERO 579 Branding Senior Living Units: 2
- GERO 585 The Aging Family Units: 2 or 4
- GERO 590 Directed Research Units: 1-12
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- GERO 599 Special Topics Units: 2-4

Dual Degree

Master of Science, Gerontology/Doctor of Pharmacy (MS/PharmD)

The emerging impact of the elderly on the health care system has created a need for health care providers who understand the unique needs of the elderly. As drug therapy remains the primary therapeutic option for chronic disease, the demand for prescription drugs will continue to rise. There is a demand for pharmacists who are equipped to meet the pharmaceutical care needs of this population. Geriatric pharmacy is recognized as a specialty, with board certification through the Commission for Certification in Geriatric Pharmacy. The PharmD/MS, Gerontology program will provide extensive education and training in the unique health care needs of older adults. It will allow student pharmacists with a career interest in geriatrics or gerontology to work with health care planning or delivery organizations to develop and implement progressive pharmaceutical care programs for the elderly.

Application and Admissions Requirements

Students who intend to pursue the dual PharmD/MSG degree must be accepted by both programs. This includes having completed a baccalaureate degree from an accredited college or university with a minimum G.P.A. of 3.0 and a minimum equivalent GRE score of 1000. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MS degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students, who elect this approach, must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program. Second, students can apply to the dual degree by submitting an application to the MS in Gerontology program during their first year of enrollment in the PharmD prior to the MS, Gerontology published application deadline. Students, who elect this approach, must apply through the School of Pharmacy. Students admitted to the MS program using this approach will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 G.P.A. Students accepted to the dual degree program must maintain a minimum 3.0 G.P.A. in their gerontology and PharmD courses.

Graduation Requirements

Students must complete all requirements for the PharmD and MS degrees as listed in the catalogue with a minimum cumulative 3.0 G.P.A. Students must complete 32 Gerontology units as indicated. The PharmD degree course requirements are listed in the School of Pharmacy section.

Gerontology Requirements

- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- Gerontology electives Units: 16 *

*Choose four of the following (16 units):

- GERO 475 Ethical Issues in Geriatric Health Care Units: 4
- GERO 496 Introduction to Clinical Geriatrics Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 519 Recent Advances in Neurobiology and Endocrinology of Aging Units: 2 or 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 591 Field Practicum Units: 1-12

Total units: 32

Master of Science, Gerontology/Juris Doctor (MS/JD)

The JD/MS dual degree combines the knowledge of the older population with understanding of the legal system. The program prepares graduates for a number of roles in both public and private sector organizations. Students are required to complete 112 units of course work, 76 from the law school and 36 from the USC Leonard Davis School of Gerontology. The first year is devoted to required law courses, and the second, third and fourth years combine gerontology and law courses.

Gerontology Requirements

The Master of Science in Gerontology will require 36 units of course and field work that cover the core content of the MS program.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Gerontology elective Units: 4

Notes:

The Davis School of Gerontology will waive 16 units of electives, which are required in the regular MS program, as well as GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program have a primary professional focus in law.

Law School Requirements

The law school requires 76 units of credit.

First Year Requirements

- LAW 502 Procedure I Units: 2, 3, 4
- LAW 503 Contracts Units: 2, 3, 4
- LAW 504 Criminal Law Units: 3
- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 507 Property Units: 2, 3, 4
- LAW 508 Constitutional Law: Structure Units: 2, 3, 4, 5
- LAW 509 Torts I Units: 2, 3, 4
- LAW 512 Law, Language and Values Units: 2, 3, 4
- LAW 515 Legal Research, Writing and Advocacy I Units: 2, 3
- LAW 516 Legal Research, Writing and Advocacy II Units: 2

Elective Course Work

The second and third year of law study are primarily elective with one requirement. Students must satisfy the upper division writing requirement, either by completing a major, faculty-supervised writing project such as a dissertation, or by taking a course with a substantial writing component.

The law school will waive 14 units of electives, which are required in the regular JD program.

Master of Science, Gerontology/Master of Business Administration (MS/MBA)

The MS/MBA dual degree combines knowledge of the older population with the skills of business management. The program prepares graduates for a number of roles in both public and private sector organizations including the marketing of products or services to seniors, human resource development with older workers and retirement benefits.

Gerontology Requirements

The Master of Science in Gerontology requires 30 units of course and fieldwork, which covers the core content of the MS program.

Required Courses

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- Gerontology electives Units: 6

Total units: 30

Additional Requirements

Business Administration Requirements

The Master of Business Administration will require 48 units of credit. Required courses include: all required courses in an MBA program; MOR 548 Competitive Advantage Through People 3; one marketing elective chosen from among MKT 512 Customer Insights and Analysis 3, MKT 525 Consumer Behavior 3 and MKT 560 Marketing Strategy 3; and additional graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the School of Business toward the 48 units.

Program Adaptation

The USC Leonard Davis School of Gerontology will waive 18 units of electives, plus GERO 593 Research Methods (4 units) and GERO 589 Case Studies in Leadership and Change Management (4 units), which are required in the regular MS program. Students will be exposed to research and professional issues in business administration course work.

Master of Science, Gerontology/Master of Health Administration (MS/MHA)

Gerontology and health administration students can specialize in health care administration (profit and nonprofit) through the dual degree with the USC Leonard Davis School of Gerontology and the USC Price School of Public Policy's Health Administration Program. Students in the dual degree program must be admitted by both academic units and complete 78 units of post-graduate academic work.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Total units: 36

Health Administration Requirements

- PPD 506 Introduction to Microeconomics: Applications in Health Units: 2
- PPD 509 Problems and Issues in the Health Field Units: 4
- PPD 510a Financial Management of Health Services Units: 4
- PPD 512 Health Administration Residency Seminar Units: 2
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 514 Economic Concepts Applied to Health Units: 4
- PPD 515 Strategic Management of Health Organizations Units: 4
- PPD 516 Financial Accounting for Health Care Organizations Units: 4
- PPD 517 Concepts and Practices in Managing Health Care Organizations Units: 2
- PPD 518 Quality of Care Concepts Units: 2
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 601 Management of Long-Term Care Organizations Units: 4

Total units: 42

Additional Requirements

Statistics: The statistics requirement for dual degree students is the same as those that apply to the Health Administration (MHA).

Program Adaptation: The USC Davis School of Gerontology will waive GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program will have a primary professional focus in health administration.

Students enrolled in the dual degree are not required to take PPD 511 (as opposed to the stand alone MHA degree students) because they develop the necessary proficiencies related to their career goals in long-term care administration through other courses such as GERO 550, GERO 591 and GERO 593. In addition, PPD 601 is required for the dual degree (and not the stand alone MHA program) because most of these students will work in long-term care facilities and this course is critical for success in that market.

Students in the MHA stand alone program are required to complete a 1,000 hour residency at a health care organization, generally during the second year of study. Students in the dual degree program may be waived from this requirement with enrollment in GERO 591 which is a supervised experiential learning experience. Student in this situation may then waive PPD 512 and will take 2 units of Price electives for this dual degree.

Any course substitutions are done by petition on an individual basis and should be part of a carefully developed course of study. The USC Price School of Public Policy should be consulted concerning this program of study.

Master of Science, Gerontology/Master of Public Administration (MS/MPA)

The Master of Public Administration/Master of Science, Gerontology (MPA/MS) dual degree offers students interested in management of agencies and institutions the opportunity to gain in-depth knowledge of the administrative and organizational processes and management skills necessary for the effective delivery of services to older persons.

In the MPA/MS dual degree, students spend their first year taking the required courses in the USC Leonard Davis School of Gerontology. The research course, GERO 593 Research Methods and the capstone course GERO 555 Integrating Gerontology: A Multidisciplinary Approach, are taken in the USC Leonard Davis School of Gerontology. The student begins courses in the Price School of Public Policy during the second semester of the first year.

Two versions of this dual degree are available, one with a general orientation and one with an emphasis on health services administration. Students must apply to both schools and, if accepted to both, participate in a specially designed program combining course work from both schools.

Curriculum requirements for the general focus dual degree are detailed in the USC Leonard Davis School of Gerontology section of this catalogue. Students are encouraged to seek advisement as they plan their actual programs, since curriculum changes may occur.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Gerontology elective Units: 4

Total units: 40

Public Administration Requirements

- PPD 503 Economics for Public Policy Units: 4
- PPD 504 Essential Statistics for Public Management Units: 2
- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 546 Capstone in Public Administration Units: 4
- PPDE 505 Professional Workshop in Public Administration Units: 2

- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Electives

Students select one analytic elective course (4 units).
NOTE: *Electives in Public Administration need to be selected from approved analytic electives (see MPA requirements). Any substitutions must be approved by the graduate adviser in the Price School of Public Policy.*

Total units: 28

Additional Requirements

Program Adaptation

For the MS in Gerontology, 12 units of electives are waived as well as GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program have a primary professional focus in public administration. For the Master of Public Administration, 12 units of gerontology courses are used as the substantive specialization.

Master of Science, Gerontology/Master of Social Work (MS/MSW)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The MS/MSW dual degree offers the student interested in direct service or community organization the credentials most valued in clinical and therapeutic practice. Students enrolled in this dual degree receive an MSW as well as an MS in Gerontology. This dual degree requires completion of 73 units: 32 units of work in the USC Leonard Davis School of Gerontology and 41 units in the Suzanne Dworak-Peck School of Social Work. The course work is usually completed over a 24-month period for full-time students.

Students must complete MSW course work in foundation, foundation field instruction and core courses specific to the AMHW or SCI departments.

See the Master of Master of Social Work/Master of Science, Gerontology (MSW/MS) in the Suzanne Dworak-Peck School of Social Work for course requirements.

Graduate Certificate

Doctor of Pharmacy/Graduate Certificate in Gerontology

This integrated program in pharmacy and gerontology prepares students with an interest in geriatric pharmacy to assume leadership roles at academic, administrative or policy levels within the profession.

The program involves the completion of 16 units of core courses in physiology, psychology, sociology and social policy aspects of aging offered by the School of Gerontology. In addition, students are required to complete 8 units of approved elective courses in gerontology or geriatric pharmacy to be credited toward the requirements for the PharmD and the Graduate Certificate in Gerontology.

Required Courses in Gerontology

- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 510 Physiology of Development and Aging Units: 4

- GERO 520 Life Span Developmental Psychology Units: 2 or 4 or
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4

- GERO 530 Life Span Developmental Sociology Units: 4 or
- GERO 585 The Aging Family Units: 2 or 4
- GERO 540 Social Policy and Aging Units: 4

Electives in Gerontology and Geriatric Pharmacy (8 Units)

- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- PHRD 655 Geriatric Pharmacy I Units: 3
- PHRD 656 Geriatric Pharmacy II Units: 3
- PHRD 731 Advanced Geriatrics APPE Units: 6

Completion

It is expected that the program can be successfully completed by candidates taking electives in geriatric pharmacy or gerontology during the regular semester and completing one core course in gerontology during each summer in the four year PharmD program.

Admission Requirements

Students who have a baccalaureate degree from an accredited college or university must submit separate applications to the USC School of Pharmacy and the USC Davis School of Gerontology. All requirements for admission to the regular PharmD program must be fulfilled by the candidate. GRE scores are not required for admission to the certificate program.

Gerontology Graduate Level Certificate

The residential graduate certificate in gerontology program provides an opportunity for those who have completed a bachelor's degree in another profession or discipline and are employed in the field of aging to acquire a greater understanding of gerontology theory and research. The program consists of 16 units of gerontology content designed to familiarize the student with several areas of the field which relate to professional practice.

In addition to three of the four required core course areas for the certificate program (GERO 510, GERO 520 or GERO 522, GERO 530 or GERO 585, GERO 540), each student will have the option to choose one elective course that meets his or her particular area of interest.

Certificate students do not take a field practicum. Students admitted to the non-degree certificate program are expected to enroll each semester until the program is completed.

Gerontology Online Graduate Level Certificate

The online graduate certificate in gerontology program provides an opportunity for those with a bachelor's degree in another profession or discipline who are employed in the field of aging to acquire a greater understanding of gerontology theory and research. The program consists of 16 units of gerontology courses designed to familiarize the student with several areas of the field that relate to professional practice.

Students complete the introductory course, GERO 500, two of the four required core course areas (GERO 508 or GERO 510 or, GERO 520 or GERO 522, GERO 530 or GERO 585, and GERO 540), and one elective course in a particular area of interest.

The required courses are delivered via the Internet. The courses are offered in sequential order and are restricted by availability. Continuous registration in the non-degree program is required. Leaves of absence are available for limited times and are excluded from the total time limit. Entering students are encouraged to begin their course of study by taking GERO 500.

In order to participate in the online courses, students will be required to have access to a multimedia computer with modem, printer and CD-ROM drive; an Internet provider with email and an Internet browser; and word processing software. The department will provide specific details regarding the computer requirements.

Doctoral Degree

Biology of Aging (PhD)

Application deadline: December 1

The purpose of the PhD in the Biology of Aging is to provide interdisciplinary research training in an age-centric environment. Students will focus on basic mechanisms of aging as well as translational research related to medical applications. Students will approach aging as a major risk factor for disease.

Admissions Requirements

Applicants must have a bachelor's degree from an accredited four-year college or university preferably in one of the biological sciences. Applicants are evaluated by their transcripts and GPA; scores on the GRE General Test, three letters of recommendation and a statement of interest.

Degree Requirements

Course Requirements

The PhD in the Biology of Aging will provide each student with detailed knowledge and expertise in the biology of aging. The PhD in the Biology of Aging requires the following courses (GERO 600, GERO 601, GERO 602a, GERO 602b, GERO 603, plus 8-10 units from the list of suggested electives or other department approved courses). A minimum of 60 units is required, consisting of formal courses, seminars and research credit. At least 24 of the minimum 60 total units required are to be formal graduate course work (lecture or seminar courses).

Screening Examination

After completion of the core Biology of Aging course work (GERO 600, GERO 601, GERO 602a GERO 602b and GERO 603) during the first year, the student's degree progress is discussed and evaluated by a screening committee composed of members of the gerontology faculty and the Buck Institute as well as the student's faculty adviser. The purpose of this written and oral evaluation is to determine competence to continue graduate study and identify areas to be strengthened prior to the qualifying examination.

Qualifying Examination

By the end of the third semester, students should choose a guidance committee consistent with the requirements of the graduate school composed of gerontology faculty, Buck Institute faculty and one outside member. This committee will conduct the qualifying exam and provide guidance during dissertation research. The chair of the committee will serve as the principal adviser. Students should consult extensively with each committee member regarding subjects to be covered in the exam.

The qualifying exam consists of written and oral parts. Both parts must be finished before the end of the fifth semester. For the written exam, the adviser will consult with each of the members of the qualifying exam committee. The written part will incorporate evaluation and synthesis of existing knowledge related to the topic areas, creation of a set of experiments to test a relevant hypothesis, and interpretation of anticipated results. The oral exam consists of an oral defense of the written part and will be conducted with a month of the written part of the qualifying exam.

Doctoral Dissertation

The dissertation is based on original, publishable and significant research conducted independently by the student under the guidance of the dissertation committee. Upon admission to candidacy, a dissertation committee is established which consists of three members of the faculty, some of whom may be from the guidance committee, one of whom must hold his or her primary appointment outside of the USC Leonard Davis School of Gerontology.

The dissertation committee is responsible for providing guidance and consultation during the research process, approving the dissertation, conducting the final oral examination, and recommending the candidate for the PhD degree.

A Master’s Degree in the Biology of Aging is a terminal degree for students admitted into the Biology of Aging PhD program who cannot complete the PhD program for personal or medical reasons. Enrollment of graduate students as master's degree candidates is not encouraged and is reserved for special circumstances that must be approved by the Gerontology Curriculum Committee. The master's curriculum includes all course work required of PhD students for a minimum of 40 units.

Foreign Language Requirements

There are no foreign language requirements for the PhD in the Biology of Aging program.

Transfer Credits

Students with a master's degree of prior graduate course work in biology can petition to apply the credit toward required courses. Petition for credit will be based on the Graduate School's policies and requirements for transfer of credit and on approval by the doctoral advisory committee. Transfer credits toward the PhD requirements will be limited to 20 units and must be taken within 10 years of entering the program.

Gerontology (PhD)

The purpose of the PhD in Gerontology is to provide research training in the multidisciplinary field of aging. The program is designed to enhance the potential of able students to make scholarly and professional contributions to the field of gerontology through research and teaching. To obtain this goal, the PhD in Gerontology provides (1) high level rigorous research training, (2)

the acquisition and application of scientific knowledge in the field of aging and (3) the development of leadership skills.

Admission Requirements

Applicants for admission to the doctoral program must meet the following requirements:

1. Recipient of a bachelor's degree from an accredited college or university by anticipated enrollment date.
2. Academic promise, as evidenced by above average achievement in previous undergraduate and graduate education. A minimum GPA of 3.0 in an appropriate undergraduate major and a baccalaureate degree are required.
3. Personal qualities compatible with high level performance in gerontology and indicating a potential for leadership in the field. This includes a strong commitment to developing a scientific research program. Applicants to the PhD program must submit a resume of professional and academic experience, three letters of reference (academic and professional), a statement of objectives and examples of written work.
4. Satisfactory performance on the Graduate Record Examinations — existing test scores may be submitted if the GRE has been completed no more than five years prior to the date of application. A satisfactory score on the Verbal and Quantitative GRE is required. Students should also provide scores from the Analytic exam.
5. Submission of application materials as required. Instructions for application to the Doctor of Philosophy in Gerontology may be obtained by contacting the USC Leonard Davis School of Gerontology.

Degree Requirements

Course Requirements

Students must complete a minimum of 60 units of course work (with at least 24 of these units being completed in residency at USC), as well as additional dissertation units (at least 4 units) as required. All students will take courses in three areas: a set of required core courses, research courses and elective courses.

Students will be advised about course selection during the first year by the PhD committee. As soon as a student has selected a specialization (e.g., psychology, sociology/demography, policy), an advisory committee of appropriate faculty will be appointed. The purpose of the advisory committee is to help the student in the selection of courses and a research agenda; to monitor the student's progress; and to insure preparation for the qualifying examination.

Basic Scientific Core

The core for the PhD in Gerontology program stresses the physiological, psychological, sociological and policy dimensions of individual and population aging. Special emphases include mechanisms associated with chronic disease such as cancer, heart disease, Alzheimer's and Parkinson's disease, and the interplay between genetic and environmental influences.

- GERO 610 The Aging Society Units: 4
- GERO 613 Health and Aging Units: 4
- GERO 620 Psychology of Aging Units: 4
- GERO 645 Politics and Policy Processes in an Aging Society Units: 4

Research Core

A second core area focuses on development of research skills which includes research design, methods and statistics. Students in the PhD in Gerontology program are required to take GERO 593 and GERO 640 and at least one additional statistics course — generally from another department — on the student's research focus.

Elective Core

A third core involves electives that allow students to create a concentration in a particular area of focus or analytic field of inquiry. Students should select courses in consultation with their adviser. Courses should be selected to provide in depth knowledge in the specialized area or general knowledge in the field of gerontology. A number of gerontology courses can be taken as electives.

Students should note that Gerontology courses at the 600 level are usually offered only every second year. Students are encouraged to review the course schedule to determine how to best complete these courses in a timely manner. Successful completion of the required course work does not complete the educational experience of the student. Students are expected to enhance their exposure to research by attending the colloquium lecture series, working on research with a faculty member and presenting original research at the annual meeting of the Gerontological Society of America and other professional meetings.

Additional Requirements

Foreign Language Requirements

There are no foreign language requirements for the PhD program.

Transfer Credits

Students with master's degrees or prior graduate course work in gerontology can petition to apply the credit toward required courses. Petition for credit will be based on the Graduate School's policies and requirements for "transfer of credit" and on approval by the doctoral advisory committee. Transfer credits toward the PhD requirements will be limited to 20 units and must be credits taken within 10 years of entering the program.

Time Limit

The normal time for completing the PhD is four to five years (without a prior master's degree). The first two years will consist of required and elective courses. The third year will consist of electives, the PhD qualifying exams and completion of the dissertation proposal. The final year(s) will involve the completion of the dissertation. The maximum time to complete all requirements for the PhD degree is eight years from the first course at USC applied toward the degree.

Students who have completed an applicable master's degree at USC or elsewhere within five years of the proposed enrollment in the PhD program must complete the PhD in six years.

Screening Procedures

When students have completed a minimum of 16 but not more than 24 units of doctoral course work, the doctoral advisory committee assesses their performance through a screening process and makes a decision regarding their ability to continue in the program. If the student is granted permission to continue, a guidance committee is established.

Qualifying Exam Committee

The qualifying exam committee is composed of five faculty members, at least three from the School of Gerontology. The function of the qualifying exam committee is to oversee the development of the student's academic progress through the qualifying examination, including the preliminary dissertation proposal.

Qualifying Examination

As a prerequisite for candidacy for the PhD, students must pass a qualifying examination, which is multidisciplinary and comprehensive in nature and that necessitates independent study beyond course requirements. Students must have completed at least 28 units of course work in the doctoral program with a GPA of at least 3.25 before attempting the qualifying exam. The exam is designed to test mastery of knowledge and scholarly skills and to test readiness to undertake independent research. If the student fails this exam, it may be repeated one time. When the exam is successfully completed, the student then must develop and have

a dissertation proposal approved before the student is officially admitted to candidacy for the PhD degree.

Doctoral Dissertation

Upon admission to candidacy, a dissertation committee is established which consists of three members of the faculty, some of whom may be from the qualifying committee.

The dissertation committee has responsibility for providing guidance and consultation during the research process, approving the dissertation, conducting the final oral examination, and recommending the candidate for the PhD degree. The doctoral dissertation should make an original contribution to the development of knowledge and theory in gerontology.

Final Oral Examination

Upon approval of the final draft of the dissertation by all members of the dissertation committee, the candidate must pass a final oral examination. Upon successful completion of this final examination, the committee recommends the candidate to the Graduate School for award of the PhD degree.

Longevity Arts and Sciences (DLAS)

Students enrolled in the Doctorate of Longevity Arts and Sciences (DLAS) will learn about the human potential for healthspan, lifespan and meaning. This program seeks to provide a framework to advance the concept of meaning-making through the biological, sociological and psychological sciences. This program will allow high-achieving individuals to obtain a rigorous academic experience to enhance their capabilities for greater social contributions based on their accumulated knowledge and wisdom within an aging framework. The DLAS seeks to enrich individuals' understanding of their own aging experience as well as that of society at large. The program is designed to help individuals develop a wide range of skills including program and policy development that may serve the betterment of our communities, state and nation. In addition, the program prepares individuals to understand their own potential and abilities to lead change and make contributions both intellectually and creatively as they age. Doctoral candidates may choose their own pathway to complete a final summative project.

Professional Advisory Committee

By the end of the first year in the program, students will be expected to choose an advisory committee comprised of three Davis School of Gerontology faculty members. With permission of the advisory committee a fourth member may be added from outside of the Davis School.

Application deadline: January 1

Course Requirements

The minimum number of units required for the Doctorate of Longevity Arts and Sciences is 60, as follows:

Core Requirements

Students must take the following courses for 48 units.

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 506 Technological Innovations in Aging (Gerontechnology) Units: 4
- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4 (4 units required)
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 551 Applied Policy Skills in Aging Units: 4
- GERO 564 Multiple Chronic Conditions and Older Adults Units: 4
- GERO 567 Prevention of Chronic Diseases through Nutrition, Physical Activity and Lifestyle Changes Units: 4
- GERO 590 Directed Research Units: 1-12 (8 units required)

Suggested Electives

Students must take 12 units of elective courses from the following list of suggested electives or from courses offered anywhere at USC with an adviser's permission.

- GERO 488 Food, Culture, Disease and Longevity in Italy and in the Mediterranean Units: 4
- GERO 489 Finding the Key to a Long, Happy Life in Nicoya, Costa Rica Units: 4
- GERO 493p Longevity and Death among Ancient and Modern European Populations (Italy) Units: 2
- GERO 494 Emotion-Cognition Interactions and Aging Units: 4
- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 501 Applied Legal and Regulatory Issues in Aging Units: 4
- GERO 505 Housing and Community Policies and Programs Units: 4
- GERO 507 End of Life Care Units: 4
- GERO 519 Recent Advances in Neurobiology and Endocrinology of Aging Units: 2 or 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 568 Adaptive Age-Friendly Environments and Injury Prevention Units: 4
- GERO 585 The Aging Family Units: 2 or 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 592 Multidisciplinary Research Seminar in Aging Units: 2

USC Independent Health Professions at the Herman Ostrow School of Dentistry

The USC Division of Biokinesiology and Physical Therapy and the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy are administered by the Herman Ostrow School of Dentistry of USC. Both of these divisions offer outstanding education at the graduate level and the Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy offers an undergraduate program.

The USC Division of Biokinesiology and Physical Therapy was established in 1944. For those entering the physical therapy profession, the division offers the Doctor of Physical Therapy, the top-ranked DPT program in the country. For practicing physical therapists, the division offers a Master of Science degree as well as clinical residency programs in neurology, orthopedics, pediatrics and sports. In addition, the division offers the nation's longest-standing PhD degree program in Physical Therapy, now a PhD in Biokinesiology. Experienced clinicians with a master's degree in physical therapy may be eligible for the Doctor of Physical Therapy in an Advanced Standing program. The division is headquartered on the Health Sciences Campus.

The USC Chan Division of Occupational Science and Occupational Therapy opened in 1942 and is headquartered on the Health Sciences Campus. More than 50 percent of the recipients of the American Occupational Therapy Association's highest awards have been USC alumni. The division offers three graduate degrees: the Master of Arts; the world's first PhD in Occupational Science; and the Occupational Therapy Clinical Doctorate (OTD). The USC Chan Division of Occupational Science and Occupational Therapy master's-level professional degree program is fully accredited by the Accreditation Council for Occupational Therapy Education®, c/o Accreditation Department, American Occupational Therapy Association, Inc., 4720 Montgomery Lane, Suite 200, Bethesda, Maryland 20814-3449, (301) 652-6611 x2914, acoteonline.org. The division also offers a professional degree program allowing students to earn a BS degree and, in one additional year, an MA in occupational therapy. Graduates of the professional master's program are eligible to sit for the National Board for Certification in Occupational Therapy® examination. A minor in occupational science is also offered for undergraduate students pursuing a major outside occupational therapy.

Biokinesiology and Physical Therapy

Health Sciences Campus
Center for the Health Professions
1540 E. Alcazar Street, CHP 155
Los Angeles, CA 90089-9006
(323) 442-2900
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Faculty

Associate Dean and Chair: James Gordon, EdD, PT, FAPTA
Associate Chair: Cheryl Resnik, PT, DPT, FNAP, FAPTA
Professors: James Gordon, EdD, PT, FAPTA; Christopher Powers, PhD, PT, FAPTA; Carolee J. Winstein, PhD, PT, FAPTA; Francisco Valero-Cuevas, PhD
Professors (Clinical Scholars): Linda Fetters, PhD, PT, FAPTA; Kornelia Kulig, PhD, PT, FAPTA
Professors of Clinical Physical Therapy: Beth Fisher, PT, PhD, FAPTA; Rob F. Landel, PT, DPT, OCS, CSCS, FAPTA; Lori Michener, PT, PhD, FAPTA
Associate Professors: Lucinda L. Baker, PhD, PT; Nina S. Bradley, PhD, PT; George J. Salem, PhD; Nicolas Schweighofer, PhD
Assistant Professors: Jason Kutch, PhD; James Finley, PhD; Sook-Lei Liew, PhD, OTR/L
Associate Professors of Clinical Physical Therapy: Beth Fisher, PhD, PT; Cheryl Resnik, PT, DPT, FNAP; E. Todd Schroeder, PhD; Susan Sigward, PhD, PT, ATC; Julie Tilson, PT, DPT, MS, NCS
Assistant Professors of Clinical Physical Therapy: Jesus Dominguez, PhD, PT; Jacquelyn Dylla, PT, DPT, OCS; Rose Hamm, DPT, CWS; Robbin Howard, PT, DPT, NCS; Yogi Matharu, PT, DPT, OCS; Marisa Perdomo, PT, DPT; Amy Pomrantz, PT, DPT, OCS, ATC; Barbara Sargent, PhD, PT, PCS; Michael S. Simpson, PT, DPT, CCS; Jonathan Sum, PT, DPT, OCS, SCS; Kimiko Yamada, PT, DPT, OCS, ATC, CSCS
Assistant Professors of Research: Christina Dieli-Conwright, PhD, CSCS, CET; Beth Smith, PT, DPT, PhD
Instructors of Clinical Physical Therapy: Elizabeth Acreman, PT, DPT; Geoffrey Cariker, PT, DPT, GCS; Jessica Curran, PT, DPT, OCS; Lauren Davis, PT, DPT; Aimee M. Diaz, PT, DPT, SCS, ATC; Ryan Frendewey, PT, DPT; Lori Ginoza, PT, DPT, NCS; Janelle Gilmer PT, DPT, GCS; Erin Hayden, PT, DPT, OCS; Lydia In, MPT; Nicole Irizarry, PT, DPT, CCS; Eileen V. Johnson, PT, DPT; Yasuyuki Kasayama, DPT, MHA, OCS; Kenneth Kim, PT, DPT, OCS, CSCS; Daniel Kirages, PT, DPT, OCS, FAAOMPT; Angela Kwan, MPT; Cherise Lathan, PT, DPT, NCS; Valerie Matthews, PT, DPT; Brian McNeill, PT, DPT; Jennifer Okuno, MPT; David Richards, PT, DPT, NCS; Terry Richardson, PT, DPT; Scott Russell, PT, DPT; Don Shimabukuro, MPT; Jennifer Tanaka, PT, DPT, NCS; Jeff Thompson, PT, DPT; Erica Sigman, DPT, OCS; Stephanie Woelfel-Dyess, PT, MPT, CWS, FACCWS; Noriko Yamaguchi, PT, DPT, CSCS, GCS; Maria Zibell, PT, DPT
Adjunct Associate Professors: Joseph Godges, DPT; Larry Ho, PT, DPT, OCS; Jing-Ching (Sally) Ho, PT, DPT, OCS; Ning Lan, PhD;
Adjunct Assistant Professors of Clinical Physical Therapy: Michael Andersen, PT, DPT, OCS; Kyle F. Baldwin, PT, DPT; Julia Burlette Itamura, PT, DPT, OCS; Jason Cozby, PT, DPT, OCS; Sean Flanagan, PhD, ATC, CSCS; Kathryn L. Havens, PhD; John Jankoski, MPT, NCS, OCS; Rebecca Lewthwaite, PhD; Ndidiamaka Matthews, PT, DPT, NCS; John Meyer, PT, DPT, OCS, FAFS; Elizabeth Poppert, PT, DPT, MS, OCS; Gary Souza, PT, DPT, OCS
Adjunct Instructors of Clinical Physical Therapy: Ginelle Amormino, PT, DPT; Andrea Austin, PT, DPT, OCS, ATC; Melissa Brose, PT, DPT; Erin Caudill, PT, DPT, NCS; Manjiri Dahdaul, DPT; Oscar Gallardo, MS, PT; Julie A. Guthrie, PT, DPT, OCS; Julie Hershberg, PT, DPT, NCS; Mils Hillman, PT, DPT, OCS; Becky Kern, PT, DPT, OCS; Covey Lazouras, PT, DPT, NCS; Andrew Myler, PT, DPT, NCS; Lisa Meyer, PT, DPT, OCS; Jill Ordorica, PT, DPT, PCS; Pamela Ressler, PT, DPT, NCS; Joseph Robinson, PT, DPT; Jo Armour Smith, PhD; Rachel Tabak Tran, PT; Jared Vagy, PT, DPT, OCS, CSCS; Jena Van Loo, MPT; Cynthia Wederich, PT, DPT; Jeremy Wong, PT, DPT, PCS; Jennifer Yue, PT, DPT, NCS

Programs

The Division of Biokinesiology and Physical Therapy offers multiple degrees, certificates and clinical residency programs allowing graduates the opportunity to choose educational programs that will expose them to cutting-edge research and scientific advancements, in turn creating innovators in the physical therapy profession. The largest degree program is the top-ranked three-year Doctor of Physical Therapy (DPT). Post-professional programs include the clinical residency programs in neurologic, orthopedic, pediatric and sports physical therapy. The division also offers a PhD in Biokinesiology, one of the nation's first PhD degrees in physical therapy education. The graduate curricula for

the master of science and doctor of philosophy degrees are open to all qualified students who are or are not physical therapists.

Master's Degree

Biokinesiology (MS)

Graduate study for the Master of Science in Biokinesiology is open to individuals who have a bachelor's degree and who have a strong interest in movement science.

Admission Requirements

Admission requirements include a superior grade point average in cumulative undergraduate and graduate course work (if applicable). Applicants should score at least 150 in each area of the Graduate Record Examinations. Applicants are to provide the department with three letters of recommendation. The faculty may request a personal interview before making a decision on admission. Admission will be considered for the fall semester only. The application deadline is November 1. All applicants should contact the Division of Biokinesiology and Physical Therapy for advisement.

Prerequisites

The prerequisite for applicants to the Master of Science program in biokinesiology is either: (a) a bachelor's degree or higher with a science major or equivalent; or (b) a bachelor's or master's degree in physical therapy with appropriate basic science content. Courses completed at the time of application must include work (with appropriate laboratory study) in chemistry, physics, calculus and biology. Highly recommended is course work in anatomy, physiology, histology, kinesiology, trigonometry, neuroscience, analytical geometry, exercise physiology, biochemistry and computer programming. Applicants with no background in cellular or molecular biology may be required to take PT 509 in the entry-level DPT program. Candidates should have some degree of computer literacy. International applicants will be considered on a special evaluation of credentials.

Students deficient in certain prerequisites may be admitted subject to completion of requirements within two years after admission. An additional year may be granted upon review of the student's program by a faculty committee. Work in any prerequisite subjects will not be part of the required units for the Master of Science.

Degree Requirements

Completion of the degree requires satisfactory completion of a minimum of 32 credits of course work at the 500 level or above, a research project (BKN 559 and BKN 590), and a summative experience.

Required Courses

Select 2 of the 3 required core discipline focus areas of Biokinesiology: BKN 550, BKN 551 and BKN 552.

- BKN 550 Neurobehavioral Basis of Movement Units: 4
- BKN 551 Musculoskeletal and Biomechanical Basis of Movement Units: 4
- BKN 552 Physiological Basis of Voluntary Movement Units: 4
- BKN 559 Readings in Biokinesiology Units: 1, 2, 3, 4 (max 8)
- BKN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 510L Principles of Biostatistics Units: 4

Additional Requirements

Students must complete the biokinesiology core courses before sitting for their comprehensive examination. Substituting a course for one of the core courses may be allowed after receiving approval from the Biokinesiology Program Committee prior to the beginning of the course.

In order to fulfill the research project requirement, the following plan is suggested; however, each plan can be individualized based on the needs of the student and/or adviser:

1. Select a research professor (from the department) whose work interests them. This should be done by the end of the first year of study.
2. After receiving the professor's approval, sign up for BKN 559 (4 units) and complete a semester reading the literature pertinent to the professor's work.
3. The following semester, sign up for BKN 590 (4 units) and participate in an ongoing research project that is being conducted by the professor. The research paper must be completed within the semester for which BKN 590 units are being given.

See the Doctor of Philosophy in Biokinesiology section for a list of courses available to MS students.

Biokinesiology (Sports Science) (MS)

Graduate study for the Master of Science in Biokinesiology is open to individuals who have a bachelor's degree and who have a strong interest in movement science.

Admission Requirements

Admission requirements include a superior grade point average in cumulative undergraduate and graduate course work (if applicable). Applicants should score at least 150 in each area of the Graduate Record Examinations. Applicants are to provide the department with three letters of recommendation. The faculty may request a personal interview before making a decision on admission. Admission will be considered for the fall semester only. The application deadline is November 1. All applicants should contact the Division of Biokinesiology and Physical Therapy for advisement.

Prerequisites

The prerequisite for applicants to the Master of Science program in biokinesiology is either: (a) a bachelor's degree or higher with a science major or equivalent; or (b) a bachelor's or master's degree in physical therapy with appropriate basic science content. Courses completed at the time of application must include work (with appropriate laboratory study) in chemistry, physics, calculus and biology. Highly recommended is course work in anatomy, physiology, histology, kinesiology, trigonometry, neuroscience, analytical geometry, exercise physiology, biochemistry and computer programming. Applicants with no background in cellular or molecular biology may be required to take PT 509 in the entry-level DPT program. Candidates should have some degree of computer literacy. International applicants will be considered on a special evaluation of credentials.

Students deficient in certain prerequisites may be admitted subject to completion of requirements within two years after admission. An additional year may be granted upon review of the student's program by a faculty committee. Work in any prerequisite subjects will not be part of the required units for the Master of Science.

Degree Requirements

Completion of the degree requires satisfactory completion of a minimum of 32 credits of course work at the 500 level or above, an internship (BKN 600) and a sports science related summative experience.

Required Courses

Select 2 of the 3 required core discipline focus areas of Biokinesiology: BKN 550, BKN 551 and BKN 552.

- BKN 550 Neurobehavioral Basis of Movement Units: 4
- BKN 551 Musculoskeletal and Biomechanical Basis of Movement Units: 4
- BKN 552 Physiological Basis of Voluntary Movement Units: 4
- BKN 553 Experimental Methods for the Analysis of Human Movement Units: 4
- BKN 600 Sports Science Internship Units: 2, 3, 4 (2 units required)
- PM 510L Principles of Biostatistics Units: 4

Additional Requirements

Substituting a course for one of the core courses may be allowed after receiving approval from the Biokinesiology Program

Committee prior to the beginning of the course.

In order to fulfill the summative project requirement, the following plan is suggested; however, each plan can be individualized based on the needs of the student and/or adviser:

1. Select electives that align with the student's area of interest.
2. Identify a summative project adviser (course instructor or research professor) whose work relates to the area of interest. This should be done by the end of the first year of study.
3. Establish project specific aims and objectives. Create a curricular plan that aligns with completion of the project (additional electives which may include BKN 559 and/or BKN 590)

Note: Summative project may be completed in conjunction with BKN 600: Sports Science Internship, but must be approved and coordinated with a faculty adviser.

See the Doctor of Philosophy in Biokinesiology section for a list of courses available to MS students.

Electives

- BKN 559 Readings in Biokinesiology Units: 1, 2, 3, 4
- BKN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- BKN 610L Technology in Sport: Field Assessment of Athlete Performance Units: 2
- BKN 611L Technology in Sport: Physiological Assessments Units: 2
- BKN 630 Resistance Training Techniques for High Performance Athletes Units: 2

Dual Degree

Doctor of Physical Therapy/Master of Public Health (DPT/MPH)

The Post Professional Doctor of Physical Therapy (DPT) and the Master of Public (MPH) dual degree program offers the opportunity for physical therapy clinicians to pursue a doctoral-level education in combination with an integrated approach to health care. The program spans four years. Students begin the first one to two years completing MPH core and elective course work in the Department of Preventive Medicine. The remaining years are devoted to program requirements in physical therapy.

Doctoral Degree

Biokinesiology (PhD)

The graduate program leading to the Doctor of Philosophy in Biokinesiology is designed to prepare candidates for research and teaching at the university level. Actual programs of study will be designed with a degree of flexibility directed toward individual students who seek to become independent scholars.

Admission Requirements

Applicants must meet all general admission requirements of the university. Admission requirements include a superior grade point average in cumulative undergraduate and graduate course work (if applicable). In addition, applicants should score at least 150 in each area of the Graduate Record Examinations (GRE) and have some research experience. Students admitted for the Master of Science degree are not automatically admitted to the Doctor of Philosophy program. The Master of Science is not required as a prerequisite to the PhD but may be advised.

Applicants must have a personal interview with the program faculty. A student can be considered for admission only when a member of the full-time PhD faculty has agreed to serve as the student's PhD adviser. Three letters of recommendation and duplicate transcripts must be sent to the division for preliminary evaluation, although final acceptance is based upon the official USC application procedure.

Prerequisites (PhD Program)

The prerequisite for applicants to the PhD program in biokinesiology is either: (a) a bachelor's degree or higher with a science major or equivalent; or (b) a bachelor's or master's degree in physical therapy with appropriate basic science content. Courses completed at the time of application must include work (with appropriate laboratory study) in chemistry, calculus, physics and biology. Highly recommended is course work in anatomy, physiology, histology, cell biology, exercise physiology, kinesiology, biochemistry, neuroscience, trigonometry, analytical geometry and computer programming.

Candidates should be computer literate. International applicants will be considered upon evaluation of credentials by the USC Office of Admission.

Students deficient in certain prerequisites may be admitted subject to completion of requirements within two years after admission. An additional year may be granted upon review of the student's program by a faculty committee. Work in any prerequisite subject will not be part of the required 60 units for the Doctor of Philosophy.

Screening Procedure

A screening procedure will be offered twice each year for qualified students. It must be taken prior to the completion of 24 units at the 500-level or higher. The purpose of the screening procedure is to assess the progress of the PhD student and to determine whether that progress is sufficient to continue in the PhD program. Passing the procedure is a prerequisite for continuation in the PhD program.

Course Requirements

A minimum of 60 units is required for the Doctor of Philosophy degree.

Required Course Work

Select 2 of the 3 required core discipline focus areas of Biokinesiology: BKN 550, BKN 551 and BKN 552.

- BKN 550 Neurobehavioral Basis of Movement Units: 4
- BKN 551 Musculoskeletal and Biomechanical Basis of Movement Units: 4
- BKN 552 Physiological Basis of Voluntary Movement Units: 4
- BKN 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- BKN 794a Doctoral Dissertation Units: 2
- BKN 794b Doctoral Dissertation Units: 2
- BKN 794c Doctoral Dissertation Units: 2
- BKN 794d Doctoral Dissertation Units: 2
- BKN 794z Doctoral Dissertation Units: 0
- INTD 500 Ethics and Accountability in Biomedical Research Units: 1 *
- PM 510L Principles of Biostatistics Units: 4 **
- PM 511aL Data Analysis Units: 4 **

Note:

**Or equivalent graduate ethics course.*

***Or equivalent graduate level statistics.*

PhD students must complete two of the three core courses (BKN 550, BKN 551, BKN 552) before participating in the screening procedure. Substituting a course for one of the core courses may be allowed after receiving approval from the Biokinesiology Program Committee prior to the beginning of the course.

Other course requirements (to complete 60 units) will vary according to the specific needs of each student. Course work other than departmental offerings is encouraged and may be required by the student's qualifying exam committee.

Courses Available for MS/PhD Students

- BKN 559 Readings in Biokinesiology Units: 1, 2, 3, 4 , max 8
- BKN 563 Biomechanics Units: 2, 2 years
- BKN 566 Neurobiology of Locomotion Units: 2
- BKN 567 Advanced Topics in Biomechanics Units: 2
- BKN 573a Advanced Dissection Anatomy Units: 2
- BKN 573b Advanced Dissection Anatomy Units: 2
- BKN 575 Principles of Musculoskeletal Imaging Units: 2
- BKN 585 Systematic Research Writing Units: 3
- BKN 587a Physiological Correlates of Therapeutic Exercise Units: 4

- BKN 587b Physiological Correlates of Therapeutic Exercise Units: 4
- BKN 588 Physiology and Biomechanics of Resistance Exercise Units: 2
- BKN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- BKN 593 Behavioral Basis of Motor Control and Learning Units: 3
- BKN 594a Master's Thesis Units: 2
- BKN 594b Master's Thesis Units: 2
- BKN 594z Master's Thesis Units: 0
- BKN 599 Special Topics Units: 2, 3, 4 , max 8
- BKN 615 Principles of Skeletal Adaptation Units: 4, 2 years
- BKN 617 Modeling the Motor System: An Introduction Units: 2, 2 years
- BKN 618L Modeling the Motor System: Laboratory Units: 1, 2 years
- BKN 621 Electromyography in Research and Practice Units: 3, 2 years
- BKN 623 Neuroplasticity and Neural Repair Units: 3, 2 years
- BKN 672 Advanced Independent Study in Biokinesiology Units: 1, 2, 3, 4 , max 8
- BKN 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- BKN 794a Doctoral Dissertation Units: 2
- BKN 794b Doctoral Dissertation Units: 2
- BKN 794c Doctoral Dissertation Units: 2
- BKN 794d Doctoral Dissertation Units: 2
- BKN 794z Doctoral Dissertation Units: 0

Additional Requirements

Foreign Language Requirement

There is no foreign language requirement.

Qualifying Exam Committee

Upon successful completion of the screening examination the student and the research adviser will select a qualifying exam committee for continuing course work and independent study. The qualifying exam committee comprises five full-time faculty members.

The qualifying exam committee will recommend course work, independent study and readings in the major and cognate areas.

Qualifying Examination

The PhD qualifying examination is offered during the fall or spring semesters. The qualifying examination concentrates on the student's ability to demonstrate knowledge in the major academic area chosen and its relation to other areas of study offered in the department. The qualifying examination has both written and oral components. A student failing any part of the examination may be allowed one additional opportunity to pass that portion at the discretion of the qualifying exam committee, within the regulations of the Graduate School governing the repetition of qualifying examinations.

Dissertation Committee

After the qualifying examination has been passed and a dissertation topic approved, the qualifying exam committee shall be known as the dissertation committee and may be reduced to three members upon unanimous recommendation to the dean of graduate studies. One of the three members must be from outside the major division. The chair of the dissertation committee will be the principal research adviser.

Dissertation and Oral Defense

An acceptable dissertation based on original investigation is required. The dissertation must show technical mastery of a special field, capacity for independent research and scholarly ability.

The dissertation and the defense or final oral must have the unanimous approval of the dissertation committee. The dissertation should be complete within three years of the date the proposal is approved.

Professional Entry-Level Doctor of Physical Therapy Program (DPT)

This degree can be completed through an on-campus program or through a hybrid online/on-campus program. The curriculum comprises six semesters plus two summer sessions for on-campus students and three summer sessions for hybrid students, resulting in completion of the required 115 units. Clinical experience (clerkship) is part of the curriculum during all three years. The Division of Biokinesiology and Physical Therapy awards the DPT to enrolled students who have satisfactorily completed the three-year curriculum. For successful completion, students must pass all course work with a minimum cumulative GPA of 2.75, meet all professional standards and pass all clinical clerkships.

Admission Requirements (Entry-Level)

Applicants are required to complete the equivalent of a U.S. baccalaureate degree at an accredited college or university prior to matriculation. Prerequisite course work must include: a minimum of four semesters/six quarters of course work in the mammalian biological sciences (and must include one course in human anatomy with laboratory and one course in human physiology with laboratory), two semesters/three quarters of chemistry course work with laboratory (which may include general chemistry, organic chemistry or biochemistry), two semesters/three quarters of physics course work with laboratory, a minimum of two courses in psychology (which may include general psychology or abnormal psychology), and one college-level statistics course (generally from the biology, mathematics and psychology departments). A minimum of 150 hours of clinical experience in a variety of physical therapy settings is required. This can be in a volunteer or paid capacity. Applicants should be computer literate.

Students from foreign countries must have completed one year of study in the United States prior to application. Credits from foreign institutions must be approved by the USC Office of Graduate Admission.

Graduate Record Examinations (GRE)

The GRE is required of all applicants. In general, minimum scores of 150 are required on each of the general test measures of verbal and quantitative ability.

Applications

Applications for the on-campus program are submitted through the Physical Therapist Centralized Application Service (PTCAS) Website, and must be completed by December 1 of each year for the class beginning the following fall. Hybrid program applications will be available through our technology partner's Online Application and Recommendation System (OARS). For the initial hybrid class, entering in June 2018, applications will be completed by April 17. Only one class is admitted each year for each program.

The Admissions Committee reviews all information submitted. Applicants may request a personal interview. It is highly recommended that all applicants make an appointment to visit the division's office located on the Health Sciences Campus and talk with students and members of the faculty.

Notice of Acceptance

Notice of acceptance in the on-campus program will be sent to successful candidates no earlier than December of the year prior to the August program start date (with the exception of Early Decision applicants who are typically informed of a decision by late September) and continually thereafter until the class is filled. In no case will an acceptance be offered earlier than one year before anticipated enrollment. Applicants to the hybrid program will be reviewed on a rolling basis with notices of acceptance sent to successful candidates continually until the class is filled.

Candidates in the on-campus program should reply to an offer of acceptance within three weeks enclosing a $1,000 deposit (nonrefundable), which is credited to tuition at the time of registration. Candidates in the hybrid program should submit their initial $1,000 deposit within 10 days of an offer of acceptance. A second nonrefundable $500 deposit is required by mid-May

of the program start year (also to be applied in its entirety as a tuition credit). A letter of withdrawal is required if applicants wish to relinquish their place in the class; release is granted automatically upon receipt of the letter.

Degree Requirements (Entry-Level)

The DPT is awarded to enrolled students who have satisfactorily completed the three-year curriculum of 115 credits (depending on electives chosen). The minimum number of credits required for graduation is 115. The minimum GPA required for graduation is 2.75. Clinical experience (clerkship) is part of the curriculum during all three years.

The Division of Biokinesiology and Physical Therapy uses a system of student evaluation and grading that is designed to encourage self-reliance, to stimulate the student's independent quest for knowledge and to promote excellence in clinical and academic achievement.

Faculty of the program are responsible for establishing evaluation criteria appropriate to the objectives of each course and for specifying the manner in which evaluative information is to be gathered. For clinical evaluation, descriptive comments based on the student's performance are submitted by faculty and clinical instructors to the student's permanent file.

Required Courses

- PT 509 Cellular and Systems Physiology Units: 3
- PT 514L Musculoskeletal Anatomy Units: 4
- PT 516 Principles of Disease Units: 1
- PT 521L Basics of Patient Management Units: 4
- PT 529 Life Span Motor Control Units: 2
- PT 530a Therapeutic Exercise Units: 2
- PT 530b Therapeutic Exercise Units: 2
- PT 534L Neuroanatomy Units: 3
- PT 536 Pathology of Cardiopulmonary Disease and General Medical Conditions Units: 3
- PT 539 Clinical Pharmacology Units: 1
- PT 546 Neuropathology Units: 3
- PT 549L Clinical Exercise Physiology Units: 4
- PT 551L Therapeutic Application of Physical Agents Units: 3
- PT 554L Analytical Anatomy Units: 3
- PT 561a Evidence for Physical Therapist Practice Units: 2
- PT 561b Evidence for Physical Therapist Practice Units: 2
- PT 561c Evidence for Physical Therapist Practice Units: 2
- PT 561d Evidence for Physical Therapist Practice Units: 2
- PT 561e Evidence for Physical Therapist Practice Units: 2
- PT 566 Disorders of the Musculoskeletal System Units: 3
- PT 569 Fundamentals of Neuroscience Units: 4
- PT 571L Clinical Management of Cardiopulmonary Dysfunction Units: 4
- PT 574 Clinical Biomechanics Units: 3
- PT 581L Clinical Management of the Patient with Neurological Dysfunction Units: 5
- PT 582 Mechanics of Human Gait Units: 2
- PT 583L Clinical Electrophysiology Units: 1
- PT 600a Clinical Experience Units: 1
- PT 600b Clinical Experience Units: 3
- PT 600c Clinical Experience Units: 1
- PT 600d Clinical Clerkship Units: 4
- PT 600z Clinical Clerkship Units: 0
- PT 606 Clinical Imaging Units: 2
- PT 621L Clinical Management of the Patient with Musculoskeletal Dysfunction Units: 5
- PT 625 Emerging Topics in Physical Therapy Units: 3
- PT 650 Differential Diagnosis in Physical Therapy Units: 2

Third Year Requirements

Hybrid Track

- PT 640a Hybrid Integrated Patient Management Clinical Skills Units: 3
- PT 640b Hybrid Integrated Patient Management Clinical Skills Units: 3
- PT 642a Hybrid Integrated Patient Management Seminar Units: 2.5
- PT 642b Hybrid Integrated Patient Management Seminar Units: 2.5
- PT 670a Hybrid Advanced Clinical Experience with Academic Integration Units: 6.5
- PT 670b Hybrid Advanced Clinical Experience with Academic Integration Units: 6.5

Residential Track

- PT 630 Integrated Patient Management Clinical Skills Units: 6
- PT 632 Integrated Patient Management Seminar Units: 5
- PT 660 Advanced Clinical Experience with Academic Integration Units: 5
- PT 665 Advanced Clinical Experience Units: 8

USC Chan Division of Occupational Science and Occupational Therapy

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Administration

Associate Dean and Chair: Grace Baranek, PhD, OTR/L, FAOTA

Faculty

Mrs. T.H. Chan Professorship in Occupational Science and Occupational Therapy, Associate Dean and Chair: Grace Baranek, PhD, OTR/L, FAOTA
Associate Chairs: Sarah Bream, OTD, OTR/L; Julie McLaughlin Gray, PhD, OTR/L, FAOTA; Katie Jordan, OTD, OTR/L, FAOTA; Mary Lawlor, ScD, OTR/L, FAOTA
Professors: Grace Baranek, PhD, OTR/L, FAOTA; Sharon Cermak, EdD, OTR/L, FAOTA; Gelya Frank, PhD; Mary Lawlor, ScD, OTR/L, FAOTA
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Assistant Professors of Clinical Occupational Therapy: Yasi Amanat, OTD, OTR/L; Amber Bennett, OTD, OTR/L; Brett Bufford, OTD, OTR/L; Laura Cox, OTD, OTR/L; Catherine Crowley, OTD, OTR/L; Rebecca Cunningham, OTD, OTR/L; Heather Gates, OTD, OTR/L; Caroline Hardin, OTD, OTR/L; Serena Hobson, OTD, OTR/L; Lucy Hosoda, OTD, OTR/L; Tracy Jalaba, OTD, OTR/L; Jennifer Jones, OTD, OTR/L; Kelcie Kadowaki, OTD, OTR/L; Joshua Kotler, OTD, OTR/L, CBIS; Carnie Lewis, OTD, OTR/L; Marissa Marchioni, OTD, OTR/L; Elena Meng OTD, OTR/L; Stephanie Mielke, OTD, OTR/L; Tessa Milman, OTD, OTR/L; Kimberly Morris-Eggleston, OTD, OTR/L; Jodie Murakami, OTD, OTR/L; Kristin Nxumalo, OTD, OTR/L; Kelsey Peterson, OTD, OTR/L; Allison Phillips, OTD, OTR/L; Lindsey Reeves, OTD, OTR/L; Janice Rocker, OTD, OTR/L; Erin Sako, OTD, OTR/L; Clarissa Saunders-Newton, PhD, OTR/L; Linsey Smith; OTD, OTR/L; Emily Sopkin, OTD, OTR/L; Stephanie Tsai, OTD, OTR/L; Christine Turnbull, OTD, OTR/L; Samantha Valasek, OTD, OTR/L; Jamie Wilcox, OTD, OTR/L
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Research Professors: Michael Carlson, PhD; John Sideris, PhD
Research Associate Professor: Jesus Diaz, OTD, OTR/L
Research Assistant Professors: Stefanie Bodison, OTD, OTR/L; Leah Duker, PhD, OTR/L; Christopher Laine, PhD; Stacey Schepens Niemiec, PhD, OTR/L
Research Adjunct Instructor: Ana Verran, MA, OTR/L
Clinical Associate Professor of Research: Cheryl Vigen, PhD
Clinical Associate Professors: Michelle Hsia OTD, OTR/L; Linda Liang, MOT, OTR/L
Clinical Assistant Professors: Janet Gunter, OTD, OTR/L; Diego Lopez, OTD, OTR/L; Kristy Payne, OTD, OTR/L
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Adjunct Instructors of Clinical Occupational Therapy: Remy Chu, MHA, OTR/L; Lisa Deshaies, MA, OTR/L; Heidi Dombish, MS, OTR/L; Dawn Hironaka, BS, OTR/L; Rosemond Selgson, OTR/L, ATP
Emeritus Professors: Florence Clark, PhD; Linda Fazio, PhD; William Morgan, PhD; Elizabeth J. Yerxa, EdD, LHD (Hon.), ScD (Hon.), DMed (Hon.), FAOTA; Ruth Zemke, PhD, FAOTA

Degrees Offered

The USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy offers a minor in Occupational Science, a Bachelor of Science in Occupational Therapy, and a Master of Arts in Occupational Therapy. The Master of Arts in Occupational Therapy is offered for students continuing their education following an undergraduate degree in occupational therapy, for students whose first degree is in another field, and also for certified occupational therapists seeking a post-professional degree. The division also offers a post-professional Occupational Therapy Clinical Doctorate (OTD) and a PhD in Occupational Science.

The USC Chan Division of Occupational Science and Occupational Therapy master's-level professional degree program is fully accredited by the Accreditation Council for Occupational Therapy Education® (ACOTE), c/o Accreditation Department, American Occupational Therapy Association, Inc., 6116 Executive Boulevard, Suite 200, North Bethesda, Maryland 20852-4929, (301) 652-6611 x2914, acoteonline.org. Entry into occupational therapy practice is at the graduate degree level only. In order to practice, students in the bachelor's program must earn an MA degree in Occupational Therapy, successfully complete a minimum of 24 full-time weeks of clinical fieldwork, sit for the National Board for Certification in Occupational Therapy® (NBCOT) exam and apply for a license.

Pi Theta Epsilon

Pi Theta Epsilon is the national honor society for occupational therapy students and alumni. This society recognizes and encourages superior scholarship among students enrolled in entry-level graduate programs of occupational therapy across the United States.

The Alpha Eta Chapter of Pi Theta Epsilon (PTE) at the University of Southern California selects candidates early in the spring semester of each year based on National PTE guidelines related to academic standing and students' potential for leadership in the profession.

Bachelor's Degree

Occupational Therapy (BS)

The undergraduate curriculum leads to the Bachelor of Science with a major in Occupational Therapy. As of fall 2015, only incoming freshmen may apply to the bachelor's to master's program in occupational therapy. Students may not change their major to occupational therapy once admitted to USC. Students majoring in occupational therapy begin full-time graduate study during their senior year, substantially reducing their overall cost of education and preparing them sooner for the National Board for Certification in Occupational Therapy® (NBCOT) examination. Successful completion of a Master of Arts degree, including successful completion of a minimum of 24 full-time weeks of clinical fieldwork, are required for eligibility to sit for the NBCOT examination. Certification from the board and state licensure are required to practice as an occupational therapist. (See Occupational Therapy (MA) for a description of the MA degree program.)

Admission Criteria and Application Procedures for Incoming Freshmen

See the Undergraduate Admission section of this catalogue for admission criteria and application procedures for the university.

Program Requirements

A total of 128 units is required for the Bachelor of Science degree. An occupational therapy major cannot count any 300-level OT course toward the BS degree.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See General Education for more information.

Required Pre-Professional Courses

Students in the Occupational Therapy major are required to meet with their adviser within the division once each semester to ensure satisfactory completion of requirements outlined below. Students must successfully complete the pre-professional required courses prior to taking the advanced professional courses.

All pre-professional courses must be completed:

- Within the last seven years
- With a minimum GPA of 3.0 (pass/fail or grades below a C are not accepted)
- From an accredited junior college, four-year college or university
- Either in a classroom setting or online; however, anatomy must be completed in a classroom setting (refer to Course Work Taken Elsewhere)
- For a total of three semester units each (with the exception of medical terminology, which may be certificate, credit/no credit,1 or 2 units)

Required Pre-Professional Courses (USC course numbers are noted)

- Students who wish to transfer credit for courses taken at another institution must gain university approval:

Pre-Professional Courses

- OT 200 Medical Terminology for Health Professions Units: 1
- OT 250 Introduction to Occupational Science and Occupational Therapy Units: 4 or
- SOCI 200gm Introduction to Sociology Units: 4 or
- ANTH 201g Introduction to Sociocultural Anthropology Units: 4
- OT 251x Across the Lifespan: Occupations, Health and Disability Units: 4 or
- EDUC 589 Human Lifespan Development Units: 3 or
- PSYC 336L Developmental Psychology Units: 4 with
- PSYC 337L Adult Development and Aging Units: 4
- OT 260 Human Functional Anatomy for Allied Health Professions Units: 3 or
- HBIO 301L Human Anatomy Units: 4 (with laboratory)
- OT 261 Human Physiology for Allied Health Professions Units: 3 or
- BISC 307L General Physiology Units: 4 or
- HBIO 420L Applied Human Physiology Units: 4
- PSYC 274Lg Statistics Units: 4 or
- BUAD 310g Applied Business Statistics Units: 4 or
- BISC 305g Statistics for Biological Sciences Units: 4 or
- SOCI 314Lg Analyzing Social Statistics Units: 4 or
- HP 340Lg Health Behavior Statistical Methods Units: 4 with
- HP 350L Health Behavior Research Methods Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4 with
- MATH 118gx Fundamental Principles of Calculus Units: 4 or with
- MATH 125g Calculus I Units: 4
- PSYC 360 Abnormal Psychology Units: 4

Notes:

All pre-professional courses must be completed by the start of the senior year.

Required Professional Courses

Enrollment in professional occupational therapy courses is limited to junior and senior occupational therapy majors only.

Required Professional Courses

- OT 405 Foundations: Occupation Units: 2
- OT 406L Foundations: Creativity, Craft and Activity Analysis Units: 2
- OT 440L Foundations: Kinesiology Units: 2
- OT 441L Foundations: Neuroscience Units: 2
- OT 511 Therapeutic Use of Self Units: 2
- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4
- OT 521 Clinical Reasoning Units: 3
- OT 523 Communication Skills for Effective Practice Units: 3
- OT 525 Qualitative Research for Evidence-Based Practice Units: 4

Two of the following:

- OT 501L Practice Immersion: Adult Physical Rehabilitation Units: 8
- OT 502L Practice Immersion: Mental Health Units: 8
- OT 503L Practice Immersion: Pediatrics Units: 8

Additional Requirements

Scholastic Standards

Undergraduate occupational therapy students must maintain a GPA of at least 3.0 (A = 4.0) in all required OT courses and successfully complete the Graduate Record Examinations in order to continue into the graduate program. If an undergraduate student's OT grade point average (GPA) falls below 3.0, or if the cumulative undergraduate GPA falls below 3.0 at the end of the fall semester of the senior year, continuance is not assured.

Advising

Students enrolled in the occupational therapy major are required to meet with an academic adviser within the division each semester.

Minor

Occupational Science Minor

The division offers a minor in the discipline of occupational science. It is one of a select few programs in the world that offers undergraduates the opportunity to explore the fields of occupational science and occupational therapy.

Occupational scientists and Occupational therapists seek to understand and appreciate the motivation that makes us human. Unlike other creatures, humans are innately driven to fill their time with interesting, meaningful activities, which scholars call "occupations." We appreciate that humans need to be occupied. These occupations have a profound impact on physical and mental health, one's sense of well-being and the experience of a satisfying quality of life. Occupational Science seeks to understand the precise nature and function of occupations and the critical effect of daily activity on human beings. Scientists working in the field may examine questions such as the relationship between childhood occupations and adult competency and achievement, what constitutes a healthy balance of work, rest and leisure, and what factors contribute to a good fit between a particular individual and their occupations.

The minor in occupational science requires a total of 20 units: a required gateway course (OT 250) for 4 units plus 16 units selected from the elective courses. It is open to all majors at USC. An occupational therapy major cannot count any 300-level OT course toward the BS degree.

Required Course

- OT 250 Introduction to Occupational Science and Occupational Therapy Units: 4

Elective Courses (16 units)

- OT 101x Caring For Your Self: Engaging in Healthy Habits and Routines Units: 2
- OT 251x Across the Lifespan: Occupations, Health and Disability Units: 4
- OT 280 Essential Occupations of Emerging Adulthood Units: 2
- OT 300 Occupational Expressions of Diverse Identities and Lifestyles Units: 4
- OT 310 Creativity Workshop Units: 2
- OT 312 Creating a Sustainable Lifestyle Units: 2
- OT 320 The Nature of Human Occupation: Form, Function, and Meaning Units: 4
- OT 325 The Brain: Mind, Body, and Self Units: 4
- OT 330 Perspectives on the Daily Life of Families Units: 4
- OT 333 Sports Ethics Units: 4
- OT 340 Occupational Foundations of Human-Animal Interaction Units: 4
- OT 350 Disability, Occupations, and the Health Care System Units: 4
- OT 355 Doing Social Justice Units: 2
- OT 360 Creating the Self through Narrative: Acts of Life Story Production Units: 4
- OT 370 Understanding Autism: Participation Across the Lifespan Units: 4
- OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation Units: 4

Master's Degree

Occupational Therapy (MA)

The Master of Arts (MA) program is open to students with or without an undergraduate degree in occupational therapy.

Students without a prior degree in occupational therapy take both the foundational core courses and the advanced core courses listed below. Students with a prior degree in occupational therapy from another university may apply for Advanced Standing, reducing the units required for the degree from 80 units to 32 units (or 76 units to 28 units with the thesis option). Students who have earned a bachelor of science (BS) in Occupational Therapy from USC may apply for Advanced Standing and follow the curriculum outlined under Advanced Core Courses for the Bachelor to Master Program, reducing the total units required for the degree from 80 units to 36 units, which includes 4 units of Clinical Internship with Seminar (or 76 units to 32 units for the thesis option). All students must complete either the Thesis or Comprehensive Exam Option.

Admission Requirements

Applicants must have a bachelor's degree from an accredited college or university; completed of the Graduate Record Examination (GRE) within five years of planned enrollment; three letters of recommendation; a personal statement and supplemental application questions. International students must have a satisfactory score on the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) within two years of enrollment.

Those with a baccalaureate degree in occupational therapy from an accredited college or university or a World Federation of Occupational Therapy (WFOT) approved program may apply for Advanced Standing.

Those with a baccalaureate degree in a field other than occupational therapy must have completed all of the following prerequisites:

- within seven years of enrollment
- prior to the start of the program with a minimum GPA of 3.0 (pass/fail or grades below a C are not accepted)
- from an accredited junior college, college or university
- either in a classroom setting or online
- (with exception of medical terminology which may be 1 or 2 units) as follows (course numbers refer to USC courses, but prerequisites can be taken at any accredited college or university):

Prerequisites

- OT 200 Medical Terminology for Health Professions Units: 1

- SOCI 200gm Introduction to Sociology Units: 4 or
- ANTH 201g Introduction to Sociocultural Anthropology Units: 4

- HBIO 301L Human Anatomy Units: 4 (with laboratory)

- OT 261 Human Physiology for Allied Health Professions Units: 3 * or
- BISC 307L General Physiology Units: 4

- OT 251x Across the Lifespan: Occupations, Health and Disability Units: 4
- OT 260 Human Functional Anatomy for Allied Health Professions Units: 3 (with laboratory)

- MATH 114gx Foundations of Statistics Units: 4 and
- PSYC 274Lg Statistics Units: 4 or
- HP 340Lg Health Behavior Statistical Methods Units: 4 and
- HP 350L Health Behavior Research Methods Units: 4 or
- BUAD 310g Applied Business Statistics Units: 4

- PSYC 360 Abnormal Psychology Units: 4
- A course in Gerontology or adult development (recommended but not required)

Notes:

**If anatomy and physiology are combined, students must take two sequential semesters with a laboratory each semester (6–8 units).*

Application Procedures

For those with a baccalaureate degree in occupational therapy: applications are accepted at any time, preferably by February 15 for fall admission.

For those with a baccalaureate degree in a field other than occupational therapy: applications are due by November 1 for summer admission.

Applications received after the November 1 deadline are considered on a space-available basis.

Application materials include:

1. USC Online Graduate Application with division supplemental application materials (required only for those with a baccalaureate degree in occupational therapy)
2. OTCAS online application required only for applicants with a baccalaureate degree in a field other than occupational therapy)
3. three letters of recommendation
4. transcripts from all colleges/universities attended
5. personal statement
6. supplemental application questions
7. official results of the Graduate Record Examinations (GRE)
8. TOEFL or IELTS scores if required

A personal interview may be requested. Please see the division Website for the most up-to-date application procedures: *chan.usc.edu/*.

International Students

Students educated outside the United States must have their credentials evaluated by the Office of Graduate Admission before their application to the division can be reviewed. International students must demonstrate competency in English, as measured by the TOEFL or the IELTS. See the Admission section of this catalogue.

Degree Requirements

The MA degree is under the jurisdiction of the USC Graduate School. Students should also refer to the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Requirements include: GPA of 3.0 in all course work attempted and all course work applied to the degree; at least two-thirds of units applied to the degree must be at the 500 level or higher.

Students without a prior degree in occupational therapy take both the foundational core courses and the advanced core courses listed below. OT 405 , OT 406L, OT 440L and OT 441L are foundational courses that students are required to pass before they may register for any other courses in the master's program. Students must complete all subsequent courses in the program on a full-time basis and in sequence, except for students requiring disability accommodations.

Students with a degree in occupational therapy from outside of USC may apply for Advanced Standing, reducing the units required for the degree from 80 units to 32 units (or from 76 units to 28 units for the thesis option). Students who have earned a BS in Occupational Therapy from USC may apply for Advanced Standing and follow the curriculum outlined under Advanced Core Courses for the Bachelor to Master's Degree Program, reducing total units required for the degree from 80 units to 36 units, which includes 4 units of Clinical Internship with Seminar (or 76 units to 32 units for the thesis option). All students must complete either the Thesis or Comprehensive Exam option.

Comprehensive Examination Option

In addition to the required courses, 4 units of electives and 8 units of occupational therapy electives are required. All electives must be 500 level or above. Successful performance on a written comprehensive examination administered on campus each fall and spring semester completes the degree.

Thesis Option

In addition to the required courses, 4 units of electives at 500 level or above, and 4 units of Master's Thesis OT 594a and OT 594b are required. Acceptance of the thesis by the master's committee and the university completes the degree.

Required Courses

Foundational Core Courses (34 units)

- OT 405 Foundations: Occupation Units: 2
- OT 406L Foundations: Creativity, Craft and Activity Analysis Units: 2
- OT 440L Foundations: Kinesiology Units: 2
- OT 441L Foundations: Neuroscience Units: 2
- OT 501L Practice Immersion: Adult Physical Rehabilitation Units: 8
- OT 502L Practice Immersion: Mental Health Units: 8
- OT 503L Practice Immersion: Pediatrics Units: 8
- OT 511 Therapeutic Use of Self Units: 2

Advanced Core Courses (34 units)

- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4
- OT 521 Clinical Reasoning Units: 3
- OT 523 Communication Skills for Effective Practice Units: 3
- OT 525 Qualitative Research for Evidence-Based Practice Units: 4
- OT 534 Health Promotion and Wellness Units: 2
- OT 537 Occupation-Centered Programs for the Community Units: 4
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2
- OT 586 Fieldwork with Seminar Units: 1, 2 (4 units required)* *Students are expected to take two 2-unit sections of this course.

Comprehensive Examination Option (12 units)

In addition to the required courses, 12 units of elective are required, 4 units of electives may be taken from outside the Chan division. All electives must be 500 level or above. Successful performance on a written comprehensive examination, administered on campus each fall and spring semester, completes the degree.

Thesis Option (8 units)

In addition to the required courses, 4 units of electives at 500 level or above, and 4 units of Master's Thesis, OT 594a and OT 594b are required. Acceptance of the thesis by the master's committee and the university completes the degree.

Required Courses for Advanced Standing

Advanced Core Courses for Advanced Standing students with a baccalaureate in Occupational Therapy from outside USC (20 units)

- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4 or
- OT 581 Quantitative Research for the Practicing Clinician Units: 4
- OT 525 Qualitative Research for Evidence-Based Practice Units: 4
- OT 534 Health Promotion and Wellness Units: 2
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2

Comprehensive Examination Option (12 units)

In addition to the required courses, 12 units of elective are required, 4 units of electives may be taken from outside the Chan division. All electives must be 500 level or above. Successful performance on a written comprehensive examination, administered on campus each fall and spring semester, completes the degree.

Thesis Option (8 units)

In addition to the required courses, 4 units of electives at 500 level or above, and 4 units of Master's Thesis, OT 594a and OT 594b are required. Acceptance of the thesis by the master's committee and the university completes the degree.

Advanced Core Courses for students in the USC Bachelor's to Master's Degree Program (22 units)

Complete Practice Immersion Series (8 units):

- OT 501L Practice Immersion: Adult Physical Rehabilitation Units: 8 or
- OT 502L Practice Immersion: Mental Health Units: 8 or
- OT 503L Practice Immersion: Pediatrics Units: 8
- OT 534 Health Promotion and Wellness Units: 2
- OT 537 Occupation-Centered Programs for the Community Units: 4
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2
- OT 586 Fieldwork with Seminar Units: 1, 2 (2 units required)* *Students are expected to take one 2-unit section of this course.

Comprehensive Examination Option (12 units)

In addition to the required courses, 12 units of elective are required, 4 units of electives may be taken from outside the Chan division. All electives must be 500 level or above. Successful performance on a written comprehensive examination, administered on campus each fall and spring semester, completes the degree.

Thesis Option (8 units)

In addition to the required courses, 4 units of electives at 500 level or above, and 4 units of Master's Thesis, OT 594a and OT 594b are required. Acceptance of the thesis by the master's committee and the university completes the degree.

Online MA in Occupational Science and Occupational Therapy

The Online Master of Arts program is open to occupational therapists with a bachelor's degree in occupational therapy from outside USC. All students must complete either the Thesis or Comprehensive Exam Option. This online program requires a total of 32 units for the Comprehensive Exam Option, or a total of 28 units plus OT 594a and OT 594b for the Thesis Option.

Online MA in Occupational Therapy

The Online Master of Arts program is open to occupational therapists with a bachelor's degree in occupational therapy from outside USC. All students must complete either the Thesis or Comprehensive Exam Option. This online program requires a total of 32 units for the Comprehensive Exam Option, or a total of 28 units plus OT 594a and OT 594b for the Thesis Option.

Admission Requirements

Applicants must have a bachelor's degree in occupational therapy from an accredited college or university outside USC; a minimum grade point average of 3.0 (A = 4.0); a minimum score of 153 on the verbal section, 144 on the quantitative section and a 3.5 on the analytical writing section of the Graduate Record Examinations taken within five years of application; three letters of recommendation and an autobiographical statement of purpose. A satisfactory score on the TOEFL or IELTS within two years of enrollment is a requirement for most international students.

Required Core Courses

- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4
- OT 525 Qualitative Research for Evidence-Based Practice Units: 4
- OT 534 Health Promotion and Wellness Units: 2
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2

Required Elective Courses

- OT 578 Therapeutic Communication: Facilitating Change in Clients Units: 4
- OT 582 Occupational Science Foundations of Lifestyle Redesign Units: 4
- OT 583 Current Applications of Lifestyle Redesign Units: 4

Comprehensive Exam Option (12 units)

In addition to the required core courses, all required elective courses (12 units) must be successfully completed prior to taking the comprehensive exam. Successful performance on a written comprehensive examination administered each fall and spring semester completes the degree.

Thesis Option (8 units)

In addition to the required core courses, students are required to take 4 units of OT 594a and OT 594b Master's Thesis for a total of 28 units.

Graduate Certificate

Lifestyle Redesign® Graduate Certificate (online)

The Graduate Certificate in Lifestyle Redesign® is designed for occupational therapists who wish to obtain an advanced certificate in the area of Lifestyle Redesign®. Certificate courses prepare the occupational therapist to be able to design and implement Lifestyle Redesign® interventions with diverse client populations.

Admission Requirements

Applicants must be working professional occupational therapists with a baccalaureate or higher degree from an accredited college or university; a minimum grade point average of 3.0 (A = 4.0); a minimum score of 153 on the verbal section, 144 on the quantitative section and a 3.5 on the analytical writing section of the Graduate Record Examinations taken within five years of application; three letters of recommendation and an autobiographical statement of purpose. A satisfactory score on the TOEFL or IELTS within two years of enrollment is a requirement for most international students.

Required Courses

- OT 578 Therapeutic Communication: Facilitating Change in Clients Units: 4
- OT 582 Occupational Science Foundations of Lifestyle Redesign Units: 4
- OT 583 Current Applications of Lifestyle Redesign Units: 4

Doctoral Degree

Occupational Science (PhD)

The PhD in Occupational Science educates individuals to engage in the scientific study of human occupation, the purposeful activities that constitute our life experiences.This evolving science is chiefly concerned with the unique capacity of humans to develop and orchestrate occupations and enact adaptive behaviors to enhance engagement and participation in daily life. Occupational scientists examine the function, structure and the interrelationships among a complex array of occupations, as well as their impact on individuals and communities.

The focus on occupation distinguishes this program from closely related disciplines such as psychology, sociology and anthropology. The program emphasizes the development of research skills and encourages students to organize and synthesize knowledge to contribute to occupational science theory and interdisciplinary understandings of occupation, health and social participation.

Admission Requirements

Applicants for admission to the PhD program are expected to have a baccalaureate degree in an appropriate field, such as one of the biological or social sciences or occupational therapy, with a minimum GPA of 3.0 (A = 4.0). Applicants must submit at least three letters of reference (two should be academic, one can be a professional reference), a personal statement, and an updated curriculum vitae (CV). All transcripts, letters of reference, personal statement, and CV are submitted through the USC CAS application portal. The application deadline is December 1st. Other considerations include evidence of academic potential, interest and skills in research and becoming a career scientist, and the ability of the Chan Division and occupational science program to support the applicant's scholarship interests and career goals. International students must demonstrate competency in English, as measured by the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) examination. A personal interview and a professional writing sample may be requested as part of the post-application admissions review process. Please see the Chan Division Website for information and resources for the application process: *chan.usc.edu*.

Degree Requirements

This degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the USC Graduate School.

Course Requirements

Satisfactory completion of 60 units beyond the baccalaureate degree is required, including the following courses:

Required Courses

Satisfactory completion of 60 units beyond the baccalaureate degree is required. Students with an earned masters and/or doctoral degree at the time of admission may apply for Advanced Standing, reducing the units required for the degree from 60 units to 40 units. All students must complete the required core courses and successfully complete an independent dissertation. Program requirements include the following courses:

- OT 640 Conceptual Foundations of Occupational Science Units: 4
- OT 641 The Nature of Occupation Units: 4
- OT 648 Researching Occupation: Engagement, Meaning, and Society Units: 4
- OT 649 Researching Occupation: Function, Participation, and Health Units: 4
- OT 660 Research Practicum Units: 2 (2 units — Four Semesters)
- OT 661 Grant Writing for Occupational Science Units: 2

Required Core Electives

Completion of a minimum of 26 units in a topic area such as one of the following is required: quantitative research approaches, qualitative research approaches, occupational science and/or therapy, neuroscience, social development, life span development or gerontology.

Additional Requirements

Those students who also wish to participate in clinical practice in occupational therapy may opt to complete a master's degree in occupational therapy. Such students are required to complete the requirements for that degree, as well as the occupational therapy undergraduate major courses if they are not registered occupational therapists or eligible for registration prior to study.

Cognate Courses

Completion of a minimum of 26 units in a topic area approved by the student's faculty mentor is required. Examples of cognate areas include: research methodologies related to dissertation research, neuroscience, health disparities, gerontology and health promotion.

Research Practicum

Each student will enroll in 2 units of OT 660 Research Practicum per semester for four consecutive semesters, for a total of 8 units. Students are required to begin enrolling in OT 660 in their first semester of doctoral study. In this practicum the student will develop research skills by working as part of a research team under the direction of a faculty member.

Screening Procedures

Passing the screening is prerequisite to continuation in the doctoral program. Directions for obtaining and filing the Report on PhD Screening Procedures are found in the The Graduate School section of this catalogue.

Dissertation Enrollment

Doctoral students must submit a dissertation according to the policies and procedures described in The Graduate School section of this catalogue. Registration in OT 794a Doctoral Dissertation, OT 794b Doctoral Dissertation, OT 794c Doctoral Dissertation, OT 794d Doctoral Dissertation, OT 794z Doctoral Dissertation for a minimum of 4 units (2 units in each of two consecutive semesters) is required.

Summary of All Course Requirements

Required core courses are OT 640, OT 641, OT 648, OT 649, OT 660, OT 661 for a total of 26 units.

Required cognate courses for a minimum total of 26 units.

Dissertation requires 2 units per semester for at least two semesters for a minimum total of 4 units.

Additional 4 units can include 4 further units of dissertation, OT 660 or cognate courses.

Total: 60 units

Foreign Language or Research Skills

The PhD in Occupational Science does not require the demonstration of competence in a foreign language. However, each student is expected to achieve expertise, as defined by the student's qualifying exam committee, in research methods through participation in course work and the research practicum.

Qualifying Exam Committee

The qualifying exam committee is composed of five faculty members. Three members of the committee must be regular faculty from the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy. One member must be from outside the division. Complete regulations for establishing a qualifying exam committee are found in The Graduate School section of this catalogue.

Qualifying Examination

The qualifying examination is comprehensive in nature and requires the student to demonstrate a grasp of content from the core courses and the cognate area. The examination is both written and oral and is set and administered by the student's qualifying exam committee. Refer to The Graduate School section of the catalogue for additional information about the qualifying exam.

Dissertation Committee

The dissertation committee is composed of at least three faculty members. The chair of the committee and at least one additional member of the committee must be regular faculty from the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy. One member must be from outside the division. Complete regulations for establishing a dissertation committee are found in The Graduate School section of this catalogue.

Dissertation

Doctoral students must submit a dissertation based on students' original research according to the policies and procedures of The Graduate School section of this catalogue. Upon approval of the preliminary copy of the dissertation by all members of the dissertation committee, the candidate must pass an oral defense of the dissertation. Upon successful completion of the oral defense and revisions, the manuscript is approved and the committee recommends the candidate to the Graduate School for the PhD.

Teaching

To prepare students for anticipated roles as faculty members, a teaching component is incorporated into the program. Students work with their faculty adviser for their research immersion (OT 660) experience to identify an appropriate course or courses, arrange mentoring experience, and ensure that the timing of the teaching experience complements research lab participation and dissertation plans. If students are not assigned a full course, they are required to present a minimum of four lectures or seminars.

Additional Information

Further information about the baccalaureate, master's and doctoral programs can be obtained by writing or calling the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy, 1540 Alcazar Street (CHP 133), Los Angeles, CA 90089-9003; (323) 442-2850, toll free (866) 385-4250, or by sending email to info@chan.usc.edu. Information regarding the USC Chan Division of Occupational Science and Occupational Therapy is available at *chan.usc.edu*.

Required Courses (Students with Advanced Standing)

Students with an earned masters and/or doctoral degree at the time of admission may apply for Advanced Standing, reducing the units required for the degree from 60 units to 40 units. All students must complete the required core courses and successfully complete an independent dissertation. Program requirements include the following courses:

- OT 640 Conceptual Foundations of Occupational Science Units: 4
- OT 641 The Nature of Occupation Units: 4
- OT 648 Researching Occupation: Engagement, Meaning, and Society Units: 4
- OT 649 Researching Occupation: Function, Participation, and Health Units: 4
- OT 660 Research Practicum Units: 2 (2 Units - Four Semesters)
- OT 661 Grant Writing for Occupational Science Units: 2

Cognate Courses (Students with Advanced Standing)

Completion of a minimum of 10 units in a topic area such as one of the following is required: quantitative research approaches, qualitative research approaches, occupational science and/or therapy, neuroscience, social development, life span development or gerontology.

Research Practicum (Students with Advanced Standing)

Each student will enroll in 2 units of OT 660 per semester for four consecutive semesters, for a total of 8 units. Students are required to begin enrolling in OT 660 in their first semester of doctoral study. In this practicum the student will develop research skills by working as part of a research team under the direction of a faculty member.

Summary of all Course Requirements (Students with Advanced Standing)

Required core courses are OT 640, OT 641, OT 648, OT 649, OT 660, OT 661 for a total of 26 units.

Required cognate courses for a minimum total of 10 units.

Dissertation requires 2 units per semester for at least two semesters for a minimum total of 4 units.

Total: 40 units for students with advanced standing

Occupational Therapy (OTD)

The Doctor of Occupational Therapy (OTD) is a post-professional degree program that provides graduates with advanced knowledge and skills in one of four leadership concentrations: 1) advanced clinical practice; 2) policy and administrative leadership; 3) educational leadership; and (4) research expertise. OTD students graduate from the program with a strong foundation in occupational science as well as in-depth mentored residency experience. The OTD prepares graduates to secure positions as expert clinicians in specialty or emerging practice areas, as administrative leaders within health care organizations, as non-tenure track faculty in institutions of higher education, and as contributors to clinical research teams.

Admission Requirements

Applicants for admission to the OTD program are expected to have at least a baccalaureate degree from an accredited college or university and must be certified or licensed as an occupational therapist or be eligible to sit for the National Board for Certification in Occupational Therapy® (NBCOT) examination at time of matriculation. Domestic students not certified upon matriculation must pass the NBCOT examination by the end of the first semester of the program to maintain enrollment. At the discretion of the OTD Program Director, some international students may not be required to obtain NBCOT certification. A minimum GPA of 3.0 (A = 4.0) and completion of the Graduate Record Examination (GRE) within five years of application are required. Applicants must have earned a minimum cumulative 3.0 GPA in the 400- and 500-level required courses. At least three letters of reference, an autobiographical statement of purpose and a current resume are required. Applicants' leadership potential, previous academic record, clinical experiences and professional accomplishments will also be considered.

International Students

Students educated outside the United States must have graduated from a program approved by the World Federation of Occupational Therapists (WFOT). USC maintains additional admissions requirements for international students (see the Admission section of this catalogue), including English language competence as measured by the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) examination.

Application Procedures

Applications are accepted on a continuous basis. For consideration for fall semester admission, applications must be received by October 1 for maximum funding consideration. Applications received after October 1 will be considered on a space-available basis. Application requirements include: 1) USC Online Graduate Application; 2) USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy online supplemental application for graduate admission; 3) three letters of reference; 4) autobiographical statement of purpose; 5) transcripts from all colleges/universities attended; and 6) GRE General Test scores.

Degree Requirements

Satisfactory completion of 60 units beyond the baccalaureate degree is required. Students with a Master's degree in Occupational Therapy may apply for Advanced Standing, which requires 36 units beyond the first graduate degree. These students do not take the 24 units of foundational courses listed below. If admitted without advanced standing, a student may receive partial credit for course work taken for a previous graduate degree.

The degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue, for general regulations. All courses applied toward the degree must be accepted by the USC Graduate School.

Course Requirements (60 Units)

Required Occupational Therapy Foundational Courses (20 Units Required)

- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4 or
- OT 581 Quantitative Research for the Practicing Clinician Units: 4
- OT 525 Qualitative Research for Evidence-Based Practice Units: 4
- OT 534 Health Promotion and Wellness Units: 2
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2

Electives (8 Units Required)

500-level course within the division Units: 4
500-level course within or outside the division Units: 4

Required Occupational Science Advanced Courses (8 Units Required)

- OT 620 Current Issues in Occupational Science and Occupational Therapy Units: 4
- OT 621 Occupational Therapy Leadership: Contemporary Issues Units: 4

Residency (24 Units Required)

- OT 686 Residency Units: 6 or 12

Additional Requirements

Elective Courses (4 units required)

Students will complete a minimum of 4 course units at the 500-level or higher selected from courses within or outside the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy.

Residency Requirement (24 units required)

Students will complete 24 units of OT 686 residency. The residency ensures that graduates of the OTD program demonstrate competence in one of the following leadership concentrations: 1) advanced clinical practice; 2) clinical research; 3) policy and administration; and 4) pedagogy.

At least 20 units applied toward the OTD must be successfully completed before enrolling in OT 686 unless advanced standing has been granted. Students may complete their residency over three consecutive semesters (6 units, 6 units and 12 units) or over four consecutive semesters. It is highly recommended that one semester of OT 686 be enrolled full-time (12 units without any other simultaneous course enrollment). Full-time residency ensures the opportunity for full immersion in residency. Faculty must approve each student's residency plan prior to enrollment. OTD residency provides students the opportunity for mentorship by experts in their OTD leadership concentration (e.g., a master clinician, a world-class occupational science researcher, a leader in professional policy or administration, or a faculty member with at least three years of academic experience).

Portfolio Requirement

In the final semester of enrollment, each student will submit a portfolio demonstrating knowledge of and expertise in their selected leadership concentration. The final portfolio will include an evidence-based deliverable and highlighted accomplishments from their residency experience as designated in their academic and residency plans.

Clinical Experience Criterion

If the student has less than three years of clinical experience as a registered and/or licensed occupational therapist at time of

admission, he or she may be required to complete at least 8 units of clinical occupational therapy courses, which may include:

- OT 500a Clinical Problems in Occupational Therapy Units: 2, 3, 4
- OT 500b Clinical Problems in Occupational Therapy Units: 2, 3, 4
- OT 500c Clinical Problems in Occupational Therapy Units: 2, 3, 4
- OT 560 Contemporary Issues in School-Based Practice Units: 4
- OT 564 Sensory Processing and Sensory Integration Units: 4
- OT 572 Ergonomics Units: 4
- OT 574 Enhancing Motor Control for Occupation Units: 4
- OT 583 Current Applications of Lifestyle Redesign Units: 4
- OT 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- OT 610 Sensory Integrative Dysfunction Units: 4

Course Requirements – Advanced Standing (36 units)

Required Occupational Science Advanced Courses (8 Units Required)

- OT 620 Current Issues in Occupational Science and Occupational Therapy Units: 4
- OT 621 Occupational Therapy Leadership: Contemporary Issues Units: 4

Electives (4 Units Required)

500-level course within or outside the division Units: 4

Residency (24 Units Required)

- OT 686 Residency Units: 6 or 12

USC Gould School of Law

The USC Gould School of Law provides a forward-looking, interdisciplinary legal education, guided by nationally renowned professors and practitioners and energized by an engaged and collegial student body. As one of the most diverse among the nation's top law schools, USC Gould is made up of students from across the country and around the world whose ideas and experiences enrich the learning process and provide new perspectives on the law. Through collaborative and rigorous training, hands-on experiential offerings, and exceptional career services support, Gould students acquire the skills and knowledge necessary to succeed locally, nationally and globally.

USC Gould alumni are partners in the world's largest law firms, chairs and top executives of industry-leading companies, and esteemed leaders in government and public service organizations. Since its founding in 1900, the school has produced scores of judges and elected officials at the city, state and federal levels.

USC Gould School of Law
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Clinical Emeritus Professors: Lee W. Campbell, JD; Noel M. Ragsdale, JD*
Emeritus Professor of Lawyering Skills: Robert M. Saltzman, JD
Emeritus Law Librarians: Pauline M. Aranas, JD, MLIS (*John Stauffer Charitable Trust Chief Information Officer, Emeritus and Law Librarian Emerita*); Leonette Williams, MSLS (*Emerita Law Librarian*)
**Recipient of university-wide or school teaching award.*

USC Gould School of Law School is accredited by the American Bar Association. For information on ABA accreditation, please contact:
The American Bar Association
321 North Clark Street
Chicago, IL 60654
(312) 988-5000

Juris Doctor

The Juris Doctor (JD) is the standard law degree. To obtain the degree, full-time attendance for six semesters is required. During the first year, the student takes a curriculum of basic courses that examine fundamental legal institutions and address legal problems relevant to today's society and the modern practice of law. During the second and third years, the student must complete *Constitutional Law: Rights*, a writing requirement, and at least 6 units in experiential courses. The remainder of the courses taken in years two and three are elective.

JD students have an opportunity to learn about foreign legal systems and to experience different cultures through study abroad programs. Qualified second- and third-year JD candidates are exposed to international law as they take part in exchange programs with leading partner institutions worldwide. For more information, please check out the Gould School of Law website.

All applicants are required to take the Law School Admission Test (LSAT) administered by the Law School Admissions Council (LSAC) or the Graduate Records Examinations (GRE) administered by Educational Testing Service (ETS). Based on current test administration calendars, applicants who take the LSAT must take the test no later than January of the year in which they seek to start law school. Applicants who take the GRE must take the test no later than mid-January (the specific date is available in the application instructions) of the year in which they plan to start law school. All students begin their first-year classes in August.

USC Gould admits a small number of highly qualified transfer students with LLM degrees from USC Gould. These students will have taken a large number of law courses in their LLM course of study and received strong grades in those courses. The LSAT is not required.

Juris Doctor-Dual Degrees

USC Gould School of Law maintains several dual degree programs with the graduate schools on campus. These programs enable qualified students to earn a law degree (JD) and a graduate degree for a slightly reduced number of total units. If the graduate degree normally requires one year of study, a student in a dual degree program may earn both degrees in only three years. If the graduate degree normally requires two years of post-baccalaureate courses, a total of four years may be required. To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC beyond the first year curriculum and at least 76 law hours.

While students may be accepted for a dual degree program when they are accepted to the law school, most students do not apply until near the end of the first year. All programs require that students successfully complete the required first year of law school before beginning work toward the degree. Credit toward the law degree may not be given for graduate work completed prior to the completion of the first year of law school, although some credit toward the degree may be allowed by the faculty of the cooperating department of approved work completed prior to the first year of law school. Students are not eligible for either of their dual degrees until they complete the requirements for both degrees.

In all cases, prospective students must seek and gain acceptance to both the law school and the other graduate program, and have the dual degree program approved by both schools. Decisions regarding admission to the law school and the graduate program are made independently. For more information, contact the Law School Admissions Office at admissions@law.usc.edu.

Juris Doctor/Master of Business Administration

In addition to the LSAT, applicants to this dual degree program are required to take the Graduate Management Aptitude Test. Requirements are detailed at Juris Doctor/Master of Business Administration (JD/MBA) and in the USC Marshall School of Business section of this catalogue.

Juris Doctor/Master of Business Taxation

The Leventhal School of Accounting offers a specialized program in taxation leading to the Master in Business Taxation (MBT). Requirements are detailed at Juris Doctor/Master of Business Taxation (JD/MBT) and in the USC Leventhal School of Accounting section of this catalogue.

Juris Doctor/Master of Public Administration

Students are required to complete 97 units of course work. Candidates for the dual degree must fulfill the statistics requirement of the Public Administration (MPA) degree. See the Master of Public Administration section. Requirements are detailed at Juris Doctor/Master of Public Administration (JD/MPA) and in the USC Price School of Public Policy section of this catalogue.

Juris Doctor/Master of Public Policy

The USC Price School of Public Policy and the USC Gould School of Law offer a dual degree that enables qualified students to earn both a Juris Doctor and a Master of Public Policy in approximately four years of study.

Dual degree allows students to acquire a blend of the analytic skills of public policy and an understanding of legal institutions and processes. This combination of knowledge is well suited for law students who want to affect the policy-making process and craft legislation to aid in achievement of public policy goals. It is equally appropriate for prospective policy analysts who are interested in law and public policy.

Dual degree students spend the first year of the program completing the required first year of law school. The remaining units of law school courses and the required 36 units of core MPP courses are taken by students in the second through fourth years.

Students are required to complete 114 units of course work, including 78 units in the USC Gould School of Law and 36 units in the USC Price School of Public Policy. The MPP program has a statistics prerequisite. See Public Policy (MPP). Requirements are detailed at Juris Doctor/Master of Public Policy (JD/MPP) and in the USC Price School of Public Policy section.

Master's Degree Programs

Master of Laws in Alternative Dispute Resolution (LLM in ADR)

The on-campus Master of Laws in Alternative Dispute Resolution (LLM in ADR) program is a two- to four-semester, full-time and part-time master's degree program for law graduates and attorneys interested in building strength as advocates in ADR processes or gaining skills and a prestigious credential for pursuing career opportunities as mediators or arbitrators.

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB), a Juris Doctor (JD) or the foreign equivalent. Please visit the Gould School of Law website for more information.

Master of Laws in International Business and Economic Law (LLM in IBEL)

The on-campus Master of Laws in International Business and Economic Law degree is a two- to four-semester, full-time and part-time master's degree program for law graduates and attorneys interested in developing a global perspective and interdisciplinary skills that will enable them to understand and integrate relevant laws, policies and business best practices that shape international commerce and trade.

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB), a Juris Doctor (JD) or the foreign equivalent. Please visit the Gould School of Law website for more information.

Master of Laws in International Trade Law and Economics (MITLE)

The on-campus Master of International Trade Law and Economics (MITLE) degree is offered by USC Gould School of Law jointly with USC Dornsife College of Letters, Arts and Sciences Department of Economics. This degree provides students with an interdisciplinary, global perspective and the knowledge and skills relevant to the laws, policies, and business practices that shape international trade and economics.

The Master of International Trade Law and Economics is a one-year, 32-unit degree program offered on campus on a full-time basis, and enrollment is limited to the fall semester. This degree is open to anyone with a bachelor's degree in any field, however, students are recommended to have a strong foundation in economics and/or mathematics or another quantitative background. Please visit the Gould School of Law website for more information.

Master of Laws in Privacy Law and Cybersecurity (LLM in PLCS)

The on-campus Master of Laws in Privacy Law and Cybersecurity degree is a two- to four-semester, full-time and part-time master's degree program for law graduates and attorneys who wish to develop skills that will enable them to understand and integrate relevant laws, policies and best practices that shape privacy law and cybersecurity.

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB) degree or the foreign equivalent. Please visit the Gould School of Law website for more information.

Master of Laws (LLM) (On-campus and Online)

The on-campus Master of Laws (LLM) program is a master's degree program for foreign graduate students trained in law. This two- to four-semester, full-time and part-time program introduces foreign lawyers to American law and the U.S. legal system and prepares them for leadership roles in the global market. Students may enroll in an optional certificate track in Alternate Dispute Resolution, Business Law, Compliance, Media and Entertainment Law, Transnational Law and Business, or Technology and Entrepreneurship Law.

The online Master of Laws (LLM) program is a master's degree program for foreign graduate students trained in law. This program is offered on a part-time or full-time basis in a completely online modality and introduces foreign lawyers to American law and the U.S. legal system and prepares them for leadership roles in the global market. Students may enroll in an optional certificate track in Business Law, Compliance, Entertainment Law and Industry, Financial Compliance, Health Care Compliance, Human Resources Compliance, or Privacy Law and Cybersecurity.

Students submitting an application to either LLM program must have earned a basic law degree, a Bachelor of Laws (LLB) degree or the foreign equivalent. Please visit the Gould School of Law website for more information.

Two-Year Extended Master of Laws (LLM)

The on-campus Two-Year Extended Master of Laws (LLM) program combines a one-year certificate program with a one-year master's degree for foreign graduate students trained in law. During the first year, students complete mandatory law and English courses to prepare them for the master's program and further their English fluency. After successful completion of the first year, students earn a Certificate in U.S. Legal Studies. In the second year, students matriculate into our on-campus Master of Laws program.

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB) degree or the foreign equivalent. Please visit the Gould School of Law website for more information.

Master of Comparative Law (MCL)

The on-campus Master of Comparative Law (MCL) program is a master's degree program for foreign graduate students trained in law who have already earned an LLM degree. This two-semester, full-time program is focused on the study of comparative law.

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB) degree or the foreign equivalent and have previously earned an LLM degree. Please visit the Gould School of Law website for more information.

Master of Dispute Resolution (MDR)

The on-campus Master of Dispute Resolution (MDR) program is a two- to four-semester, full-time and part-time master's degree program for graduates from varying fields of study, who are interested in building strength as advocates in alternative dispute resolution processes.

Students submitting an application must have earned an undergraduate degree by the time they begin the MDR program. Please visit the Gould School of Law website for more information.

Master of Studies in Law (MSL) (On-campus and Online)

The on-campus Master of Studies in Law (MSL) is a two- to four-semester, full-time and part-time master's degree program designed for new graduates as well as seasoned professionals from varying fields of studies and careers, who seek an understanding of how the U.S. legal system functions. Students may enroll in an optional certificate track in Business Law or Compliance.

The online Master of Studies in Law (MSL) is designed for new graduates as well as seasoned professionals from varying fields of studies and careers. This program is offered on a part-time or full-time basis in a completely online modality for students who seek an understanding of how the U.S. legal system functions. Students may enroll in an optional certificate track in in Business Law, Compliance, Entertainment Law and Industry, Financial Compliance, Health Care Compliance, Human Resources Compliance, or Privacy Law and Cybersecurity.

Students submitting an application must have earned an undergraduate degree by the time they begin the MSL degree. Please visit the Gould School of Law website for more information.

A progressive degree is an option for current USC undergraduate students. For more information, please visit the Gould School of Law website. You may also contact USC Gould Undergraduate for more details.)

Certificates

USC Gould offers stand-alone certificates to allow students with a bachelor's degree to gain further knowledge of a particular area of law.

- Alternative Dispute Resolution Certificate (On-campus)
- Business Law Certificate (Online)
- Compliance Certificate (Online)
- Entertainment Law and Industry Certificate (Online)
- Financial Compliance Certificate (Online)
- Health Care Compliance Certificate (Online)
- Human Resources Law and Compliance Certificate (Online)
- Privacy Law and Cybersecurity Certificate (Online)

JD students may apply their course work to the following certificates: Alternate Dispute Resolution, Business Law, Media and Entertainment Law, and Public Interest Law. Certificate requirements differ for JD students and are detailed at the USC Gould School of Law website.

Registration

Registration for JD students is handled by the USC Gould School of Law Academic Services Office. First-year students will automatically be registered in their fall semester courses approximately two to three weeks prior to the beginning of the school year and for their spring semester courses during the week listed in the law school calendar for upper-division student registration.

Registration for master's students is handled by the Graduate and International Programs Office. Master's students will receive registration information in July with detailed instructions on how to register for fall and spring classes.

Grading and Attendance Policies

Grading

The grading system uses both numbers and letters in a range from 1.9 to 4.4 with letter-grade equivalents ranging from F to A+. The grade equivalents are: A+ (4.1–4.4); A (3.8–4.0); A- (3.5–3.7); B+ (3.3–3.4); B (3.0–3.2); B- (2.7–2.9); C+ (2.5–2.6); C (2.4); C- (2.1–2.3); D (2.0); and F (1.9). Students receiving a grade of 1.9 will not be given credit for the course toward graduation. A student who fails a first-year course must repeat the course, but both grades will be included in computing that student's general average. Other courses may not be repeated except on petition to the associate dean. A student with a weighted cumulative average of less than 3.0 at the end of the year will be placed on restricted enrollment. A Juris Doctor student with a weighted cumulative average of less than 2.9 at the end of any year will not be permitted to continue. An overall grade point average of at least 2.6 is required for graduation for students who are enrolled in the LLM, LLM in ADR, LLM in IBEL, LLM in PLCS, MCL, MDR, MITLE, MSL, or Alternative Dispute Resolution Certificate (on-campus), Business Law Certificate (online), Compliance Certificate (online), and Entertainment Law and Industry Certificate (online), Financial Compliance Certificate (online), Health Care Compliance Certificate (online), Human Resources Law and Compliance Certificate (online) and Privacy Law and Cybersecurity Certificate (online) programs.

Credit/D/F

After the first year, a Juris Doctor student may take up to 8 units on an elected CR/D/F basis, chosen from among courses otherwise graded in a normal manner. No more than 4 such units may be taken in a semester. Master's students may take up to 5 units of CR/D/F grading during the length of their program. The student must elect to take a course CR/D/F during the first two weeks of the semester. Courses or seminars may, at the instructor's option, be designated prior to registration as not available for CR/D/F grading. To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC beyond the first-year curriculum and complete at least 76 law hours.

Students may also take such courses regularly offered only on a CR/D/F basis, in addition to courses taken under this rule.

Withdrawals from Courses

A student may not withdraw from a course later than two weeks after the first day of classes of any semester without permission of both the associate dean and the instructor.

Attendance

Class attendance is an important part of law school education. It assists both the individual and fellow students in making the most of the educational opportunity offered. Students should, therefore, attend class regularly and participate in the discussion. Professors may require attendance and may take attendance into account in evaluating student performance.

For tuition and fee information, please visit the Gould School of Law website.

Standard Unit Rule

The Standard Unit Rule (also called "credit hour") is an amount of work that reasonably approximates:

(1) not less than one hour of classroom or direct faculty instruction and two hours of out-of-class student work per week for 15 weeks, or the equivalent amount of work over a different amount of time; or

(2) at least an equivalent amount of work as required in subparagraph (1) of this definition for other academic activities as established by the institution, including simulation, field placement, clinical, co-curricular, and other academic work leading to the award of credit hours. (ABA Standard 310)

Depending on the course type, the law school awards credit for varying periods of time. In all cases, however, the course work entails no less than the minimum total amount of in-class and out-of-class time required by the ABA (per Interpretation 310-1):

50 minutes of in-class time and two 60-minute periods of out-of-class time for 15 weeks for each unit of credit (a 15-week may period may include one week for a final examination).

In exceptional cases, at the discretion of the Vice Dean for Faculty and Academic Affairs (upon the request of the faculty member), a specific course may carry 1 unit of credit greater than the time the course meets each week. Those cases are limited to courses in which the instructor certifies to the Vice Dean that the course requires substantial written work. If the written work is optional, students may enroll in these types of courses for different unit values. Students performing the written work will receive additional credit.

Full policies and procedures for USC Gould School of Law students are published in the Student Handbook and are available on the Law Portal.

Undergraduate Courses and Programs

USC Gould School of Law, one of the nation's premier law schools, offers undergraduate courses and programs in its curriculum, which are taught by its internationally distinguished faculty and lecturers. The mission is to provide a broad-based academic foundation in law to undergraduate students who have an interest in law and legal-related fields. Law affects everyone in our society and students will deepen their education by exploring the role law plays in the world, its impact on society, and the way in which it intersects and impacts almost every facet of life.

USC Gould courses meet a variety of graduation requirements. Some courses satisfy USC General Education (GE) requirements, and others are either required or are electives in several USC majors and minors. For more information about the minor in Legal Studies, undergraduate course offerings, and those that satisfy USC General Education requirements, please vist the USC Gould School of Law website or email: undergraduate@law.usc.edu.

Undergraduate Courses

LAW 101w, LAW 200w, LAW 201, LAW 202, LAW 205, LAW 210p, LAW 212, LAW 220, LAW 225, LAW 250w, LAW 275p, LAW 300, LAW 310w, LAW 320p, LAW 324, LAW 352, LAW 402, LAW 403, LAW 404, LAW 406, LAW 444, LAW 493 and LAW 498.

Minor Programs

Legal Studies Minor

The Legal Studies Minor enables students to deepen their understanding of the U.S. legal system and provides them with the fundamentals of law. The Legal Studies Minor totals 22 units, consisting of 6 required units, and 16 elective units.

Law and Social Justice Minor

The Law and Social Justice Minor provides foundational knowledge of current legal systems of justice and encourages critical-analysis skills to recognize where and how change can be made. The Law and Social Justice Minor totals 18 units; 12 required units, and 6 elective units.

Law and Migration Studies Minor

The Law and Migration Studies Minor introduces students to the U.S. legal system as it relates to various aspects of immigration law, its impact on our communities, and consequences on our society nationally and globally. The Law and Migration Studies Minor totals 20 units; 12 required units, and 8 elective units.

For more details on the minors, please visit USC Gould School of Law website. Undergraduate students wishing to declare one of the Law minors, should email: undergraduate@law.usc.edu or submit an application form.

Undergraduate Majors, that include LAW courses:

Law, History, and Culture (BA)
Philosophy, Politics and Law (BA)
Public Policy (BS)

Undergraduate Minors, that include LAW courses:

Business Law Minor
Forensics and Criminality Minor
Justice, Voice, and Advocacy Minor
Health Policy Minor
Law and Public Policy Minor
Law and Society Minor
Philosophy of Law, Politics and Economics Minor
Psychology and Law Minor
Resistance to Genocide Interdisciplinary Minor

Progressive Degree Programs

USC's Progressive Degree program enables USC undergraduate students to begin work on a USC master's degree while completing the requirements for their USC bachelor's degree. Students complete their undergraduate degree and the Master of Studies in Law (MSL) or the Master of International Trade Law and Economics (MITLE) degree programs in no more than five years.

Undergraduate students may submit an application to the Master of Studies in Law (MSL) or the Master of International Trade Law and Economics (MITLE) degree programs as a junior for enrollment beginning in the fall or spring. Students must have completed at least 64 total units of undergraduate course work, excluding AP, IB or transfer units earned prior to graduation from high school. Students may apply in their junior (recommended) or senior year but no later than the semester prior to beginning graduate course work.

Students must have a minimum cumulative undergraduate GPA of 3.0 both at the time an application is submitted and at enrollment.

For more information, please vist the USC Gould School of Law website or email: undergraduate@law.usc.edu.

Progressive Degree Program - Master of Studies in Law (MSL)

Master of Studies in Law (MSL) teaches students fundamental U.S. law as well as various areas of legal specialization. This program is designed for individuals who want to gain an understanding of legal and compliance issues that will impact their future careers as entrepreneurs, business owners, administrators, scientists, engineers, educators, advocates, activists and more. USC Gould Progressive Degree Program Masters Studies in Law offers the option of earning a certificate in business law or compliance concurrent with the MSL.

Progressive Degree Program - Master of International Trade Law and Economics (MITLE)

The Master of International Trade Law and Economics degree provides an interdisciplinary, global perspective for students with an economic or other quantitative background who wish to develop knowledge and skills related to relevant laws, policies and business practices that shape international trade and economics.

Master of International Trade Law and Economics students are required to complete 32 units of study. Students are required to enroll in 12 core units from Dornsife College of Letters, Arts and Sciences and 12 core units from Gould School of Law, with an additional 8 units of electives chosen from a list of approved course offerings.

Accelerated BA/JD Program (3+3)

Undergraduate students at USC, who have completed their required bachelor's major course work by the end of their junior year (or have minimal units of upper-division elective courses remaining), may apply to our accelerated JD program. Students will complete their undergraduate and law school studies in a total of six years.

Students must have a minimum cumulative undergraduate GPA of 3.80 both at the time an application is submitted and at enrollment. Under current ABA guidelines, the LSAT is not required; however, this is subject to change. The program is open to all participating majors. Please visit the Gould School of Law website for more information.

Minor

Law and Migration Studies Minor

The Law and Migration Studies Minor introduces students to the U.S. legal system as it relates to various aspects of immigration law, its impact on our communities and consequences on our society nationally and globally.

The Law and Migration Studies Minor totals 20 units; 12 required units and 8 elective units, as detailed below.

Required Courses (12 units)

Students must enroll in this course:

- LAW 212 Immigration Law for a New America Units: 4

Students must also enroll in 8 units from the following courses:

- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- LAW 200w Law and Society Units: 4
- LAW 300 Concepts in American Law Units: 4
- LAW 310w Global Justice for Mass Atrocities and Genocide Units: 4
- LAW 352 Introduction to Law and Economics Units: 4

Elective Courses (8 units)

Students must enroll in 8 units of elective courses and must choose from the following to satisfy the minor requirements:

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4
- HIST 100gm The American Experience Units: 4
- POSC 260 Global Ethnic Politics Units: 4
- PPD 240g Citizenship and Public Ethics Units: 4
- PPD 485m U.S. Immigration Policy Units: 4
- SOCI 155gm Immigrant America Units: 4
- SOCI 355m Immigrants in the United States Units: 4 *
- SOCI 460 Key Issues in Contemporary International Migration Units: 4 *

  * Sociology courses taken as part of this minor will have prerequisites waived by the Sociology Department.

Law and Social Justice Minor

The Law and Social Justice Minor provides foundational knowledge of current legal systems of justice and encourages critical-analysis skills to recognize where and how changes can be made.

The Law and Social Justice Minor totals 18 units; 12 required units and 6 elective units, as detailed below.

Law and Social Justice Minor (18 units)

Required Core Courses (8 units)

Students must enroll in 8 units from the following courses:

- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- LAW 210p Fundamentals of the U.S. Legal System Units: 4
- LAW 300 Concepts in American Law Units: 4

Law Electives (4 units)

Students must enroll in 4 units of law elective courses:

- LAW 200w Law and Society Units: 4
- LAW 202 Wrongful Convictions Units: 4
- LAW 250w Children and the Law Units: 4
- LAW 275p The Origin and Evolution of American Civil Rights Law Units: 4
- LAW 310w Global Justice for Mass Atrocities and Genocide Units: 4
- LAW 320p Law, Slavery, and Race Units: 4
- LAW 403 Mental Health Law Units: 4
- LAW 404 Law and Psychology: Examining the Criminal Justice Process Units: 4

- LAW 406 Individual Rights in U.S. Constitutional Law Units: 4
- LAW 498 Law Internship Units: 2, 4

Social Justice Electives (6 units)

Students must enroll in 6 units of social justice elective courses:

- COMM 366 Designing Media for Social Change Units: 4
- COMM 367 Community Engagement and Service Learning Units: 2
- COMM 412 Communication and Social Movements Units: 4
- MDA 300 The Dornsife Toolkit Units: 2
- PHIL 174gw Freedom, Equality, and Social Justice Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- SOCI 150gm Social Problems Units: 4 *
- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4 *
- SOCI 425 Social Movements: Power, Resistance and Political Dynamics Units: 4 *
- SOWK 324 Juvenile Justice in America Units: 4
- SOWK 424 Community Experience in Juvenile Justice Environments Units: 4
- SWMS 349 Women and the Law Units: 4

  * Sociology courses taken as part of this minor will have prerequisites waived by the Sociology Department.

Legal Studies Minor

The minor in Legal Studies enables students to deepen their understanding of the U.S. legal system and provides them with the fundamentals of law. It combines courses in law, economics, history, philosophy, political science and public policy taught at the Gould School of Law, Dornsife College of Letters, Arts and Sciences, and the Sol Price School of Public Policy.

The minor in Legal Studies totals 22 units, consisting of 6 required units, and 16 elective units, as detailed below.

Required Courses

- LAW 210p Fundamentals of the U.S. Legal System Units: 4
- LAW 220 The Legal Profession Units: 2 or
- LAW 225 Current Court Cases Units: 2

Elective Courses

Choose from the following courses to satisfy the remaining 16-unit requirements for the minor.

- ECON 434 Economic Analysis of Law Units: 4
- HIST 386 American Legal History Units: 4
- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- LAW 200w Law and Society Units: 4
- LAW 201 Law and Politics Units: 4
- LAW 202 Wrongful Convictions Units: 4
- LAW 205 Introduction to Criminal Law Units: 4
- LAW 250w Children and the Law Units: 4
- LAW 275p The Origin and Evolution of American Civil Rights Law Units: 4
- LAW 300 Concepts in American Law Units: 4
- LAW 310w Global Justice for Mass Atrocities and Genocide Units: 4
- LAW 320p Law, Slavery, and Race Units: 4
- LAW 350 Law and Entrepreneurship Units: 4
- LAW 352 Introduction to Law and Economics Units: 4
- LAW 402 Psychology and Law Units: 4
- LAW 403 Mental Health Law Units: 4
- LAW 404 Law and Psychology: Examining the Criminal Justice Process Units: 4
- LAW 406 Individual Rights in U.S. Constitutional Law Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- POSC 345 International Law Units: 4
- PPD 314 Public Policy and Law Units: 4

Finance, Business and Economics Option

A maximum of 4 units from the following FBE courses may be applied toward the minor in Legal Studies.

- FBE 403 Introduction to the Legal Environment of Business Units: 4
- FBE 427 Real Estate Law Units: 4
- FBE 428 Introduction to Employment Law Units: 4
- FBE 429 International Business Law Units: 4
- FBE 458 Law of Forming, Financing and Managing Businesses Units: 4

Master's Degree

Alternative Dispute Resolution (LLM)

The Master of Laws (LLM) in Alternative Dispute Resolution (ADR) degree, is designed to prepare high caliber U.S. and foreign law graduates who are interested in the specialized and advanced knowledge in ADR. The program resides within the new Judge Judith O. Hollinger Alternative Dispute Resolution Program. The Hollinger ADR Program's mission is to design, develop, and implement a world class educational program in dispute resolution that will rival and ultimately surpass the quality of similar programs offered by other institutions of higher education. The goal is to have USC Gould emerge as a preeminent leader in dispute resolution and ADR education.

Core Curriculum Requirements

Students must complete the following courses to earn the LLM degree in ADR Law.

- LAW 715 ADR Law and Policy: Mediation and Arbitration Units: 2, 3, 4
- LAW 819 ADR Ethics Units: 1, 2

International Student Core Requirements

Students who have earned a law degree outside of the United States must also complete the following course to earn the LLM degree in ADR Law.

- LAW 520 Introduction to U.S. Legal System Units: 2

Elective Courses

Students may select among the following electives to complete the 24 units required for the LLM in ADR Law degree. Students may also enroll in other graduate level Law courses by advisement to satisfy the elective requirements.

- LAW 572 Practical Mediation Skills Clinic Units: 1, 2, 3, 4, 5
- LAW 626 International Investment Law and Arbitration Units: 1, 2
- LAW 670 Advanced Moot Court Oral Arguments Units: 1, 2, 3
- LAW 680 Mediation Theory and Practice Units: 2, 3
- LAW 712 Negotiation Theory and Application Units: 2, 3
- LAW 781 Externship I Units: 2, 4, 10, 12
- LAW 813 Arbitration in the United States Units: 3
- LAW 817 International Arbitration Units: 3
- LAW 822 Alternative Dispute Resolution Clause Drafting Units: 1
- LAW 824 Arbitration Advocacy Units: 1, 2
- LAW 826 Employment Dispute Mediation Units: 1, 2
- LAW 828 Mediation Advocacy Units: 3
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 832 Special Education Dispute Resolution Units: 2
- LAW 853 Divorce and Family Mediation Units: 2
- LAW 863 International Negotiations and Mediation Units: 2, 3, 4
- LAW 868 Organizational Ombuds Units: 2
- LAW 869 Family Law Mediation Clinic Units: 2, 4

Comparative Law (MCL)

The on-campus Master of Comparative Law (MCL) program is a master's degree program for foreign graduate students trained in law who have already earned an LLM degree. This two-semester, full-time program is focused on the study of comparative law.

Admission Requirements

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB) degree or the foreign equivalent and have previously earned an LLM degree. Please visit the Gould School of Law Website for more information.

Dispute Resolution (MDR)

The Master of Dispute Resolution (MDR) is designed to prepare high caliber students who plan to practice Alternative Dispute Resolution (ADR) in the context of the U.S. legal system. The program offers both part-time and full-time options for students, and those who wish to carry full academic loads may complete the program within one academic year.

To obtain a Master of Dispute Resolution (MDR), students must take a total of at least 24 units of the core curriculum and elective courses listed below.

Core Curriculum

Students must successfully complete the following courses to receive the MDR degree.

- LAW 715 ADR Law and Policy: Mediation and Arbitration Units: 2, 3, 4
- LAW 819 ADR Ethics Units: 1, 2
- LAW 829 Cross-Cultural Dispute Resolution Units: 2

Elective Courses

Students may select among the following electives to complete the 24 units required for the MDR degree. Students may also enroll in other graduate level Law courses by advisement to satisfy the elective requirements.

- LAW 513 Effective Writing for Professionals Units: 2
- LAW 520 Introduction to U.S. Legal System Units: 2
- LAW 559 Human Resource Compliance Units: 2, 3
- LAW 571 Organizational Conflict Units: 3
- LAW 572 Practical Mediation Skills Clinic Units: 1, 2, 3, 4, 5
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 626 International Investment Law and Arbitration Units: 1, 2
- LAW 676 Dealmaking Units: 2
- LAW 680 Mediation Theory and Practice Units: 2, 3
- LAW 712 Negotiation Theory and Application Units: 2, 3
- LAW 781 Externship I Units: 2, 4, 10, 12
- LAW 813 Arbitration in the United States Units: 3
- LAW 817 International Arbitration Units: 3
- LAW 822 Alternative Dispute Resolution Clause Drafting Units: 1
- LAW 824 Arbitration Advocacy Units: 1, 2
- LAW 826 Employment Dispute Mediation Units: 1, 2
- LAW 828 Mediation Advocacy Units: 3
- LAW 832 Special Education Dispute Resolution Units: 2
- LAW 833 Labor Arbitration Units: 2
- LAW 845 Negotiation Skills Units: 2, 3
- LAW 853 Divorce and Family Mediation Units: 2
- LAW 863 International Negotiations and Mediation Units: 2, 3, 4
- LAW 868 Organizational Ombuds Units: 2

International Business and Economic Law (LLM)

The Master of Laws in International Business and Economic Law (LLM in IBEL) degree provides an interdisciplinary, global perspective for law students who wish to develop skills that will enable them to understand and integrate relevant laws, policies and business best practices that shape international business and economic law. The program provides students with training in cross-border transactions, as well as the organizational, transactional and compliance aspects of servicing globally engaged clients.

LLM in IBEL students are required to complete 24 units of study. Students must enroll in three mandatory courses and from among the electives below and other graduate law courses. International students must also enroll in Introduction to the U.S. Legal System.

To qualify for admission, students must have earned a first law degree (JD, LLB or equivalent) before enrolling in our LLM in in International Business and Economic Law at USC Gould School of Law.

Required Courses

Students must successfully complete the following courses to receive the degree.

- LAW 603 Business Organizations Units: 3, 4, 5 (4 units)
- LAW 579 Global Regulatory Compliance Units: 2

  or
- LAW 637 International Trade Policy Units: 1, 2, 3, 4 (2 units)
- LAW 764 International Business Transactions Units: 3 or 4 (3 units)

Electives

Students may select among the following elective courses to complete the 24 units required for the degree. Students may also enroll in other graduate level law courses by advisement to satisfy the elective requirements.

- LAW 579 Global Regulatory Compliance Units: 2 *
- LAW 626 International Investment Law and Arbitration Units: 1, 2
- LAW 632 Business for Lawyers Units: 2, 3, 4
- LAW 637 International Trade Policy Units: 1, 2, 3, 4 *
- LAW 642 Secured Transactions Units: 2, 3, 4
- LAW 658 Mergers and Acquisitions Units: 1, 2, 3, 4
- LAW 709 Contract Drafting and Negotiation Units: 2, 3, 4
- LAW 714 U.S. Foreign Policy and International Law Units: 1, 2, 3, 4
- LAW 719 Corporate Finance Units: 2, 3, 4
- LAW 753 Antitrust Law I Units: 3 or 4
- LAW 754 Antitrust and Intellectual Property Law Units: 2, 3, 4
- LAW 770 Technology Transactions Units: 2, 3
- LAW 775 Immigration Law Units: 2, 3, 4, 5
- LAW 801 Venture Capital and Emerging Companies Units: 2, 3
- LAW 817 International Arbitration Units: 3
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 863 International Negotiations and Mediation Units: 2, 3, 4

Note:

*Students may not double count an elective with a required course, but students who enroll in LAW 637 International Trade Policy as a required course may still enroll in LAW 579 Global Regulatory Compliance as an elective, and vice versa.

International Trade Law and Economics (MITLE)

The Master of International Trade Law and Economics degree provides an interdisciplinary, global perspective for students with an economic or other quantitative background who wish to develop knowledge and skills related to relevant laws, policies and business practices that shape international trade and economics.

Master of International Trade Law and Economics students are required to complete 32 units of study. Students are required to enroll in 12 core units from Dornsife College of Letters, Arts and Sciences and 12 core units from Gould School of Law, with an additional 8 units of electives chosen from a list of approved course offerings.

To qualify for admission, students must have earned the bachelor's degree before enrolling in the program. Applicants may have earned their bachelor's degree in a field, other than law, that provides a strong economics and/or mathematical background. Students may have graduated from an institution within or outside of the United States.

Required Courses (32 units total)

Required Courses from Dornsife College of Letters, Arts and Sciences (12 units)

- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 501 Macroeconomic Analysis and Policy Units: 4
- ECON 550 Applied Trade Policy Units: 4

Required Courses from Gould School of Law (12 units)

- LAW 520 Introduction to U.S. Legal System Units: 2
- LAW 637 International Trade Policy Units: 1, 2, 3, 4 (3 units)
- LAW 764 International Business Transactions Units: 3 or 4 (3 units)
- LAW 777 Administrative Law and Regulatory Policy Units: 1, 2, 3, 4 (4 units)

Elective Courses (8 units)

Choose 8 units of electives from the following list of courses offered by Gould School of Law and the Economics Department at the Dornsife College of Letters, Arts and Sciences.

Dornsife College of Letters, Arts and Sciences

- ECON 513 Practice of Econometrics Units: 4
- ECON 521 Open Economy Macroeconomics Units: 4
- ECON 572 Economics and International Health Units: 4
- ECON 580 Antitrust Economics and Competition Policy Units: 4
- ECON 584 Economic Consulting and Applied Econometrics Units: 4
- ECON 650 International Trade Theory Units: 4
- ECON 673 Program Evaluation Units: 4

Gould School of Law

- LAW 579 Global Regulatory Compliance Units: 2
- LAW 603 Business Organizations Units: 3, 4, 5 (3 units)
- LAW 626 International Investment Law and Arbitration Units: 1, 2 (1 unit)
- LAW 662 Public International Law Units: 2, 3, 4 (3 units)
- LAW 697 Foreign Relations and National Security Law Units: 2, 3, 4 (2 units)
- LAW 753 Antitrust Law I Units: 3 or 4 (3 units)
- LAW 770 Technology Transactions Units: 2, 3 (2 units)
- LAW 772 Intellectual Property Units: 2 or 3 (3 units)
- LAW 829 Cross-Cultural Dispute Resolution Units: 2

Master of Laws (LLM)

The on-campus Master of Laws (LLM) program is a master's degree program for foreign graduate students trained in law. This two- to three-semester, full-time program introduces foreign lawyers to American law and the U.S. legal system and prepares them for leadership roles in the global market. Students may enroll in an optional certificate track in Alternate Dispute Resolution, Business Law, Media and Entertainment Law, Transnational Law and Business, or Technology and Entrepreneurship Law.

The online Master of Laws (LLM) program is a master's degree program for foreign graduate students trained in law. This program is offered on a part-time or full-time basis in a completely online modality and introduces foreign lawyers to American law and the U.S. legal system and prepares them for leadership roles in the global market. Students may enroll in an optional certificate track in Business Law, Entertainment Law and Industry, Compliance, Health Care Compliance, Financial Compliance or Human Resources Compliance.

The on-campus Two-Year Extended Master of Laws (LLM) program combines a one-year certificate program with a one-year master's degree for foreign graduate students trained in law. During the first year, students complete mandatory law and English courses to prepare them for the master's program and further their English fluency. After successful completion of the first year, students earn a Certificate in U.S. Legal Studies. In the second year, students matriculate into our on-campus Master of Laws program.

Admission Requirements

Students submitting an application to either LLM program must have earned a basic law degree, a Bachelor of Laws (LLB) degree or the foreign equivalent. Please visit the Gould School of Law Website for more information.

Mandatory LLM Courses

All LLM students must successfully complete the following two courses as part of the LLM degree.

- LAW 510 Legal Research Units: 0 or 1 (1 unit required)
- LAW 520 Introduction to U.S. Legal System Units: 2

Elective LLM Courses

Students must complete 18 units of upper division elective courses offered at USC Gould School of Law in order to earn the LLM degree.

Master of Studies in Law (MSL)

The Master of Studies in Law (MSL) teaches students fundamental U.S. law as well as various areas of legal specialization. This program is designed for those seeking a graduate degree in law, mid-career professionals, including corporate executives, government officials, and others from the United States and from around the globe, whose prospective or current employment or whose area of research would benefit from the study of the U.S. legal system. It will appeal also to those who would like to deepen their knowledge of current trends in the law and specific areas of interest.

The MSL is offered both as an online and in-residence program. Elective courses may differ in the online or in-residence program.

Admission Requirements

Students must have earned an undergraduate degree in some field of study by the time they begin the MSL degree. Prior exposure to or experience in law is not required. The Admissions Committee will consider the student's grades, course work, work experience and reasons for pursuing the MSL degree when determining admission.

Required Courses

All MSL students must successfully complete the following two courses as part of the MSL degree.

- LAW 510 Legal Research Units: 0 or 1
- LAW 520 Introduction to U.S. Legal System Units: 2

Elective Courses (Online)

Students pursuing the MSL online must complete 18 units of the following elective courses or other courses selected with the guidance of an academic adviser to receive their master's degree.

- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 508 Constitutional Law: Structure Units: 2, 3, 4, 5
- LAW 521 Topics in American Law Units: 1, 2, 3, 4
- LAW 522 Entertainment Law and Industry Units: 2
- LAW 527 Intellectual Property: Copyright Units: 2
- LAW 551 Intellectual Property Trademark Units: 2
- LAW 559 Human Resource Compliance Units: 2, 3
- LAW 567 Introduction to Litigation in U.S. Courts Units: 2
- LAW 574 Health Care Compliance Units: 2, 3
- LAW 579 Global Regulatory Compliance Units: 2
- LAW 598 Regulatory Compliance Units: 2, 3
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 609 Contemporary Issues in Human Resource Compliance Units: 2
- LAW 613 Corporate Governance Units: 2
- LAW 633 Business Principles in Law Units: 2
- LAW 635 Employment Discrimination Law Units: 2, 3
- LAW 640 Financial Institution Regulation Units: 2
- LAW 658 Mergers and Acquisitions Units: 1, 2, 3, 4
- LAW 663 Health Care Law, Business and Finance Units: 2
- LAW 664 Patient Privacy Law Units: 2
- LAW 691 Cybersecurity and Cyber Crimes Units: 2
- LAW 692 Information Management and Risk Units: 2
- LAW 710 Contract Drafting and Analysis Units: 2, 3
- LAW 749 Securities Regulation Units: 2, 3, 4
- LAW 804 Information Privacy Law Units: 2
- LAW 811 Health Law and Policy Units: 2, 3, 4
- LAW 826 Employment Dispute Mediation Units: 1, 2

Elective Courses (In-Residence)

Students pursuing the MSL in-residence must complete 18 units of the following elective courses or other courses selected with the guidance of an academic adviser to receive their master's degree.

- LAW 513 Effective Writing for Professionals Units: 2
- LAW 521 Topics in American Law Units: 1, 2, 3, 4
- LAW 525 Fundamentals of Intellectual Property Law Units: 3
- LAW 559 Human Resource Compliance Units: 2, 3
- LAW 567 Introduction to Litigation in U.S. Courts Units: 2
- LAW 574 Health Care Compliance Units: 2, 3
- LAW 598 Regulatory Compliance Units: 2, 3
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 613 Corporate Governance Units: 2
- LAW 676 Dealmaking Units: 2
- LAW 710 Contract Drafting and Analysis Units: 2, 3
- LAW 845 Negotiation Skills Units: 2, 3

Privacy Law and Cybersecurity (LLM)

The Master of Laws in Privacy Law and Cybersecurity degree provides an interdisciplinary perspective for law students who wish to develop skills that will enable them to understand and integrate relevant laws, policies and best practices that shape privacy law and cybersecurity. The degree explores the legal framework concerning information privacy in the United States and provides an overview of common legal issues and emerging law in the areas of privacy and cybersecurity. Knowledge of privacy laws and awareness of cybersecurity issues provide students with the opportunity to mitigate risk and to deal with threats in the workplace.

Admission Requirements

Applicants to the LLM in Privacy Law and Cybersecurity must have earned a first degree in law (LLB, JD, LLM or equivalent) from either inside or outside the United States. Applicants' degrees must have been earned at degree-granting institutions that are recognized by USC. They will have excellent undergraduate grades and credentials, and a strong desire to specialize their graduate studies in privacy law and cybersecurity. While USC Gould does not have a minimum GPA requirement, successful applicants to our LLM in Privacy Law and Cybersecurity degree will generally have earned at least a 3.0 undergraduate GPA.
In order to apply for the LLM in Privacy Law and Cybersecurity, students must submit the online application form, transcripts from all institutions attended, a current resume and personal statement detailing their desire to pursue the degree. International applicants must submit official and valid TOEFL/IELTS scores and must have demonstrated their proficiency in English as part of the application process.

Mandatory Courses

The Master of Laws in Privacy Law and Cybersecurity degree requires 24 units of course work. Students must successfully complete the following courses. The balance of the units will be taken from upper-division and LLM offerings in consultation with an adviser.

- LAW 652 Computer Crime Law Units: 2
- LAW 694 Cyberlaw: Legal Issues Impacting Providers and Users of Internet Services Units: 2
- LAW 772 Intellectual Property Units: 2 or 3 (3 units)
- LAW 804 Information Privacy Law Units: 2
- LAW 866 Counterterrorism, Privacy and Civil Liberties Units: 2, 3, 4 (2 or 3 units)

Dual Degree

Juris Doctor/Doctor of Pharmacy (JD/PharmD)

Admission Requirements

Admission to the dual PharmD/JD program is competitive, and involves meeting admission requirements and gaining acceptance to both the School of Pharmacy and the law school. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students that have a baccalaureate degree may apply to the dual PharmD/JD degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both schools. Students who elect this approach must identify themselves on their PharmD applications as potential dual PharmD/JD degree students. Students who are admitted to both schools will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA.

Students pursuing the dual PharmD/JD degree must notify the law school in a timely fashion that they will be enrolling in the dual PharmD/JD degree program and will not matriculate at the law school until the following year. Students who are accepted only by one school may choose to attend that school but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the law school during their first year of enrollment in the PharmD program prior to the law school's published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the law school using this approach would be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. See the admissions section of the School of Pharmacy and the law school for specific requirements.

Degree Requirements

The professions of pharmacy and law are distinctly different, yet pharmacists are often involved in legal issues and lawyers frequently deal with pharmacy, drug, health care, product development and toxin-related matters. This dual degree program provides qualified students with an efficient mechanism for obtaining the expertise and professional credentials that will enable them to develop professional practices that bring together expertise in both areas.

Overall Requirements

A student is required to complete all work for both degrees within six years of the date of matriculation at the School of Pharmacy (PharmD) and five years of matriculation at the law school (JD). The entire dual degree program will take six years to complete. Dual degree students will be allowed to use 12 units of approved JD course work (elective or required) to meet 12 units of PharmD electives and 12 units of approved PharmD course work (elective or required) to meet 12 units of JD electives. A faculty qualifying exam committee will determine the exact program for each student, including the appropriateness of courses in one program used to meet elective requirements for the other program. A total of 212 units is required for the dual degree.

PharmD Requirements

Dual degree students must successfully complete 148 units of PharmD and acceptable JD units to receive the PharmD degree. The 148 units must include 136 units of required and elective pharmacy course work plus 12 units of JD course work deemed acceptable to meet PharmD elective requirements. Dual degree students should graduate with their PharmD degrees at the completion of the first semester of the sixth academic year of the dual degree program. Students will be eligible to sit for the Pharmacy Board Exams after completion of the PharmD degree requirements. However, dual degree students will not actually be awarded their PharmD degrees until they complete requirements for both degrees.

Juris Doctor Requirements

Dual degree students must successfully complete 88 units of JD and acceptable PharmD course work during the second to sixth years of the dual degree program to receive the JD degree. The 88 units must be composed of 76 units of JD course work, including satisfaction of the upper-division writing requirement and any other substantive requirements, plus 12 units of PharmD course work deemed acceptable to meet JD elective requirements. No JD credit will be awarded for PharmD course work completed prior

to matriculation in the law school. Students cannot receive the JD degree under requirements for the dual degree program without prior or simultaneous completion of the PharmD degree.

Both professions require passing a state board or bar exam to practice the respective professions. Neither of these degrees requires a thesis or comprehensive final exam.

Recommended Program

PharmD/JD dual degree students will begin with the first year of the PharmD curriculum (36 units). During the second year, students will take the first year law core (30 units), plus 3–5 PharmD units. Due to the rigor of the law school core, pharmacy courses during the first year of law school are limited to non-science courses. The third through fifth years of the program focus on PharmD courses with sufficient law courses to maintain students' educational momentum in law. Students should complete their PharmD requirements during the fall of their sixth year of the program and their law course work also during the sixth year. Students must complete both degree requirements by the end of the sixth year of the program.

Juris Doctor/Doctor of Philosophy in Political Science and International Relations (JD/PhD)

Application deadline (for PhD): December 1

The Political Science and International Relations program and the USC Gould School of Law jointly offer a dual degree program leading to the JD/PhD degree. Applicants must apply to the Political Science and International Relations program and the law school and meet the requirements for admission to both.

In the first year students take 30 units of course work in the law school exclusively. The second and third years include a total of 40 units of courses in political science and international relations and 46 units of law. To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC after the first year. Students must complete a five-course core theory and methodology sequence. They must include a classics-oriented, two-semester political, social, comparative and international theory sequence (currently POIR 600), a multivariate statistics course (such as POIR 611) and a philosophies/methodologies in social inquiry course (POIR 610). Finally in their second, third or fourth year, they must take an approved advanced research methods course.

To obtain a PhD in Political Science and International Relations, students must pass the screening process. After the completion of required field course work with a grade of B or better, a substantive paper or USC MA thesis relevant to the program, students must take a PhD qualifying examination in two of their three fields of concentration. The third field will be completed by taking at least three courses and passing each with a grade of B or better. The final requirement, following successful completion of the qualifying examination, is a doctoral dissertation.

Juris Doctor/Master of Arts, Philosophy (JD/MA)

Students must complete 24 units in the USC Dornsife College of Letters, Arts, and Science Department of Philosophy and 76 units in the USC Gould School of Law.

First Year: Required law school curriculum.

Second and Third Years: The Department of Philosophy prefers that students take at least one philosophy course each semester. During the four semesters, students must take at least 16 units at the 500 level, including PHIL 450 The Limits of Logic or PHIL 510 Philosophical Logic and PHIL 500 Introduction to Contemporary Philosophical Literature and PHIL 503 Introduction to Contemporary Philosophical Literature on Value; one 400- or 500-level course in ethics or social/political philosophy or aesthetics or philosophy of law; one 400- or 500-level course in metaphysics or epistemology or philosophy of language or philosophy of science or philosophy of mind; one 400- or 500-level course in the history of ancient or early modern philosophy; passage of the second year review, which shall include a research paper based on a completed seminar paper and completion of a publishable research paper. Students must also complete 46 additional law units.

Juris Doctor/Master of Communication Management (JD/MCG)

Students must complete 20 units (five courses) of communication courses at the School of Communication: one core class from the student's preferred track; one method course; CMGT 597a, CMGT 597b; and the remaining two courses may be from either core or elective offerings.

First Year: Required law school courses.

Second and Third Years: 20 units of communications courses and 46 units of law courses, of which 8 units must be approved as appropriate for acceptance by the Annenberg School for Communication and Journalism toward its degree. All students take CMGT 597a, CMGT 597b in the third year.

Application to pursue the dual degree should be made before completion of 15 units of work on law or 8 units toward the MA Admission by the law school to its JD degree will be evaluated as a substitute for GRE scores.

Juris Doctor/Master of Public Administration (JD/MPA)

The dual degree program with the USC Gould School of Law and the USC Price School of Public Policy enables qualified students to earn a Juris Doctor/Master of Public Administration (JD/MPA) in approximately four years of study.

Some of the topics covered in the law school are also covered in the program of the Price School of Public Policy, so some credit toward the law degree may appropriately be given for specified graduate work taken in the Price School of Public Policy. Similarly, some credit toward the master's degree may appropriately be awarded for certain work completed in the law school. The goal of the program is to encourage law students to gain a recognized competence in administration, which has a direct relevance for the roles lawyers are asked to play in society.

Students must apply to, and be accepted by, both schools. They may be accepted to a dual degree program at the time of their acceptance to the law school or at the beginning of their second year of law school. The program requires the completion of the required first year of law school and the fulfillment of a statistics prerequisite, which can be met by passing an undergraduate inferential statistics class with a grade of B or better at an approved university within three years of matriculation or taking PPD 502x Statistical Foundations for Public Management and Policy and completing with a grade of "B" or better. To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC after the first year.

Credit toward the law degree may not be given for graduate work completed prior to the completion of the first year of law school. The Price School of Public Policy, on the other hand, may allow some credit toward the MPA for approved work completed prior to the first year of law school.

Students are required to complete 108 units of course work.

Curriculum Requirements

First Year

Required law school courses (30 units).

Second and Third Year

Students complete the remaining law school courses (46 units) and 32 units of public administration courses.

MPA Courses (24 units)

- PPD 503 Economics for Public Policy Units: 4
- PPD 504 Essential Statistics for Public Management Units: 2
- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4

- PPD 546 Capstone in Public Administration Units: 4
- PPDE 505 Professional Workshop in Public Administration Units: 2

Electives (8 units)

Students complete one analytic elective (4 units) and one management elective (4 units), selected in consultation with an adviser.

Juris Doctor/Master of Public Policy (JD/MPP)

The USC Price School of Public Policy and the USC Gould School of Law offer a dual degree that enables qualified students to earn both a Juris Doctor and a Master of Public Policy in approximately four years of study.

The dual degree allows students to acquire a blend of the analytic skills of public policy and an understanding of legal institutions and processes. This combination of knowledge is well suited for law students who want to affect the policy-making process and craft legislation to aid in achievement of public policy goals. It is equally appropriate for prospective policy analysts who are interested in law and public policy.

Students must apply to, and be accepted by, both schools. They may be accepted to the dual degree at the time of their acceptance to the law school or at the beginning of their second year of law school. Dual degree students spend the first year of the program completing the required first year of law school. The remaining units of law school courses and the required 36 units of core MPP courses are taken by students in the second through fourth years.

Students are required to complete 114 units of course work, including 78 units in the Gould School of Law and 36 units in the USC Price School of Public Policy. The MPP program has a statistics prerequisite. See Public Policy (MPP). Requirements for this dual degree are listed in the USC Price School of Public Policy section.

Juris Doctor/Master of Real Estate Development (JD/MRED)

The Juris Doctor/Master of Real Estate Development dual degree program provides the opportunity for in-depth study of legal issues and real estate development. The increasingly regulatory environment developers work within demands that professionals in the real estate industry have a strong understanding of the legal system. Lawyers who plan to specialize in real estate law will benefit from a thorough understanding of the development process, including financial, planning, marketing and design issues.

Application must be made to both the Gould School of Law and the USC Price School of Public Policy. This program normally requires three years (including one summer) of full-time study in residence to complete.

Students must have use of an approved laptop computer as required by instructors and must demonstrate calculator and spreadsheet skills; a calculator and/or spreadsheet class is offered online via the Internet.

Requirements for completion of the dual degree program are 112 units, including 78 units in law and 34 units in planning. For a complete listing, see the requirements listed in the USC Price School of Public Policy.

Juris Doctor/Master of Science in Gerontology (JD/MS)

The JD/MS dual degree combines the knowledge of the older population with understanding of the legal system. The program prepares graduates for a number of roles in both public and private sector organizations. Students are required to complete 112 units of course work, 76 from the law school and 36 from the USC Leonard Davis School of Gerontology. The first year is devoted to required law courses, and the second, third and fourth years combine gerontology and law courses.

Gerontology Requirements

The Master of Science in Gerontology will require 36 units of course and field work that cover the core content of the MS program.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- Gerontology elective Units: 4

Notes:

The USC Leonard Davis School of Gerontology will waive 16 units of electives, which are required in the regular MS program, as well as GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program have a primary professional focus in law.

Law School Requirements

The law school requires 76 units, consisting of 30 units of first-year required coursework, and a minimum of 46 units of elective coursework thereafter. After the first-year required coursework, students must complete Constitutional Law: Rights, a writing requirement, and at least 6 units of experiential courses. At least 37 units must be numerically graded beyond the first-year curriculum.

Juris Doctor/Master of Social Work (JD/MSW)

The Juris Doctor and Master of Social Work (JD/MSW) dual degree program is a four-year program. Students are required to complete 121 units of course work, including 76 units in the Gould School of Law and 45 units in the USC Suzanne Dworak-Peck School of Social Work.

To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs. Students must apply to both programs prior to matriculation. The program of study is as follows:

First and Second Years: Complete both the first year JD program of study and MSW course work in foundation, field and core courses specific to the AMHW, SCI or CYF departments.

Third Year: Complete the second year JD program.

Fourth Year: Complete the the remaining required core department and field courses and one semester of field instruction and the final semester of the JD program in the spring.

The law school gives credit for the third semester in the Suzanne Dworak-Peck School of Social Work, while the latter recognizes law courses as substitutions for a one-semester practice course, special topics courses, a third semester of social policy and one semester of field instruction (for which a clinical law semester is substituted).

Graduate Certificate

Alternative Dispute Resolution Certificate

JD students must complete at least 12 units of arbitration and mediation-related classes to receive this certificate. Interested JD students must submit their applications for this certificate program after completing the first year of law school. JD students complete the certificate requirements during their second and third years of law school, and courses may count both toward the JD degree and the certificate.

LLM students must complete at least 12 units of arbitration and mediation-related classes to receive this certificate. LLM students complete the certificate requirements during the year they are taking their LLM course work, and courses may count both toward the LLM degree and the certificate.

Certificate-only students must complete at least 12 units of arbitration and mediation-related classes to receive this certificate.

All students must complete the required courses and a selection of elective courses.

Required Courses

- LAW 715 ADR Law and Policy: Mediation and Arbitration Units: 2, 3, 4
- LAW 819 ADR Ethics Units: 1, 2 *
  *JD students are not required to take LAW 819 ADR Ethics. In addition, all students must select at least one of the following courses:
- LAW 817 International Arbitration Units: 3
- LAW 822 Alternative Dispute Resolution Clause Drafting Units: 1
- LAW 829 Cross-Cultural Dispute Resolution Units: 2

Elective Courses

Students may select from among the following elective courses to complete the 12 units required for this certificate.
Note: Electives are dependent on the program in which a student is enrolled. Please refer to the USC Gould School of Law website for further details and consult an adviser on available electives.

- LAW 571 Organizational Conflict Units: 3
- LAW 572 Practical Mediation Skills Clinic Units: 1, 2, 3, 4, 5
- LAW 626 International Investment Law and Arbitration Units: 1, 2
- LAW 680 Mediation Theory and Practice Units: 2, 3
- LAW 712 Negotiation Theory and Application Units: 2, 3
- LAW 781 Externship I Units: 2, 4, 10, 12
- LAW 813 Arbitration in the United States Units: 3
- LAW 817 International Arbitration Units: 3
- LAW 822 Alternative Dispute Resolution Clause Drafting Units: 1
- LAW 824 Arbitration Advocacy Units: 1, 2
- LAW 825 International Arbitration Competition Units: 1, 2, 3
- LAW 826 Employment Dispute Mediation Units: 1, 2
- LAW 828 Mediation Advocacy Units: 3
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 832 Special Education Dispute Resolution Units: 2
- LAW 833 Labor Arbitration Units: 2
- LAW 853 Divorce and Family Mediation Units: 2
- LAW 863 International Negotiations and Mediation Units: 2, 3, 4
- LAW 868 Organizational Ombuds Units: 2

Business Law Certificate (On-Campus)

JD students must complete at least 22 units of business-related classes to receive this certificate. Interested JD students must submit their applications for this certificate program after completing the first year of law school. JD students complete the certificate requirements during their second and third years of law school, and courses may count both toward the JD degree and the certificate.

LLM students must complete at least 12 units of business-related classes to receive this certificate. LLM students complete the certificate requirements during the year they are taking their LLM course work, and courses may count both toward the LLM degree and the certificate.

All students are required to take both mandatory business law courses (such as business organizations) and a selection of elective business law courses (such as mergers and acquisitions, advanced contracts and bankruptcy).

Business Law Certificate (Online)

USC Gould School of Law Online LLM and Business Law Certificate students will enroll in the Online Business Law Certificate program and will take each of their courses in the online modality.

USC Gould School of Law JD and LLM residential students will enroll in the residential Business Law Certificate program and will take each of their courses in residence.

The Online Business Law Certificate program requires Business Organizations (4 units) as a core, mandatory course. Students are required to complete an additional 10 business law units online to earn the certificate. Electives include Securities Regulation (3 units), Business for Lawyers (2 units), Contract Drafting and Strategy (2 units) and Mergers and Acquisitions (3 units and for which Business Organizations is a prerequisite). Students must complete a minimum of 12 units to receive this online certificate.

The program is structured especially for working professionals who wish to take one or two courses per term in an online format. Students are expected to enroll each semester until the program is completed.

Certificate in U.S. Legal Studies

USC Gould School of Law offers a two-year Master of Laws (LLM) program designed to introduce students to core doctrines of American law. During the first year, students explore the fundamental principles underlying the U.S. legal system by completing the Certificate in U.S. Legal Studies, and any required American Language Institute (ALI) courses to improve their English fluency. During the second year, students enroll in courses to complete the Master of Laws (LLM) degree.

To qualify for admission to USC Gould School of Law's Two-Year Extended LLM, students must have earned their first law degree (LLB or the equivalent) outside of the United States. However, students may be considered for admission if they provide evidence of recent legal work experience and hold a bachelor's degree or its equivalent in another field. For more information, please visit the USC Gould School of Law Website.

ALI Language Courses

Students will be required to take an English placement exam at the beginning of the program. Students must complete 2 units of English language course work each semester, for a total of 4 units, unless they receive a waiver. Students will be enrolled in American Language Institute (ALI) courses, from among those identified below, that best suit their skill level as determined by ALI.

- ALI 224 Academic and Professional Speaking Skills I Units: 2
- ALI 225 Academic and Professional Writing Skills I Units: 2
- ALI 234 Academic and Professional Speaking Skills II Units: 2
- ALI 235 Academic and Professional Writing Skills II Units: 2
- ALI 244 Academic and Professional Speaking Skills III Units: 2
- ALI 245 Academic and Professional Writing III Units: 2
- ALI 254 Academic and Professional Speaking Skills IV Units: 2
- ALI 255 Academic and Professional Writing Skills IV Units: 2

Introduction to U.S. Legal Studies

Students will enroll in the following 17 units of LAW courses during the first year of this program. These courses will explore the fundamental principles underlying the U.S. legal system.

- LAW 510 Legal Research Units: 0 or 1
- LAW 520 Introduction to U.S. Legal System Units: 2
- LAW 560 Academic and Professional Skills for U.S. Law Studies I Units: 2
- LAW 561a Fundamentals of Legal Writing Skills Units: 3
- LAW 561b Fundamentals of Legal Writing Skills Units: 2
- LAW 562 Introduction to U.S. Legal Culture and Practice Units: 2
- LAW 563 Presentation Skills for International Lawyers Units: 2
- LAW 564 Persuasive Advocacy Units: 2
- LAW 566 Academic and Professional Skills for U.S. Law Studies II Units: 1

Compliance Certificate

The Compliance Certificate program is structured especially for working professionals who wish to take one or two courses per term in an online or on-campus format. Students are expected to enroll each semester until the program is completed.

USC Gould School of Law Compliance Certificate students and students who select the Compliance Certificate as part of our online or on-campus LLM or MSL programs will take each of their courses in the corresponding modality.

Both the online and on-campus Compliance Certificate program require the following mandatory courses to earn the certificate.

Mandatory Courses

Students must successfully complete the courses below (12 units) to receive a Certificate in Compliance.

- LAW 559 Human Resource Compliance Units: 2, 3
- LAW 574 Health Care Compliance Units: 2, 3
- LAW 598 Regulatory Compliance Units: 2, 3
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 710 Contract Drafting and Analysis Units: 2, 3

Entertainment Law and Industry Certificate

USC Gould School of Law Online LLM, MSL and online Entertainment Law and Industry Certificate students will enroll in the online Entertainment Law and Industry Certificate program and will take each of their courses in the online modality.

The Entertainment Law and Industry Certificate program requires Business Organizations (4 units), Intellectual Property: Copyright (2 units), Entertainment Law and Industry (2 units), Intellectual Property: Trademark (2 units) and Contract Drafting and Strategy (2 units) to earn the certificate.

The program is structured especially for working professionals who wish to take one or two courses per term in an online format. Students are expected to enroll each semester until the program is completed.

Mandatory Courses

Students must successfully complete the courses below to receive the Certificate.

- LAW 522 Entertainment Law and Industry Units: 2
- LAW 527 Intellectual Property: Copyright Units: 2
- LAW 551 Intellectual Property Trademark Units: 2
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 710 Contract Drafting and Analysis Units: 2, 3

Financial Compliance Certificate

The online Financial Compliance Certificate program is offered to enrolled online LLM or online MSL students, as well as on a stand-alone basis. The program is structured especially for working professionals who wish to take one or two courses per term in an online format. Students are expected to enroll each semester until the program is completed.

The online Financial Compliance Certificate requires 12 units, including the required and elective courses listed below.

Admissions

Applicants to the certificate program must have earned an undergraduate degree, which can be in any field of study, prior to the time they begin the certificate program. Prior exposure to or experience in law is not required. The Admissions Committee will consider applicants' grades, course work, work experience, and reasons for pursuing the certificate program when determining admission.

Required Courses

The following courses are required, at the units specified:

- LAW 598 Regulatory Compliance Units: 2, 3 (2 units)
- LAW 603 Business Organizations Units: 3, 4, 5 (4 units)

Elective Courses

Remaining units can be fulfilled in the following electives, at the units specified:

- LAW 579 Global Regulatory Compliance Units: 2 (2 units)
- LAW 613 Corporate Governance Units: 2 (2 units)
- LAW 633 Business Principles in Law Units: 2 (2 units)
- LAW 640 Financial Institution Regulation Units: 2 (2 units)
- LAW 710 Contract Drafting and Analysis Units: 2, 3 (2 units)
- LAW 749 Securities Regulation Units: 2, 3, 4 (2 units)

Health Care Compliance Certificate

The online Health Care Compliance Certificate program is offered to enrolled online LLM or online MSL students, as well as on a stand-alone basis. The program is structured especially for working professionals who wish to take one or two courses per term in an online format. Students are expected to enroll each semester until the program is completed.

The online Health Care Compliance Certificate requires 12 units, including the following required and elective courses.

Admissions

Applicants to the certificate program must have earned an undergraduate degree, which can be in any field of study, prior to the time they begin the certificate program. Prior exposure to or experience in law is not required. The Admissions Committee will consider applicants' grades, course work, work experience, and reasons for pursuing the certificate program when determining admission.

Required Courses

The following courses are required, at the units specified:

- LAW 574 Health Care Compliance Units: 2, 3 (2 units)
- LAW 598 Regulatory Compliance Units: 2, 3 (2 units)

Elective Courses

Remaining units can be fulfilled in the following electives, at the units specified:

- LAW 603 Business Organizations Units: 3, 4, 5 (4 units)
- LAW 663 Health Care Law, Business and Finance Units: 2 (2 units)
- LAW 664 Patient Privacy Law Units: 2 (2 units)
- LAW 710 Contract Drafting and Analysis Units: 2, 3 (2 units)
- LAW 811 Health Law and Policy Units: 2, 3, 4 (2 units)

Human Resources Law and Compliance Certificate

The online Human Resources Law and Compliance Certificate program is offered to enrolled online LLM or online MSL students, as well as on a stand-alone basis. The program is structured especially for working professionals who wish to take one or two courses per term in an online format. Students are expected to enroll each semester until the program is completed.

The online Human Resources Law and Compliance Certificate requires 12 units, including the following required and elective courses.

Admissions

Applicants to the certificate program must have earned an undergraduate degree, which can be in any field of study, prior to the time they begin the certificate program. Prior exposure to or experience in law is not required. The Admissions Committee will consider applicants' grades, course work, work experience, and reasons for pursuing the certificate program when determining admission.

Required Courses

The following courses are required, at the units specified:

- LAW 559 Human Resource Compliance Units: 2, 3 (2 units)
- LAW 598 Regulatory Compliance Units: 2, 3 (2 units)

Elective Courses

Remaining units can be fulfilled in the following electives, at the units specified:

- LAW 603 Business Organizations Units: 3, 4, 5 (4 units)
- LAW 609 Contemporary Issues in Human Resource Compliance Units: 2 (2 units)
- LAW 635 Employment Discrimination Law Units: 2, 3 (2 units)
- LAW 710 Contract Drafting and Analysis Units: 2, 3 (2 units)
- LAW 826 Employment Dispute Mediation Units: 1, 2 (2 units)

Media and Entertainment Law Certificate

JD students must complete at least 21 units of media and entertainment related classes to receive this certificate. JD students must submit their applications for this certificate program after completing the first year of law school. JD students complete the certificate requirements during their second and third years of law school, and courses may count both toward the JD degree and the certificate.

LLM, MSL and MDR students must complete at least 12 units of media and entertainment related classes to receive this

certificate. LLM, MSL and MDR students complete the certificate requirements during the year they are taking their degree course work, and courses may count both toward the degree and the certificate.

All students are required to take both mandatory entertainment law courses (such as intellectual property) and a selection of elective entertainment law courses (such as copyright, legal issues in music and sports law).

Privacy Law and Cybersecurity Certificate

The online Certificate in Privacy Law and Cybersecurity provides an interdisciplinary perspective for law students who wish to develop skills that will enable them to understand and integrate relevant laws, policies and best practices that shape privacy law and cybersecurity. The certificate explores the legal framework concerning information privacy in the United States and provides an overview of common legal issues and emerging law in the areas of privacy and cybersecurity. Knowledge of privacy laws and awareness of cybersecurity issues provide students with the opportunity to mitigate risk and to deal with threats in the workplace.

Admission Requirements

Applicants to the online Certificate in Privacy Law and Cybersecurity must have earned an undergraduate degree (which can be in any field) from either inside or outside the United States. Applicants' degrees must have been earned at degree-granting institutions that are recognized by USC. They will have excellent undergraduate grades and credentials, and a strong desire to specialize their graduate studies in privacy law and cybersecurity. While USC Gould does not have a minimum GPA requirement, successful applicants to our online Certificate in Privacy Law and Cybersecurity will generally have earned at least a 3.0 undergraduate GPA. In order to apply for the online Certificate in Privacy Law and Cybersecurity, students must submit the online application form, transcripts from all institutions attended, a current resume and personal statement detailing their desire to pursue the degree. International applicants must submit official and valid TOEFL/IELTS scores and must have demonstrated their proficiency in English as part of the application process.

Mandatory Courses

The online Certificate in Privacy Law and Cybersecurity requires 12 units of course work, which must be taken from amongst the following courses.

- LAW 579 Global Regulatory Compliance Units: 2
- LAW 598 Regulatory Compliance Units: 2, 3 (2 units)
- LAW 691 Cybersecurity and Cyber Crimes Units: 2
- LAW 664 Patient Privacy Law Units: 2
- LAW 692 Information Management and Risk Units: 2
- LAW 804 Information Privacy Law Units: 2

Public Interest Certificate

The Public Interest Certificate is intended for students who plan to spend a significant part of their careers in the nonprofit or government (including criminal) sectors. It serves at least three functions. First, it signals to future employers that the student has made a significant commitment to acquiring the substantive knowledge, practical skills and familiarity with the landscape of nonprofit and government law, which will prepare him or her for a successful career in these sectors. Second, the certificate assists students in discerning and following a law school path that will provide the fundamentals they need for a career in nonprofit or government law, and exposes them to a range of substantive law areas, practitioners and experiences in the public interest sector. Third, the certificate allows the Law School to affirm and showcase its support for public interest law and its offerings for students and potential students interested in this career path.

Clinical and Practicum Units

Students must complete at least one semester of work in one of the following Gould clinics or practicums. In the event a student is unable to gain entry into one of the listed clinics or practicums, an externship for at least 3 units with a qualifying organization shall fulfill this requirement.

- LAW 630 Mediation Clinic I Units: 2, 3, 4
- LAW 631 Mediation Clinic II Units: 2, 3, 4
- LAW 711 Access to Justice Practicum Units: 2, 3, 4
- LAW 776 Immigration Clinic I Units: 2, 3, 4, 5
- LAW 781 Externship I Units: 2, 4, 10, 12
- LAW 782 Externship II Units: 2, 4, 10, 12
- LAW 796 Immigration Clinic II Units: 2, 3, 4, 5
- LAW 808 Medical-Legal Community Partnership Seminar and Practicum Units: 1, 2, 3, 4
- LAW 849 International Human Rights Clinic I Units: 4, 5
- LAW 850 International Human Rights Clinic II Units: 4 or 5
- LAW 865 Legislative Policy Practicum Units: 3
- LAW 891 Post-Conviction Justice Project I Units: 1, 2, 3, 4, 5
- LAW 892 Post-Conviction Justice Project II Units: 1, 2, 3, 4, 5
- LAW 893 Advanced Clinical Training Units: 1, 2, 3, 4, 5
  A student may only satisfy this requirement with LAW 781 or LAW 782 if he or she is unable to enroll in one of the other listed courses.

Required Courses

A student must complete both of the following courses:

- LAW 531 Ethical Issues for Nonprofit, Government and Criminal Lawyers Units: 3
- LAW 777 Administrative Law and Regulatory Policy Units: 1, 2, 3, 4

Core Courses

A student must complete at least one of the following courses for a numerical grade:

- LAW 602 Criminal Procedure Units: 2, 3, 4
- LAW 635 Employment Discrimination Law Units: 2, 3
- LAW 686 Civil Rights Law Units: 3
- LAW 704 Poverty Law Units: 2, 3, 4
- LAW 713 International Human Rights Units: 2, 3, 4
- LAW 775 Immigration Law Units: 2, 3, 4, 5

Substantive Courses

A student must complete at least 6 units from the following list of courses.

- LAW 602 Criminal Procedure Units: 2, 3, 4
- LAW 623 Family Law Units: 3 or 4
- LAW 635 Employment Discrimination Law Units: 2, 3
- LAW 636 Labor Law Units: 3 or 4
- LAW 655 Environmental Law Units: 2, 3, 4
- LAW 661 National Security Law Units: 2, 3, 4
- LAW 662 Public International Law Units: 2, 3, 4
- LAW 675 Mental Health Law Units: 2, 3, 4
- LAW 684 Suing the Government Units: 2, 3, 4
- LAW 686 Civil Rights Law Units: 3
- LAW 697 Foreign Relations and National Security Law Units: 2, 3, 4
- LAW 702 Children, Sexuality and the Law Units: 2, 3, 4
- LAW 703a Children's Legal Issues Units: 1, 2, 3, 4
- LAW 704 Poverty Law Units: 2, 3, 4
- LAW 706 Public Health Law and Policy Units: 2, 3, 4
- LAW 707 Global Health, Law and Human Rights Units: 1, 2, 3
- LAW 713 International Human Rights Units: 2, 3, 4
- LAW 714 U.S. Foreign Policy and International Law Units: 1, 2, 3, 4
- LAW 716 Race and Gender in the Law Units: 1, 2, 3, 4
- LAW 726 Stereotypes, Prejudice, and the Rule of Law Units: 2, 3, 4
- LAW 734 Local Government Law Units: 3 or 4
- LAW 743 Federal Criminal Law Units: 2, 3, 4
- LAW 746 Critical Race Theory Units: 2, 3, 4
- LAW 751 Sexual Orientation and the Law Units: 2, 3, 4
- LAW 757 Sex, Gender and the Law Units: 1, 2, 3, 4
- LAW 763 Federal Courts: The Federal System II Units: 3, 4, 5
- LAW 775 Immigration Law Units: 2, 3, 4, 5

- LAW 791 Law and Society Units: 2, 3, 4
- LAW 798 Law, Mental Health and Ethics Units: 2, 3, 4
- LAW 811 Health Law and Policy Units: 2, 3, 4
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 851 Topics in Criminal Law and Criminology Units: 1, 2, 3, 4
- LAW 860 International Criminal Law Units: 4
- LAW 866 Counterterrorism, Privacy and Civil Liberties Units: 2, 3, 4
- LAW 871 First Amendment Units: 2, 3, 4
- LAW 875 Constitutional Theory Seminar Units: 1, 2, 3, 4
- LAW 880 Equality and Difference Units: 2, 3
- LAW 881 Constitutional Innovation Units: 2, 3, 4

Technology and Entrepreneurship Law Certificate

The Technology and Entrepreneurship Certificate program provides a rigorous course sequence for students who have an interest in legal practice areas involving the intersection of technology and business law issues. The program features a combination of traditional doctrinal courses taught principally in a lecture format, skills-based courses taught principally in a workshop format, and experiential field-based opportunities outside the classroom. The program emphasizes the importance of acquiring strong legal skills and business awareness to prepare for legal practice.

Mandatory Courses (JD Students and LLM Students)

Students must complete both of the following courses:

- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 810 Patent Law Units: 3, 4

Core Optional Courses (JD Students)

Select at least three credits from the following courses:

- LAW 627 Business Planning: Structuring and Financing a New Enterprise Units: 3, 4
- LAW 673 Deal Strategies in Business and Entertainment Law Units: 3, 4
- LAW 770 Technology Transactions Units: 2, 3
- LAW 801 Venture Capital and Emerging Companies Units: 2, 3
- LAW 827 Counseling the Startup Company Units: 2, 3, 4
- LAW 838 Patent Drafting and Prosecution Units: 3

Non-Core Optional Courses (JD Students)

Select sufficient units to reach the required number of total credits.

- LAW 648 Topics in Entertainment Law Units: 1, 2, 3, 4
- LAW 719 Corporate Finance Units: 2, 3, 4
- LAW 736 Small Business Clinic I Units: 2, 3, 4
- LAW 737 Small Business Clinic II Units: 2, 3, 4
- LAW 753 Antitrust Law I Units: 3 or 4
- LAW 765 Intellectual Property Litigation Units: 1, 2, 3, 4
- LAW 771 Intellectual Property and Technology Law Clinic I Units: 2, 3, 4, 5
- LAW 772 Intellectual Property Units: 2 or 3
- LAW 773 Internet Law Units: 2, 3, 4
- LAW 780 Intellectual Property and Technology Law Clinic II Units: 2, 3, 4, 5
- LAW 841 Copyright, Trademark and Related Rights Units: 3

Optional Courses (LLM Students)

Select sufficient courses to reach required total credits.

- LAW 648 Topics in Entertainment Law Units: 1, 2, 3, 4
- LAW 719 Corporate Finance Units: 2, 3, 4
- LAW 753 Antitrust Law I Units: 3 or 4
- LAW 765 Intellectual Property Litigation Units: 1, 2, 3, 4
- LAW 770 Technology Transactions Units: 2, 3
- LAW 772 Intellectual Property Units: 2 or 3
- LAW 773 Internet Law Units: 2, 3, 4
- LAW 801 Venture Capital and Emerging Companies Units: 2, 3
- LAW 827 Counseling the Startup Company Units: 2, 3, 4
- LAW 838 Patent Drafting and Prosecution Units: 3
- LAW 841 Copyright, Trademark and Related Rights Units: 3

Transnational Law and Business Certificate

All resident JD, LLM and MCL students will be eligible for this certificate.

To earn a Transnational Law and Business Certificate, students must complete at least 12 units of the mandatory and elective courses outlined in the curriculum.

Mandatory Courses

All students must complete the following mandatory courses to earn this certificate.

- LAW 579 Global Regulatory Compliance Units: 2
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 764 International Business Transactions Units: 3 or 4

Elective Courses

Students may select from among the following elective courses to complete the unit requirements for this certificate. Students should be advised that the following courses have a prerequisite requirement: FBE 523, FBE 527, FBE 529, FBE 532, and FBE 560.

- LAW 626 International Investment Law and Arbitration Units: 1, 2
- LAW 637 International Trade Policy Units: 1, 2, 3, 4
- LAW 658 Mergers and Acquisitions Units: 1, 2, 3, 4
- LAW 662 Public International Law Units: 2, 3, 4
- LAW 697 Foreign Relations and National Security Law Units: 2, 3, 4
- LAW 709 Contract Drafting and Negotiation Units: 2, 3, 4
- LAW 714 U.S. Foreign Policy and International Law Units: 1, 2, 3, 4
- LAW 775 Immigration Law Units: 2, 3, 4, 5
- LAW 817 International Arbitration Units: 3
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 863 International Negotiations and Mediation Units: 2, 3, 4
- FBE 523 Venture Capital and Private Equity Units: 3
- FBE 527 Entrepreneurial Finance: Financial Management for Developing Firms Units: 3
- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 532 Corporate Financial Strategy Units: 3
- FBE 560 Mergers and Acquisitions Units: 3
- GSBA 548 Corporate Finance Units: 2, 3
- MOR 542 Strategic Issues for Global Business Units: 3
- PPD 526 Comparative International Development Units: 2
- PPD 688 Business and Public Policy Units: 4

Doctoral Degree

Law (JD)

The Juris Doctor is the basic law degree. To obtain the degree, a student must satisfactorily complete 88 units, be in full-time attendance for six semesters and complete all required courses. Several options are available through which students may, with appropriate permission, take courses outside the law school. Except with special permission, however, each student (including a dual degree student) must successfully complete at least 37 units beyond the first year curriculum, in law courses, taken at this law school, and graded in the normal manner. Each student must also complete a minimum of 64 of the required 88 units by attendance in regularly scheduled class sessions at the law school. A law student is expected to devote the major portion of his or her time to law studies; any outside employment must therefore be restricted. First-year students are not permitted to hold jobs, and second- and third-year students may not hold outside employment requiring more than 20 hours of work per week.

First-year students are required to carry the full load of courses prescribed for that year, and second- and third year students are required to carry between 13 and 17 units each semester, unless

special permission to carry a reduced or enlarged schedule is granted by the dean of academic services. All students must complete six full-time semesters.

Requirements for degrees, as well as the courses offered, may be changed by the faculty at any time. The dean of academic services may waive some requirements for individual students.

The First Year

During the first year, the student takes a required curriculum of basic courses that examines fundamental legal institutions and addresses legal problems relevant to contemporary society and the modern practice of law.

In the fall semester, students take Torts, which explores the individual's obligation to refrain from harming others and studies the bases for compensating persons who suffer injuries — either by holding responsible whomever is at fault for the harm, or by invoking other principles of liability including the efficiency of resource allocation and spreading of losses.

Procedure introduces students to the issues of what constitutes fair, adequate and efficient procedures in resolving legal disputes. Study focuses on the procedures outlined in Federal Rules of Civil Procedure.

Contracts studies the law regulating consensual arrangements entered into for commercial purposes. It concerns such questions as what promises do and should the state enforce and what remedies are available when enforceable promises are breached.

Business Fundamentals is an optional course that introduces students who lack a business background to the basic vocabulary, concepts and modes of analysis relevant to the organization, financing, and governance of corporations and other enterprises.

In the spring semester, students take Criminal Law, which studies issues relating to the decision, by legislature or court, to designate behavior as a "crime." Significant attention is given to the moral, psychological and philosophical issues involved in ascribing criminal responsibility.

Constitutional Law focuses on fundamental structure provisions and relationships under the U.S. Constitution with an emphasis on separation of powers and federalism.

Property analyzes the development of rules dealing with land, water and other natural resources, frequently from historical and economic perspectives.

Legal Profession or Ethical Issues for Public Interest, Government and Criminal Lawyers offer a traditional or specialized examination of the role of the lawyer in society; the history and organization of the legal profession; the adversary system and access to justice; and ethical rules on fulfilling professional duties in a variety of practice settings.

All students take a year-long course, Legal Research, Writing and Advocacy. The course provides students an opportunity to draft pleadings and to prepare legal memoranda and briefs. Toward the end of the second semester, each student participates in a moot court argument based on work previously prepared for the course.

Students study basic sources of the law — case reports, constitutions, statutes and interdisciplinary materials. There is no uniform method of teaching, but Socratic dialogue and class discussion are primarily employed to help the students analyze issues, reasons and arguments. Moreover, law school faculty have traditionally employed interdisciplinary approaches in analyzing legal problems. First-year classes meet in sections of 60 to 100 students, about half the class size of many law schools.

The Second and Third Years

Requirements

The upper two years of law study are primarily elective, with only three requirements. First, students must satisfy the upper division writing requirement, either by completing a major faculty-supervised writing project or by taking a course with a substantial writing component.

Second, students must enroll in course work that offers substantial instruction in professional skills generally regarded as necessary for the effective and responsible participation in the legal profession. Such course work includes simulation courses (including Trial Advocacy and Pretrial Advocacy), live-client clinical offerings and courses involving the drafting of legal documents (including Contract Drafting and Negotiation).

Finally, students must take the Constitutional Rights class.

Course Offerings

The basic courses that most students elect to take — for example: Business Organizations, Evidence, Taxation, and Gifts, Wills and Trusts — are offered every year and usually twice a year. Other courses listed are offered once a year, or in some cases, every other year. Each year the law school attempts to provide upper-division students with a wide variety of optional specialized courses. Often these reflect the research interests of the faculty. Because there are specialty courses in nearly every major area of the law, upper-division students are able to concentrate in a particular area, or, if they prefer, pursue a broad, basic legal education.

Clinical Offerings

The upper-division curriculum includes a variety of opportunities for clinical legal education. "Clinical" courses are of two kinds. First, clinical refers to courses in which the learning of legal principles occurs through actual work on cases in particular subject matter areas. For example, the law of prisoners' rights and post-conviction remedies is taught in the Post-Conviction Justice Project, a course in which students represent inmates in the California Institution for Women. This representation is under the direct supervision of full-time law school faculty members. About 20 students participate each semester, traveling to the prison to meet with their clients on a regular basis, attending seminars at the law school, preparing briefs and papers, drafting habeas petitions, and negotiating and dealing with prosecutors and prison and court personnel. In addition, students make court appearances on behalf of clients in state and federal courts, as well as courts of appeals.

The second type of clinical course concentrates on specific lawyering skills taught in a classroom setting through the use of hypothetical case materials, with actors playing the roles of clients. The best illustration of this form of clinical teaching is the three-course sequence of Pretrial, Trial and Appellate Advocacy, which covers the stages in the litigation process suggested by the course titles. In these courses, students actually perform, in a simulated courtroom or law office environment, the multiple tasks required of lawyers. Most work is done in small groups; students are videotaped and intensively reviewed by the instructors. A student can take part or all of this sequence. The three courses together require the student to do at least the following: client interviewing and counseling, legal research, fact-finding, drafting of legal documents, negotiation with opposing counsel, arguing pretrial motions to a judge, preparing witnesses to testify, selecting a jury, conducting direct and cross-examination, proposing and opposing exhibits and testimonial evidence, arguing to a jury, and drafting and arguing an appellate brief.

The Post-Conviction Justice Project and the advocacy courses are not the only clinical courses in the curriculum, but they are useful examples of the variety of clinical teaching. A course in a specific area of law, like the Post-Conviction Justice Project, necessarily requires students to acquire basic courtroom, negotiation and client interviewing skills. The skills-oriented advocacy courses require students to be familiar with substantive areas like evidence, procedure and the law in the area of the hypothetical client's problems. These two kinds of clinical courses supplement each other, just as substantive knowledge and expert skills do in the practice of law. Considered as a whole, USC's clinical courses provide the foundation of knowledge and skill necessary to begin the practice of law.

Judicial Externships and Clinical Internships

The clinical opportunities listed previously are focused primarily within the law school. In addition, there are two categories of clinical options for students to pursue outside the law school in the actual environments of courts and law offices.

The first of these, the judicial externship program, enables students to receive credit for full- or part-time work as an extern to a judge of the state or federal court. Students are selected by the judges themselves. USC students have served as externs in the California Supreme Court, U.S. Court of Appeals, U.S. District Court, U.S. Bankruptcy Court, California Court of Appeal and Superior Court. During the externship, each student is supervised by the assistant dean and the placement supervisor.

The second program, the clinical internship option, allows USC Gould students to work part-time in government agencies, legal services programs or other nonprofit organizations under the supervision of practicing attorneys and faculty members. Students earn academic credit while providing representation to actual clients, learning important government processes or participating in large-scale impact litigation. Since the program includes more than 50 pre-approved agencies, students may choose from a wide range of clinical internships.

Neither program is considered a regularly scheduled class session for purposes of graduation requirements.

Individual Research Projects

A wide variety of courses and institutes offers opportunities for upper-division students to engage in individual research under faculty supervision and often in conjunction with course offerings, as well as to participate in large research projects. Projects presently underway include the uses of ocean and sea resources, the development and regulation of geothermal energy, sentencing practices in felony cases, the effects of real estate taxation, the delivery of legal service to low- and middle-income persons, the civil commitment of elderly persons, the relationships between corporate law and actual corporate practices, and theoretical studies in law and economics. Such research projects are financed by grants from the Brookings Institution, the U.S. Commission on Civil Rights, the National Science Foundation, the Ford Foundation, the Lincoln Institute of Land Policy, the National Institute of Mental Health, and the Energy Research and Development Administration.

Independent research completed for academic credit is not considered a regularly scheduled class session for purposes of graduation requirements.

Courses Outside the Law School

With the concurrence of the dean of academic services, a student may receive up to 12 units of JD credit for courses taken outside the law school. These courses must be on the graduate level and may be taken only at USC. Taking graduate level courses outside the law school is an alternative to the dual degree program; a student may not pursue both approaches. For purposes of meeting the 37-graded-units rule, all non-law courses are counted as CR/D/F units.

A student may, with permission of the dean of academic services, enroll in and transfer the credit from a law course taken at another school that is a member of the Association of American Law Schools, if the course is equivalent to one included in the USC Gould curriculum that will not be offered here during the semester the student takes the course. Credit will be granted only for courses graded "C" or better. A maximum of 5 such units may be counted toward the JD.

Courses taken outside of the law school are not considered regularly scheduled class sessions for purposes of graduation requirements.

Course Selection in the Upper Division

With such a variety of courses available, how do second- and third-year students go about selecting the program that will be best suited to their individual interests and ambitions?

There are no precise rules or proven methods for selecting second- and third-year courses. To a large extent, these choices reflect each student's personal assessment at the end of the first year — strengths and weaknesses, developing intellectual interests and first tentative career plans. For this reason, the combination of courses most desirable for one person will not necessarily be best for anyone else. Students are urged to be wary of the notion that there is a specific, recommended curriculum to follow. But reluctance to impose a model course of study does not mean that no guidance is available, for there are at least four ways of thinking about these choices that, in combination, will help each student choose the best array of courses.

One recommended approach to course selection is to choose courses taught by professors the student admires, without regard to subject matter. For each student there are teachers who are particularly able to create intellectual excitement and whose approach to analysis and teaching strikes a responsive note. Students will benefit as much from exposure to a specific professor's analytic skills and approach to legal issues as from specific course content.

A second approach is to choose courses that look exciting, without worrying about whether such courses are directly related to the student's current career plans or to some idea of traditional curriculum. If it appears that a course will be intellectually interesting, will expose students to a new area of the law, or provide needed variety, there is already more than enough reason to enroll. Courses taken because of enthusiasm for either the instructor or the subject matter often lead to the richest academic experience of law school.

The third way to make decisions about taking courses is to classify them according to clusters that emphasize similar issues or themes and then select from each area. For example, a student interested in ideas about family relationships will find them discussed in different contexts in Gifts, Wills, and Trusts; Family Law; and the Children's Legal Issues Practicum. Trial Advocacy and Pretrial Advocacy are courses that teach practical litigation skills, relating various performance tasks to the underlying skills of legal writing, advocacy, legal counseling, negotiation, and factual analysis. A further example includes courses involving close work with statutes, such as Labor Law, Securities Regulation and Taxation, any of which will provide opportunities to develop important and transferable skills.

Finally, students might think about selection as a way of building a wide substantive expertise in an area of particular interest. For example, the following courses are crucial to one anticipating a substantial wills and estate planning practice: Family Law; Community Property; Taxation; Estate Planning; Real Estate Transactions; and Gifts, Wills and Trusts. This kind of course planning requires some thought and investigation, since a casual examination might omit such courses as Community Property (which may affect one's legal ability to transfer property by will), and Real Estate Transactions (since various forms of property ownership may dictate a specific will or create planning considerations).

These approaches to course selection describe only some of the ways in which students might make reasoned choices about their academic programs. Formal and informal academic counseling is available from the associate deans and other faculty.

Keck School of Medicine of USC

Departments

- PhD Programs in Biomedical and Biological Sciences (PIBBS)
- Department of Anesthesiology
- Department of Biochemistry and Molecular Medicine
- Caruso Department of Otolaryngology, Head and Neck Surgery
- Department of Integrative Anatomical Sciences
- Department of Family Medicine
- Department of Medical Education
- Department of Molecular Microbiology and Immunology
- USC Mark and Mary Stevens Neuroimaging and Informatics Institute
- Department of Pathology
- Department of Physiology and Biophysics
- Department of Population and Public Heath Sciences
- Department of Stem Cell Biology and Regenerative Medicine
- Department of Translational Genomics

Founded in 1885, the Keck School of Medicine of USC is part of Keck Medicine of USC, a major center of medical research, education and patient care with more than 2,100 full-time faculty members and a voluntary faculty of more than 1,500. Included on the faculty are national leaders in each of its 26 clinical and basic science departments. Located on the university's 30.8-acre Health Sciences Campus three miles northeast of downtown Los Angeles, the Keck School is adjacent to the Los Angeles County+USC Medical Center, one of the largest teaching hospitals in the United States.

The Keck School's faculty, students and residents serve more than one million patients each year through the Los Angeles County+USC Medical Center, the USC Norris Cancer Hospital, the Keck Hospital of USC, Children's Hospital Los Angeles, USC Verdugo Hills and a network of USC-affiliated hospitals throughout Southern California. More than 1,700 faculty physicians and other clinical providers deliver primary care and care for patients with complex medical needs.

The Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research of USC, the USC Norris Comprehensive Cancer Center, the Zilkha Neurogenetic Institute, the USC Stevens Institute for Neuroimaging and Informatics, the Translational Genomics Institute, the CardioVascular Institute, the Alzheimer's Therapeutic Research Institute, and the Department of Population and Public Health Science provide state-of-the-art facilities for important scientific discovery. The Clinical and Translational Science Institute provides training and support for physicians and scientists performing clinical, translational and discovery-based health and biomedical research. With more than $280 million in total federal research support, the Keck School ranks among the top U.S. medical schools in federal funding.

The Keck School of Medicine of USC is at the forefront of medical education and was among the first medical schools to adopt Introduction to Clinical Medicine courses for first-year students, providing direct experience in patient care from the start.

Administration

Steven D. Shapiro, MD, *Interim Dean*
Thomas A. Buchanan, MD, *Vice Dean, Research*
Donna D. Elliott, MD, EdD, *Vice Dean, Medical Education, Chair Department of Medical Education*
Peggy J. Farnham, PhD, *Vice Dean for Health and Biomedical Sciences Education*
Kathryn Carrico*, Vice President for Health Sciences Advancement*
Glenn Ault, MD, *Senior Associate Dean for Clinical Administration*
Ted Budge, MS, *Senior Associate Dean and Chief Operating Officer*
Robert Milner, PhD, *Senior Associate Dean, Faculty Affairs*
Lawrence M. Opas, MD, *Senior Associate Dean, Graduate Medical Education*
Raquel D. Arias, MD, *Associate Dean, Admissions, Interim Associate Dean for Student Affairs*
Lourdes Baezconde-Garbanati, PhD, *Associate Dean, Community Initiatives*
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Cha-Chi Fung, PhD, *Assistant Dean, Medical Education*
Kevin Nash, PhD, *Assistant Dean, Curriculum*
Stephanie Zia, MD, *Assistant Dean for Career Advising*

Admissions

Doctor of Medicine

Keith Administration Building 104
1975 Zonal Avenue
Los Angeles, CA 90089-9021
(323) 442-2552
medadmit@usc.edu
Associate Dean, Admissions: Raquel D. Arias, MD

The Keck School of Medicine of USC Committee on Admissions is responsible for selecting members of the entering class. The committee comprises both faculty and students. The committee reviews candidates whose academic achievement, commitment to service and personal qualities distinguish them from the many thousands of applicants who apply.

The applicant's undergraduate major may be in any subject area from an accredited college or university. Although sound preparation in the basic sciences is essential, a background in the humanities, and depth and breadth of personal experience are also important.

General Admissions Information

The Keck School of Medicine of USC participates in the centralized American Medical College Application Service (AMCAS) and also requires the submission of the Keck School of Medicine supplemental application. Approximately 8,200 applications are received per year and 750 applicants receive interview invitations. Interviews begin in late August and end in early March. Students receive acceptance letters beginning in October.

Requirements

All applicants to the Keck School of Medicine of USC MD degree program must have completed a baccalaureate degree,

or its equivalent, from an accredited college or university prior to matriculation. The school has no specific course requirements. Strong applicants will have distinguished themselves in their chosen field of study and have demonstrated competency in the sciences at the time of their application. The Medical School Admission Requirement (MSAR) guide may be referenced for recommended course work. The Medical College Admissions Test (MCAT) is required, and scores must be from within the previous three years of the date of matriculation.

International applicants must hold a degree considered equivalent to a U.S. bachelor's degree as evaluated by the USC Office of Graduate and International Admissions.

Individuals who have discontinued studies in medical school for academic reasons are not eligible to apply to the Keck School of Medicine of USC.

Medical College Admission Test (MCAT)

The MCAT is required of all applicants. Applicants to the entering class are required to take the MCAT within the previous three years of the date of matriculation and no later than August in the year that the application becomes available. Scores from administrations of the examination taken outside of this time period will not be accepted.

Applications

The Keck School of Medicine of USC participates in the American Medical College Application Service (AMCAS). AMCAS reproduces and distributes an application and standardized academic record to participating medical schools designated by the student. Applications are submitted electronically at students/applying/amcas.

Applications are available after June 1 for the class entering in August of the following year. Applications to USC must be returned to AMCAS by November 1, but earlier application is encouraged.

The Admissions Committee reviews all information submitted on the AMCAS application as well as the school's supplemental application. The nonrefundable supplemental application fee is $100.

Personal Interviews

Personal interviews are a required aspect of the application process. Interviews are conducted at the Keck School of Medicine on the Health Sciences Campus of the University of Southern California.

Notice of Acceptance

Notices of acceptance will be sent to successful candidates beginning in October until the class is filled. Since Keck uses a rolling admissions process, it is highly recommended to submit a completed application early in the cycle. If not chosen for an interview, candidates are usually notified by March of the application year.

Candidates must reply to an offer of admission and agree to the Essential Technical Standards for the completion of the MD Degree within 10 business days of receiving the offer of admission. A letter of withdrawal, via email or post mail, is required if students wish to relinquish their place in the class; release is granted automatically when the letter is received.

MD/PhD Program Admission

The Keck School of Medicine has developed an MD/PhD program designed for individuals who aspire to a career in academic medicine or a leadership role within the biomedical industry. Students are expected to acquire the modern skills that are required for physician competence. Additionally, the MD/PhD program provides an opportunity for the development of research expertise and academic excellence while fulfilling the requirements for a PhD degree.

A joint program between the Keck School of Medicine and the California Institute of Technology (Caltech) was established in fall 1997 for the granting of the MD/PhD degree. PhD studies may be carried out at Caltech or through collaboration between two laboratories at both institutions. The MD will be awarded from the Keck School of Medicine and the PhD will be awarded from Caltech.

The MD/PhD executive committee is responsible for selecting students for the MD/PhD program. Members of the committee review the qualifications of each applicant, including MCAT scores, academic performance, letters of recommendation and research experience. The committee interviews candidates and then selects students for admission to the program. All applicants to the joint program interview at Keck School of Medicine and the California Institute of Technology.

General Information

The MD/PhD program enrolls a maximum of eight students annually. Students have the option of doing the PhD at USC or Caltech. Each student accepted to the program must also be accepted to the Keck School of Medicine. All positions are fully funded.

Requirements

Admission requirements for the MD/PhD program are those of one of the graduate programs at Caltech, the Keck School of Medicine and USC. Students select the program of their choice during the first two years of the medical curriculum; descriptions of these programs are available from each department or program and Caltech.

Graduate Record Examinations (GRE)

To assist the MD/PhD Committee in its evaluation of candidates, applicants to the MD/PhD program are encouraged to provide recent GRE scores. The committee does not, however, require GRE scores in order to consider an application.

Applications

Applicants to the Keck School of Medicine are advised to request information about the MD/PhD program at the time of application. In addition to completing the medical school application, applicants should indicate their interest in the MD/PhD program.

Students who are currently pursuing the medical curriculum at the Keck School of Medicine may apply to the MD/PhD program by contacting: MD/PhD Program, Keck School of Medicine, 1975 Zonal Avenue (KAM 108), Los Angeles, CA 90089-9020; (323) 442-2965, FAX: (323) 442-0386.

Personal Interviews

All applicants are screened by members of the MD/PhD Executive Committee; candidates who meet the basic criteria of the program are then invited to be interviewed by members of the committee and faculty at USC and Caltech.

Notice of Acceptance

Students selected for acceptance to the MD/PhD program are notified between November and May of each year. Students begin their program in the fall semester and register for courses in the medical curriculum at that time.

Further information about the MD/PhD program at the Keck School of Medicine may be obtained by contacting: MD/PhD Program, Keck School of Medicine, 1975 Zonal Avenue (KAM 108), Los Angeles, CA 90089-9020; (323) 442-2965, FAX: (323) 442-0386; email: mdphdpgm@usc.edu.

Graduate Degree Programs Admissions

Admission standards for these curricula are established jointly by the Keck School of Medicine, its participating programs and the Graduate School.

Applicants to graduate degree programs offered at the Keck School of Medicine must meet the general criteria for acceptance to the Graduate School. Each participating program may have additional requirements for application. The programmatic requirements for the Keck School of Medicine's graduate programs are detailed in the Graduate Degree Programs section.

Further information about graduate degree programs at the Keck School of Medicine may be obtained by contacting: Office of the Associate Dean for Graduate Studies, Keck School of

Medicine, 1975 Zonal Avenue (KAM 409), Los Angeles, CA 90089-9023; (323) 442-1607, FAX: (323) 442-1199.

Tuition and Fees

The tuition and fees for the Doctor of Medicine (MD) program listed below are estimated for fall semester, 2021. All fees are subject to change without notice by action of the University of Southern California Board of Trustees. The university reserves the right to assess new fees or charges.

Tuition for each semester of the medical school curriculum is due and payable at the beginning of the semester and is not refundable. Registration is not permitted after the third week of instruction. Late payment of tuition is subject to a mandatory late fee. Average budgets for medical students will vary according to their year in the curriculum. The cost of attendance for each year of the MD curriculum can be obtained through the Office of Financial Aid. Tuition and mandatory fees are the same for all years.

Required Fees Doctor of Medicine Program (Estimated)

Tuition (one semester)	$ 33,075
Graduate Tuition (per unit)	1,995
Student Programming Fee (graduate) (per semester)	43
Norman Topping Scholarship Fee (per semester)	8
Malpractice Insurance	25 (per academic year)
Disability Insurance	41 (per academic year)

Other Fees

See Tuition and Fees.

Grading and Evaluation

Doctor of Medicine Program

The Keck School of Medicine employs a system of evaluation and grading designed to encourage student self-reliance, to stimulate the student's independent quest for knowledge and to promote excellence in academic achievement.

For courses of the medical curriculum, the Keck School of Medicine does not award numerical or letter grades. The evaluation process leading to a pass or fail grade is based on performance of the student in relation to announced course criteria. Throughout medical school, students will be evaluated on their fund of knowledge, problem-solving ability, professional behavior, relevant personality traits and clinical and interpersonal skills. Additional information on grading and evaluation is contained in the handbook provided to every enrolled medical student.

Master's and PhD Programs

Grading and evaluation policies for graduate degree programs and for joint MD/PhD degrees are established in conjunction with the Graduate School. In general, courses taken in partial fulfillment of graduate degree requirements receive letter grades that are recorded by the university.

Bachelor's Degree

Global Health Studies (BS)

837 Downey Way
Stonier Hall, Suite 101
Los Angeles, CA 90089-1149
Director: Elahe Nezami, PhD
(213) 740-1060
FAX: (213) 821-1733
Email: bhealthy@usc.edu
hpdp.usc.edu

The Bachelor of Science in Global Health is a multidisciplinary degree of the Keck School of Medicine's Department of Preventive Medicine. This undergraduate program offers an examination of public health and policy issues in the context of global affairs. Students complete course work from Health Promotion and Disease Prevention Studies and International Relations in addition to requirements from other schools of the university. The program provides students with a strong background in understanding and evaluating global health issues and prepares students to become health professionals with international competencies. This program is an ideal major for students interested in medicine, pharmacy, dentistry, international relations, public health, epidemiology, health psychology and health behavior research.

Program Requirements

The Bachelor of Science degree is awarded after students successfully complete 128 units, consisting of 66 units for the major and fulfillment of USC general education requirements including third semester equivalency in a foreign language.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

Requirements for the Major (66 units)

The program is divided into core and elective components. As part of the core research requirements, students must complete a directed research requirement, HP 490, with a specific international research focus.

The core component (42–46 units) is required for all students.

Core Courses (32 Units)

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- ECON 203g Principles of Microeconomics Units: 4
- HP 270 Introduction to Global Health Units: 4
- HP 320 Biological and Behavioral Basis of Disease Units: 4
- HP 470 Case Studies in Global Health Units: 4
- IR 308w Economic Globalization Units: 4
- MATH 125g Calculus I Units: 4

Core Research Courses (10-16 Units)

- HP 340Lg Health Behavior Statistical Methods Units: 4
- HP 350L Health Behavior Research Methods Units: 4
- HP 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12

Note:

Students must choose 24 units of elective course work from the following lists. At least 8 units must be from HP and at least 8 units must be from IR.

HP Electives (Minimum 8 Units)

- HP 300 Theoretical Principles of Health Behavior Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4

- HP 403 Behavioral Medicine Units: 4
- HP 404 Religion and Health Units: 4
- HP 405 Sexually Transmitted Diseases: A Global Public Health Priority Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 409 Environmental Impacts on the Brain Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 411 Drug Intervention Program Design and Evaluation Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 430 Obesity and Health Units: 4
- HP 431 Behavior and Education Strategies for Nutrition and Fitness Units: 4
- HP 432 Clinical Nutrition Units: 4
- HP 433 Advanced Topics in Nutrition Units: 4
- HP 434 Physical Activity and Health Units: 4
- HP 440 Happiness, Well-Being, and Health Units: 4
- HP 441 Health Promotion in the Workplace Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4
- HP 443 Communicating Better Health: What Works and Why Units: 4
- HP 446 Poisons, People, and Politics Units: 4
- HP 448 Global Environmental Changes and Health Units: 4
- HP 450 Traditional Eastern Medicine and Modern Health Units: 4
- HP 460 Adolescent Health Units: 4
- HP 465 Health Status of Indigenous Peoples of America Units: 4
- HP 470 Case Studies in Global Health Units: 4
- HP 483 Global Health and Aging Units: 4
- HP 485 Global Health: Obesity and Nutrition Units: 4

IR Electives (Minimum 8 Units)

- IR 305w Managing New Global Problems Units: 4
- IR 306 International Organizations Units: 4
- IR 307 Contemporary International Politics Units: 4
- IR 308w Economic Globalization Units: 4
- IR 309 Global Governance Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 339 Public Health and International Relations Units: 4
- IR 344 The Global South in World Politics Units: 4
- IR 349 International Law and Politics Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- IR 422 Ecological Security and Global Politics Units: 4
- IR 424w Citizenship and Migration in International Politics Units: 4
- IR 444w Theories of Global Society Units: 4

Other Electives (Maximum 8 Units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- GERO 483 Global Health and Aging Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

- POSC 442m The Politics of Human Differences: Diversity and Discrimination Units: 4
- POSC 451 Politics of Resources and Development Units: 4
- POSC 456 Women in International Development Units: 4
- PPD 250m Cities in the Developing World Units: 4
- PPD 382 International Development Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Health Promotion and Disease Prevention Studies (BS)

837 Downey Way
Stonier Hall, Suite 101
Los Angeles, CA 90089-1149
Director: Elahe Nezami, Ph.D.
(213) 740-1060
Email: bhealthy@usc.edu
hpdp.usc.edu

The undergraduate program in Health Promotion and Disease Prevention Studies (HP) provides a well-rounded, professionally focused education leading to the Bachelor of Science degree. The program is concerned with the sociocultural, behavioral, psychological, and biological factors contributing to wellness and disease. It is an ideal major for students interested in medicine, pharmacy, dentistry, public health, epidemiology, health psychology and health behavior research. Areas of study include: global health; cultural diversity in medicine; substance abuse prevention and program planning; nutrition and fitness; health promotion of minority and underserved populations; and general public health issues (e.g., HIV/AIDS, violence, health promotion in the workplace and behavioral medicine).

Program Requirements

The Bachelor of Science degree is awarded after students successfully complete 128 units, consisting of 66 units for the major and fulfillment of USC general education requirements including third semester equivalency in a foreign language.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

Requirements for the Major (66 units)

The program is divided into core and elective components.

The following core component (42 units) is required of all students.

Non-HP Courses (20 Units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- MATH 108g Contemporary Precalculus Units: 4 or
- MATH 125g Calculus I Units: 4 *

- PSYC 100Lg Introduction to Psychology Units: 4

Note:
**MATH 125 allows students who have placed out of MATH 108 to take a higher-level math class; it also satisfies the math requirement for premedical students.*

HP Courses (22 Units)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- HP 300 Theoretical Principles of Health Behavior Units: 4
- HP 320 Biological and Behavioral Basis of Disease Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- HP 350L Health Behavior Research Methods Units: 4

- HP 480 Internship in Health Promotion and Disease Prevention Units: 2, 3, 4 or
- HP 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12

Advanced HP and Health Profession Preparatory Courses

A total of 24 units of electives are required of all students (at least 12 of the 24 must be HP courses).

Electives (24 Units)

- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- HBIO 301L Human Anatomy Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 404 Religion and Health Units: 4
- HP 405 Sexually Transmitted Diseases: A Global Public Health Priority Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 411 Drug Intervention Program Design and Evaluation Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 430 Obesity and Health Units: 4
- HP 431 Behavior and Education Strategies for Nutrition and Fitness Units: 4
- HP 432 Clinical Nutrition Units: 4
- HP 433 Advanced Topics in Nutrition Units: 4
- HP 434 Physical Activity and Health Units: 4
- HP 440 Happiness, Well-Being, and Health Units: 4
- HP 441 Health Promotion in the Workplace Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4
- HP 446 Poisons, People, and Politics Units: 4
- HP 448 Global Environmental Changes and Health Units: 4
- HP 450 Traditional Eastern Medicine and Modern Health Units: 4
- HP 460 Adolescent Health Units: 4
- HP 465 Health Status of Indigenous Peoples of America Units: 4
- HP 485 Global Health: Obesity and Nutrition Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4 and
- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 and
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4
- PSYC 336L Developmental Psychology Units: 4
- PSYC 355 Social Psychology Units: 4
- PSYC 437 Adolescent Development Units: 4
- SOCI 350 Social Exclusion, Social Power and Deviance Units: 4
- SOCI 475 Medical Sociology Units: 4

Minor

Addiction Science Minor

Scientific study of the nature, causes, consequences, prevention, intervention and treatment of the broad spectrum of addiction and addiction-related problems.

Additional information:

This will be the first undergraduate minor launched by the transdisciplinary USC Institute for Addiction Science. The minor is 20 units in total (12 units are assigned, and 8 units are required as electives). The USC Institute for Addiction Science supports collaborative research and education that advances science, awareness, prevention, treatment, and policy to rapidly and significantly reduce the societal burden of addictive behaviors. Our mission is motivated by the unfortunate truth that addiction is a wicked problem and leads to an array of recalcitrant epidemics that plague society. Given the interplay of societal, political, psychosocial, and biological influences on addiction, transdisciplinary approaches are needed to reduce the addiction epidemic. Faculty with addiction expertise are members in dozens of academic units across USC. The Institute for Addiction Science integrates and mobilizes USC's intellectual resources while leveraging the diverse and populous backdrop of Los Angeles to yield evidence with local, state, national and global implications. The majority of courses to be utilized for this major have been approved and are in use within their respective schools (these are denoted by their associated course number in the description below).

Required Courses

Required Courses (12 units total)

- HP 250 Introduction to Addiction Science Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- RXRS 302 Introduction to Pharmacology and Therapeutics Units: 4
  or
- RXRS 405 Breaking Brains: The Pharmacology of Addiction Units: 4
  or
- RXRS 414 Buzzed: Modern Substances of Abuse and Addiction Units: 4

Research Track

Students enrolled in the minor in Addiction Science may elect to complete this minor via the research track. Students interested in the research track will need to complete an online

questionnaire housed on a website, which will require them to declare their general research topic and interests at minimum one semester prior to enrolling in Directed Research. This will allow the appropriate faculty member to be assigned as the research supervisor to ensure consistency across the student's research topic.

Additional Required Courses (4 units)

- RXRS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 units over two semesters; 2 units per semester)
  or
- HP 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 units over two semesters; 2 units per semester)

Electives

(4-8 units) Any of the above courses, OR

- HP 340Lg Health Behavior Statistical Methods Units: 4
  or
- PSYC 426 Motivated Behaviors and Addiction Units: 4
  or
- SOWK 417 Introduction to Substance Use Disorders and Recovery Units: 4

Cinema-Television for the Health Professions Minor

This minor introduces pre-health students to the theory and techniques of the cinematic arts and to a set of media practices useful for the implementation of health promotion strategies. This minor is designed for students who plan to enter careers or professional programs in medicine after graduation and are interested in working with film and television producers to disseminate accurate health information to the public. It complements major programs such as biological sciences, chemistry, kinesiology, health promotion and disease prevention studies, and environmental studies.

Required Courses (24 Units)

- CTCS 190g Introduction to Cinema Units: 4
- HP 345 Health Issues in Entertainment Media Units: 4

Two of the following:

- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4

Eight additional units from the following:

- CTAN 451 History of Animation Units: 2
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTPR 301 Creating the Non-Fiction Film Units: 4
- CTPR 375 Functions of a Director Units: 4
- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4
- CTPR 474 Documentary Production Units: 4
- CTWR 315x Filmwriting Units: 3
- CTWR 412 Introduction to Screenwriting Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2

Cultural Competence in Medicine Minor

This minor is designed for students who plan to enter careers or professional programs in medicine after graduation and are interested in using cultural knowledge to provide more effective health care. The minor focuses on cultural differences in the understanding of health, disease, health care and risk factors unique to specific populations. The minor provides a foundation for students who want to become effective health care providers in an increasingly diverse society. It complements major programs such as biological sciences, chemistry, kinesiology and environmental studies.

Required Courses (20 Units)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 420m Gender and Minority Health Issues Units: 4

One of the following:

- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4
- HP 450 Traditional Eastern Medicine and Modern Health Units: 4
- HP 460 Adolescent Health Units: 4
- PSYC 462m Culture and Mental Health Units: 4

Environmental Health Minor

This minor provides students with a basic understanding of environmental health and its challenges. Curriculum will focus on global health, epidemiology (as it relates to environmental exposures), toxicology and exposure science. Students will be prepared to address and prevent environmental health hazards, promote public health and contribute to the resolution of various environmental health challenges. This minor is ideal for pre-health majors across the university.

Required Courses (20 Units)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- HP 320 Biological and Behavioral Basis of Disease Units: 4 *
- HP 408 Environmental Health in the Community Units: 4
- HP 446 Poisons, People, and Politics Units: 4
- HP 448 Global Environmental Changes and Health Units: 4

Note:

**Prerequisite required*

Global Health Minor

This minor provides students with a basic understanding of the factors that determine the health of populations around the globe. Curriculum focuses on the cultural, environmental and clinical aspects of various health topics such as maternal and child health, aging, obesity, infectious disease and others. By studying these issues, students from majors across the university will be prepared to assess and contribute to the resolution of emerging global health challenges. This minor will appeal to a wide variety of majors, particularly majors centered on international affairs, business and health care.

Required Courses (20 Units)

- HP 270 Introduction to Global Health Units: 4
- HP 470 Case Studies in Global Health Units: 4

Three of the following:

- GERO 483 Global Health and Aging Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 422 AIDS in Society Units: 4

Health Care Studies Minor

The Keck School of Medicine offers a minor in Health Care Studies. This minor is ideal for undergraduates who wish to pursue a postgraduate career in health care, biomedical science, or health care related fields. The Health Care Studies minor aims to give students exposure to the clinical side of medicine, building on basics in fundamental science to understand the biological basis of medicine with coursework that explores the delivery of medicine

and health care, in a combination of lecture, discussions and simulated clinical activities. The minor requires a minimum of 24 units, at least 12 of which must be at the upper-division level.

Required Courses (12 Units)

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4 or
- CHEM 105aLg General Chemistry Units: 4
- MEDS 220 Healthcare Foundations: Core Concepts and Terminology Units: 2
- MEDS 225 Introduction to Professionalism and the Practice of Medicine Units: 2

Electives

Students must choose a minimum of 12 upper division units from the following lists.

Introduction to Human Health I

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- BISC 150Lgx The Nature of Human Health and Disease Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 360 Abnormal Psychology Units: 4

Introduction to Human Health II

- BISC 312x Molecular Biochemistry Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 421 Neurobiology Units: 4
- BISC 450L Principles of Immunology Units: 4
- CHEM 350g Molecular Principles of Biochemistry Units: 4
- MEDS 260 Challenges in the Forefront of Biomedical Ethics Units: 2
- MEDS 280 The History of Medicine: a Doctor's Perspective Units: 2
- MEDS 300g Statistical Methods for Biomedical Research Units: 4
- PSYC 336L Developmental Psychology Units: 4

The Biological Bases for Disease Processes

- BISC 300L Introduction to Microbiology Units: 4 *
- BISC 307L General Physiology Units: 4
- BISC 330L Biochemistry Units: 4
- HBIO 301L Human Anatomy Units: 4
- MEDS 315 Human Anatomy, Physiology, and the Technology of Medicine Units: 2
- MEDS 320 Human Cadaveric Anatomy Units: 4
- MEDS 330 Bionics: Solutions to Enable the Disabled Units: 2
- MEDS 335 Human Development: From Stem to Sternum Units: 2
- MEDS 340 The Brain in Health and Disease Units: 4
- MEDS 350 Neurochemistry of Addiction: Drugs, Brain, and Behavior Units: 2
- MEDS 355 Skeletal Biology and Pathology: No Bones About It Units: 2
- MEDS 360 Bench to Bedside: Application of the Basic Sciences Units: 2
- MEDS 370 Organ Failure: Non-Communicable Chronic Disease Units: 2
- MEDS 380 Stem Cells: Fact and Fiction Units: 2

Clinical and Biomedical Experience

- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4
- MEDS 405 Health Care Systems: A Doctor's Perspective Units: 2
- MEDS 420 Clinical Pediatrics Units: 2
- MEDS 425 Medical Examiner-Coroner: Investigating Death Units: 2
- MEDS 440 Introduction to Surgical Principles Units: 2
- MEDS 445 Cancer: Introduction to Oncology in the Modern Era Units: 2
- MEDS 450 OB/GYN: The Medicine and Surgery of Reproduction Units: 2
- MEDS 455 Integrative Health Care Units: 2
- MEDS 460 Emergency Health Care Units: 2
- MEDS 465 Wilderness and Survival Medicine Units: 4
- MEDS 490x Directed Research in Biomedical Science Units: 2, 3, 4, 5, 6, 7, 8
- SOCI 475 Medical Sociology Units: 4

Note:

**Prerequisite required*

Health Communication Minor

This minor is designed to appeal to students with a wide range of interests, including those with a general interest in promoting healthy lifestyle practices through effective communication. These students will be prepared to seek jobs in areas such as the managed care industry, hospitals, wellness programs, broadcast and cable companies, and private and governmental agencies, as well as other organizations looking for experts with demonstrated knowledge in health-related fields.

Required Courses (20 Units)

- COMM 302 Persuasion Units: 4
- COMM 385 Organizational Communication Units: 4
- COMM 443 Communicating Better Health: What Works and Why Units: 4
- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4

One of the following:

- COMM 304 Interpersonal Communication Units: 4
- COMM 308 Communication and Conflict Units: 4
- COMM 315 Health Communication Units: 4
- COMM 324mw Intercultural Communication Units: 4
- COMM 375 Business and Professional Communication Units: 4
- COMM 402 Public Communication Campaigns Units: 4
- COMM 480 Nonverbal Communication Units: 4
- COMM 486 Human and Technological Systems in Organizations Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 430 Obesity and Health Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4

Nutrition and Health Promotion Minor

This minor is designed to appeal to students interested in nutrition, especially in preparation for graduate study in health-related fields (e.g., medicine, public health) or to enter health-related fields of employment. The focus of the minor is on assessing, planning and evaluating dietary intake of individuals or groups under various conditions of health and disease based upon principles of nutrition and behavioral science. Students in this minor will study factors associated with dietary habits and the development of effective individual and group interventions. It complements majors including psychology, gerontology, biological sciences, chemistry, kinesiology and environmental studies.

Required Courses (20 Units)

- HP 230 Nutrition and Health Units: 4
- HP 430 Obesity and Health Units: 4

- HP 431 Behavior and Education Strategies for Nutrition and Fitness Units: 4

Two of the following:

- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 432 Clinical Nutrition Units: 4
- HP 433 Advanced Topics in Nutrition Units: 4
- HP 460 Adolescent Health Units: 4
- HP 480 Internship in Health Promotion and Disease Prevention Units: 2, 3, 4 , max 4
- HP 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12

Public Health Minor

This minor is designed for students interested in a broad array of health issues. The focus of the minor is on reducing disability and mortality from avoidable injuries and chronic disease, educating the community about healthy lifestyles, assuring access to health care, and measuring changes using various indicators over time. This minor teaches students to meet the challenges of the changing environment of the health care system. It complements a number of majors including psychology, sociology, American studies and ethnicity, biological sciences, economics, environmental studies, kinesiology, gender studies, international relations, philosophy, religion, gerontology and political science.

Required Courses (20-24 Units)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4

Three of the following:

- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 430 Obesity and Health Units: 4
- HP 441 Health Promotion in the Workplace Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4
- HP 460 Adolescent Health Units: 4

Speech-Language and Hearing Professions Minor

The USC Caruso Department of Otolaryngology – Head and Neck Surgery offers the minor in Collaborations in Speech-Language and Hearing Professions. This minor is designed to introduce undergraduate students from wide variety of majors to the field of communication sciences and disorders (i.e. speech-language pathology and audiology) and guide them in the development of interdisciplinary knowledge which will lead to collaborative practices in health care, social services and education, as it relates to communication sciences and disorders. Relevant majors from which students may be interested in this minor include education, pre-medical and biological sciences, social work, occupational and physical therapy, linguistics, music or other related fields in a variety of aspects related to the field of communication sciences and disorders and/or speech, language and hearing professions.

Coursework for this minor will focus on Interprofessional Practice necessary to serving individuals with communication disabilities. The coursework will examine broad aspects of typical and atypical speech, language and hearing development, delays and disorders, technological advancements in hearing science and audiology practice and collaborative work settings for allied and related professionals serving individuals with communication disabilities. In addition, public policy and practice will be discussed throughout the coursework, including aspects of access to medical and educational services.

This minor requires **16** units, consisting of 4 required units and 12 elective units, as detailed below.

Required Course

- OHNS 200 Communication Development and Disorders Across the Life Span Units: 4

Electives

Select 12 units of electives from the following:

- OHNS 301 The Practice of Educational Speech-Language Pathology Units: 4
- OHNS 302 Hearing Science and Technology Units: 4
- OHNS 401 The Practice of Medical Speech-Language Pathology Units: 4
- OHNS 402 The Dynamic Profession of Audiology Units: 4

Substance Abuse Prevention Minor

This minor offers students an opportunity to gain an overall understanding of substance abuse as a major modifiable risk factor for illness. It allows students to learn theories of behavior change, to understand the issues in prevention and cessation of drug abuse, and to develop, implement, and evaluate intervention strategies. It complements a number of majors including psychology, sociology, American studies and ethnicity, biological science and gerontology.

Required Courses (24 Units*)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- HP 300 Theoretical Principles of Health Behavior Units: 4 *
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 411 Drug Intervention Program Design and Evaluation Units: 4

One of the following:

- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 421 Violence as a Public Health Issue Units: 4

Note:

**Including prerequisite*

Master's Degree

Academic Medicine (MACM)

Keith Administration Building 211
1975 Zonal Avenue
Los Angeles, CA 90033
(323) 442-2372
FAX: (323) 442-2051
Email: nyquist@usc.edu
Program Director: Julie G. Nyquist, PhD

Core Faculty

Professors: Donna Elliott, MD, EdD *(Pediatrics)*; Jerry Gates, PhD *(Family Medicine)*; Win May, MD, PhD *(Medical Education)*; Julie G. Nyquist, PhD *(Medical Education)*; Samuel Yanofsky, MD, MSEd *(Anesthesiology)*
Associate Professors: Kathleen Besinque, PharmD, MSEd

(Pharmacy); Cha-Chi Fung, PhD *(Medical Education);* Tara Humphrey, DO, MACM *(Anesthesiology)*
Assistant Professors: Cathy Jalali, PhD *(Medical Education);* Shara Steiner, DO, MACM *(Medical Education)*

The Master of Academic Medicine is offered by the Keck School of Medicine. The goal is to develop leaders who will create and enhance academic and training programs for health care professions globally. Academic medicine is defined in broad terms as relating to those who lead training worldwide in medicine or in other health care related fields. Enacting this vision is possible due to the flexible delivery model selected. The program employs a hybrid model, combining on-campus face-to-face sessions, blended with online course work. During the 32-unit program, the majority of sessions will be delivered using interactive online delivery methods. All students will also be on campus for one-week intensive sessions in the spring of each year, which focus on community building and the development and evaluation of skills.

The program addresses the unique population of medical and health professions faculty who are focused on leading the academic enterprise for health professionals at the undergraduate, graduate and continuing education levels. Our graduates will be positioned to guide future generations of health professionals around the world toward better meeting the health needs of our global society. For those with a clear focus on the academic enterprise, a complementary degree in academic medicine offers the specialized skills needed to lead worldwide development of enhanced training for health professionals, increases professional capacity and provides new opportunity for promotion. The audiences for this degree will typically have primary professional degrees in health fields (e.g., MD, DDS, DPT, RN, MSN, PA, DVM, DO, PharmD, DC, DOM). The Master of Academic Medicine will provide the needed complementary training for clinician educators.

Admission

Applicants for admission to the Master of Academic Medicine program are generally expected to have an advanced degree in a health profession. Proof of graduation is required, as well as three letters of recommendation. For specific information on admission and application procedures, contact the Office of Medical Education, (323) 442-2372.

Students are admitted for the academic year beginning in the fall, although those admitted prior to March 15 may enroll in summer courses. Although there is no formal application deadline, complete applications received before March 1 will be given priority. Application inquiries should be made to: Master of Academic Medicine Program, University of Southern California, Office of Medical Education, 1975 Zonal Avenue, KAM 211, Los Angeles, CA 90033, telephone (323) 442-2372.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

A minimum of 32 units of graduate-level course work is required.

Degree Requirements

Academic Courses (26 Units)

- ACMD 501 Introduction to Academic Medicine Worldwide Units: 3
- ACMD 502 Becoming a Leader in Academic Medicine Worldwide Units: 3
- ACMD 503 Leading Change in Academic Medical Centers Units: 3
- ACMD 511 Competencies in Academic Medicine and Health I Units: 3
- ACMD 512 Competencies in Academic Medicine and Health II Units: 3
- ACMD 513 Professionalism in Academic Medicine and Health Units: 3
- ACMD 514 Accreditation and Program Evaluation in Academic Medicine Units: 3
- ACMD 591 Designing Research on Innovations in Academic Medicine Units: 2
- ACMD 592 Implementing Research on Innovation in Academic Medicine Units: 2
- ACMD 621 Capstone Portfolio for the Master of Academic Medicine Units: 1

Electives (6 units)

Six units of electives may be selected from the recommended courses below, or these may be replaced with approved courses at the 500 level or within USC that equal 6 units.

- ACMD 593 Foundations of Academic Writing Units: 1
- ACMD 598 Fieldwork: Designing Innovations for the Health Professions Units: 1, 2, 3
- ACMD 604 Supporting the Educational Enterprise in Academic Medicine Units: 3
- ACMD 605 Faculty Development for Health Sciences Faculty Educators Units: 2
- ACMD 615 Maintenance of Competence in the Health Professions Units: 2

Applied Biostatistics/Epidemiology (MS)

The department encourages applicants with undergraduate degrees in allied health, pharmacology, public health, medicine, biological and clinical sciences or other related fields. Undergraduate preparation should have included applied statistics, college algebra, an introductory course in calculus and basic computer programming. Applicants should also meet the minimum requirements for admission to the Graduate School. Demonstrated proficiency in the English language is essential. With approval of the Graduate School, applicants not meeting these requirements may be conditionally admitted contingent upon maintaining a GPA of 3.0 for the first 12 units of graduate study.

Course Requirements

General requirements include at least 39 units of required courses as follows: 26 units of core courses and at least 9 units of elective courses. In addition, each student must register for 4 units of PM 594a Master's Thesis, PM 594b Master's Thesis and write a master's thesis.

Core Courses (26 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 517a Research Methods in Epidemiology Units: 4
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4

Electives (At Least 9 Units)

- PM 511bL Data Analysis Units: 4
- PM 511cL Data Analysis Units: 4
- PM 515 Multivariate Statistics in Health Behavior Research Units: 4
- PM 516a Statistical Problem Solving Units: 1
- PM 516b Statistical Problem Solving Units: 1
- PM 517b Research Methods in Epidemiology Units: 3
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 551 Statistical Methods in Genome-Wide Association Studies Units: 3
- PM 560 Statistical Programming With R Units: 2
- PM 566 Introduction to Health Data Science Units: 4
- PM 569 Spatial Statistics Units: 3
- PM 574 Programming In Modern Statistical Software Units: 2

- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 588 The Practice of Epidemiology Units: 4
- PM 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 591 Machine Learning for the Health Sciences Units: 4
- PM 611 Advanced Topics in Epidemiology Units: 3

Thesis (4 Units)

- PM 594a Master's Thesis Units: 2
- PM 594b Master's Thesis Units: 2

Additional Requirements

Electives will be determined by the student's needs and interests and will be approved by the student's adviser. When appropriate, courses not listed above may be chosen with approval of the student's adviser. Sufficient familiarity in computer languages to operate major software packages for data management and analysis is required.

Thesis Requirement

A master's thesis is required of all students. This thesis consists of a research project approved by the faculty and chosen from problems encountered within the department, in other departments of the Keck School of Medicine or university or elsewhere in the community.

Biochemistry and Molecular Medicine (MS)

The Department of Biochemistry and Molecular Medicine (BMM) offers a program for the Master of Science degree. Primary goals of the program are to train students in preparation for (1) further doctoral study, and (2) research careers in industry and academia. Students are provided the necessary theoretical foundation in biochemistry and molecular biology, traditional and state-of-the-art methods used for research, experimental design, applied data science and bioinformatics. They are trained in conducting laboratory research on a defined project, oral presentations of the results and writing a thesis defending their project. The program is designed to enable high-achieving students from other STEM fields such as chemistry or pharmacy to broaden their education and/or research experience to biological sciences. The program, with its rigorous curriculum, is designed to simultaneously challenge students with prior education in biology.

The prerequisites for applicants to the BMM MS Program are a Bachelor's degree with an undergraduate major in any STEM field. A minimum cumulative GPA of 3.0 is required and a GPA of 3.0 in STEM courses is preferred. In most cases, international applicants must demonstrate satisfactory English proficiency with a minimum TOEFL score of 90 or an IETLS score of 7. Applicants that do not meet all the criteria above may be considered in special circumstances. At least three letters of recommendation are required from faculty members and/or employers who can evaluate the applicant's potential for graduate work and independent research.

The MS degree in BMM is a two-year program that requires 34 units of graduate study. Master's students must take a set of required courses, as well as perform laboratory research and write a research thesis under the guidance of a USC faculty mentor. Students must complete 16 or more course units offered in the BMM Department; the majority of the remaining units are taken as research or dissertation units. The student must successfully defend the thesis as determined by the student's Thesis Committee. Flexibility exists to plan each student's curriculum to suit individual needs, ambitions and background.

Biomedical Sciences (MS)

The Master of Science degree program in Biomedical Sciences is a terminal degree for students admitted into the PIBBS PhD program who cannot complete the PhD program for personal or medical reasons. The department does not accept applicants for this MS degree. Enrollment of graduate students as master's degree candidates is not encouraged and is reserved for special circumstances that must be approved by the PIBBS director, relevant KSOM PhD program director and the associate dean of Graduate Affairs. Under such circumstances, a student admitted to the PIBBS program may submit a formal request to complete a terminal MS degree. If approved to pursue the MS as a terminal degree, the student must submit a research capstone paper within two months of approval or at the end of the current semester enrolled, whichever comes first.

The master's curriculum includes all course work required of PhD students for a minimum of 35 units with an accumulated GPA of at least 3.0, comprehensive examination and submission of the written portion of the qualifying exam. Submission of a research capstone paper and an associated oral presentation will serve as the comprehensive examination for the master's degree.

Biostatistics (MS)

The department encourages applicants with undergraduate degrees in mathematics, statistics or biostatistics, computer science or other related fields. Undergraduate preparation should have included differential and integral calculus, introduction to mathematical statistics, and basic computer programming. Applicants should also meet the minimum requirements for admission to the Graduate School. Demonstrated proficiency in the English language is essential. With approval of the Graduate School, applicants not meeting these requirements may be conditionally admitted contingent upon maintaining a GPA of 3.0 for the first 12 units of graduate study.

Course Requirements

General requirements include at least 39 units of required courses as follows: 28 units of core courses and at least 7 units of elective courses. Each student must also register for 4 units of PM 594a Master's Thesis, PM 594b Master's Thesis and write a master's thesis.

Core Courses (28 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 513 Experimental Designs Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 522a Introduction to the Theory of Statistics Units: 3
- PM 522b Introduction to the Theory of Statistics Units: 3

Electives (At Least 7 Units)

- PM 511cL Data Analysis Units: 4
- PM 516a Statistical Problem Solving Units: 1
- PM 516b Statistical Problem Solving Units: 1
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 520L Advanced Statistical Computing Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 534 Statistical Genetics Units: 3
- PM 544L Multivariate Analysis Units: 3
- PM 551 Statistical Methods in Genome-Wide Association Studies Units: 3
- PM 552 Statistical Methods in Clinical Trials Units: 3
- PM 560 Statistical Programming With R Units: 2
- PM 566 Introduction to Health Data Science Units: 4
- PM 569 Spatial Statistics Units: 3
- PM 574 Programming In Modern Statistical Software Units: 2
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 588 The Practice of Epidemiology Units: 4
- PM 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 591 Machine Learning for the Health Sciences Units: 4

- PM 603 Structural Equation Modeling Units: 4, 2 years
- PM 604 Health Behavior Research Methods Units: 4

OR

- MATH 542 Analysis of Variance and Design Units: 3
- MATH 543 Nonparametric Statistics Units: 3
- MATH 545 Introduction to Time Series Units: 3
- MATH 547 Mathematical Foundations of Statistical Learning Theory Units: 3
- MATH 548 Sequential Analysis Units: 3

Thesis (4 Units)

- PM 594a Master's Thesis Units: 2
- PM 594b Master's Thesis Units: 2

Additional Requirements

The student's choice of elective courses will be directed by needs and interests and must be approved by the student's graduate adviser. When appropriate, elective courses not listed above may be substituted with approval of the adviser. Sufficient familiarity in computer languages to operate major software packages for data management and analysis is required.

Clinical, Biomedical and Translational Investigations (MS)

Soto Building I

Email: msclnbio@usc.edu

The Master of Science in Clinical, Biomedical, and Translational Investigations (CBTI) is a joint effort to train medical students, fellows or other health professionals, including faculty and other scientists conducting clinical related research, in clinical research methods to translate clinical, biomedical and technological discoveries into advances in population-based, clinical or basic science research. The MS Program of Clinical, Biomedical, and Translational Investigations (CBTI) is available to medical students who have completed their second year of medical school, and pre-doctoral students who are interested in expanding their pre-doctoral training to include methodology associated with conducting translational research. Pre-doctoral students will earn a joint degree (PhD in their research area and an MS in CBTI). In addition, the MS CBTI Program is tailored to MDs doing fellowships at USC or Children's Hospital Los Angeles (CHLA), faculty interested in expanding their research careers, or are recipients of Young Investigator Awards, including Southern California Clinical Translational Science Institute's (SC CTSI) Center for Education, Training, and Career Development K and T Awardees. Tracks include: 1) Clinical Translational Research, 2) Community-based Intervention Trials, 3) Design, Conduct and Analysis of Clinical Studies, 4) Epidemiology and Disease Etiology, 5) Health Outcomes Research, 6) Environmental Epidemiology, 7) Molecular Biology, 8) Cell Biology, 9) Vision Science and 10) Alternative Options Track.

The MS program in Clinical and Biomedical Investigations is designed to train students, fellows and faculty for future independent research careers in an academic, government or private sector setting. The objective of the MS program is to produce a clinical researcher with either an in-depth knowledge in laboratory methodologies or statistical and analytic skills in population-based, clinical studies or outcomes research. The program gives students a solid background in the methodological aspects of translational research, and in statistical thinking as applied to molecular epidemiology, as well as a solid grounding in biostatistical, epidemiological methods, and community based intervention strategies.

Admission Requirements

Applicants must apply to the Graduate School and meet the minimum requirements for admission to the Graduate School. The Department of Preventive Medicine administers the program through the MS Program Office.

The program will consider applicants who satisfy all requirements for admission to the Graduate School. For the MS program in Clinical and Biomedical Investigations, MCAT scores may be substituted for the GREs. Applicants not meeting Graduate School requirements for regular standing may, with approval of the Graduate School, be conditionally admitted. Regular standing is contingent upon maintaining a GPA of 3.0 in the first 12 units of graduate studies. All graduate students must maintain a GPA of 3.0 throughout their graduate studies.

General Requirements

Graduation requires the completion of a minimum of 29 units, of which a minimum of 15 units are didactic course credits taken in the first year (including summer sessions), with the remaining units being directed to: a) PM 590 Directed Research (1–12 units) and PM 594a Master's Thesis, PM 594b Master's Thesis (4 units) taken in the second year. The equivalent of one year of full-time effort must be devoted to research leading to a master's thesis. The thesis provides a structure for the development of a plan to address a research problem and a suitable approach to the analysis and presentation of the results.

Because the background and interests of applicants varies widely, one of the co-directors will consult with each student prior to the first year in order to design an individualized schedule of recommended courses, or this may be negotiated with a student's faculty sponsor. At the end of the first year, the trainee must submit a final program plan to the co-directors. This will summarize the courses taken, the proposed thesis title, and the names and credentials of the MS thesis committee. One of the members of the MS thesis committee will be the trainee's research adviser and will serve as the chair of the committee. At least one member of the thesis committee must be from outside the student's department. For faculty, at least two members of the thesis committee must be from outside the student's department.

For those trainees or SC CTSI's CETCD K and T awardees who do not wish to pursue an MS degree, the school offers a certificate in clinical, biomedical, and translational investigations (CBTI). The certificate program requires completion of 12 credits, and a minimum of six months of practical research experience working on a research project (PM 590) approved by either an Oversight Committee or the CETCD's K and T Award Committee Review Process.

Students are expected to attend the three-day workshop on NIH proposal development if offered by Thomas Ogden, MD, PhD, and a workshop on the principles of scientific manuscript preparation.

Clinical Translational Research (13-16 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 523 Design of Clinical Studies Units: 3

  or
- PM 612a Clinical Translational Research (CTR) Units: 4
- PM 612b Clinical Translational Research (CTR) Units: 4
- PM 612c Clinical Translational Research (CTR) Units: 4

Electives (Pick one course)

- MPTX 511 Introduction to Medical Product Regulation Units: 3
- MPTX 602 Science, Research and Ethics Units: 2
- PM 511bL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 549 Human Molecular Genetics and Genomics Units: 4
- PM 570 Statistical Methods in Human Genetics Units: 4
- RSCI 530 Translational Medicine: An Overview Units: 2

Community-Based Intervention Trials (16 Units)

- PM 512 Principles of Epidemiology Units: 4
- PM 528 Program Design and Evaluation Units: 4
- PM 563 Organizing and Mobilizing Communities for Public Health Units: 4

Electives (Pick one course)

- PM 526 Communications in Public Health Units: 4
- PM 562 Intervention Approaches for Health Promotion and Disease Prevention Units: 4

Design, Conduct and Analysis of Clinical Studies (18 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4

Epidemiology and Disease Etiology (15-16 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 517a Research Methods in Epidemiology Units: 4

Electives (Pick one course)

- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4 or
- PM 533 Genetic and Molecular Epidemiology Units: 3

Health Outcomes Research (8 Units)

- PM 511aL Data Analysis Units: 4
- PMEP 538 Pharmaceutical Economics Units: 4
- PMEP 539 Economic Assessment of Medical Care Units: 4
- PMEP 540a Seminar in Pharmaceutical Economics and Policy Units: 2
- PMEP 540b Seminar in Pharmaceutical Economics and Policy Units: 2

Environmental Epidemiology (17-19 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 529 Environmental Health: An Epidemiological Approach Units: 4

Electives (Pick one course)

- PM 511aL Data Analysis Units: 4
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 599 Special Topics Units: 2, 3, 4

Molecular Biology (16 Units)

- INTD 531 Cell Biology Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 571 Biochemistry Units: 4

Electives (Pick one course)

- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 555 Biochemical and Molecular Bases of Disease Units: 4
- MICB 551 Prokaryotic Molecular Genetics Units: 4
- PM 549 Human Molecular Genetics and Genomics Units: 4

Cell Biology (15 Units)

- INTD 531 Cell Biology Units: 4
- INTD 571 Biochemistry Units: 4
- PATH 553 Methods in Cellular and Clinical Pathology Units: 3

Electives (Pick one course)

- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 555 Biochemical and Molecular Bases of Disease Units: 4

Vision Science (15 Units)

- INTD 501 Recent Advances in Vision Science Units: 1
- INTD 531 Cell Biology Units: 4
- INTD 571 Biochemistry Units: 4
- INTD 573 Medical Physiology II Units: 4
- PSCI 667 Intracellular Drug Delivery and Targeting Units: 2, 2 years

Alternative Options Track (Minimum 16 Units)

Courses are determined by mentor and student, based on research interests, with approval from the oversight committee.

Seminars/Workshops

Participation is required in a Recent Advances Journal Club to learn how to read papers critically and develop the speaking skills necessary to explain a research paper. Faculty members in the program rotate as course directors in order to emphasize new topics. Students are expected to attend the three-day workshop on NIH Proposal Development if offered by Thomas Ogden, PhD, and a workshop on the principles of scientific manuscript preparation.

Experimental and Molecular Pathology (MS)

The Department of Pathology offers a program for the master of science degree with a major in experimental and molecular pathology. The primary objectives of this program are to provide the necessary theoretical and practical training in experimental pathology that culminates with the master of science degree. Goals of the program are to train students in preparation for senior research staff or senior technician positions in academic or industrial institutes, further MD or PhD study, consultantships requiring multidisciplinary backgrounds or advanced teaching positions in community colleges.

Admissions The prerequisite for applicants to this program in pathology is a bachelor's degree with an undergraduate major in one of the natural sciences. A minimum GPA of 3.0 in the natural sciences (including mathematics) is usually required. Applicants must achieve a competitive score on the general portions of the Graduate Record Examinations (GRE). In addition, the department requires at least two letters of recommendation from faculty members who can evaluate the applicant's potential for graduate work. Demonstrated proficiency in the English language is required. International students whose native language is not English must submit scores from the IELTS (International English Language Testing System) or the TOEFL (Test of English as a Foreign Language) examination. Special circumstances may provide consideration for conditional admission.

Course Requirements At least 34 units of graduate study are required. The required courses include INTD 522 Infection and Host Responses 4, INTD 531 Cell Biology 4, INTD 550 Introduction to Pathology 4, INTD 551 Pathobiology of Disease 4, INTD 571 Biochemistry 4, PATH 553 Methods in Cellular and Clinical Pathology 3, PATH 554 Methods in Molecular Pathology 2 and PATH 570a Seminar in Pathology 1, PATH 570b Seminar in Pathology 1. Fourteen or more course units must be taken in the Department of Pathology, 8 units may be pursued outside the department, and a maximum of 8 units of directed research in pathology may be applied to the degree. No more than 4 units of course work taken outside of USC should be applied toward the MS degree requirements. Students considering such an action should submit a petition to the pathology graduate committee and document a rigorous academic standard for the course (reading materials, texts and other performance criteria, lecture content, etc.). The pathology graduate committee reviews the petition and informs the student of its decision.

Master's Examinations/Master's Thesis

The Master of Science has the option of either an experiment-based thesis or theory-based thesis course of study. Each student's program will be tailored to suit individual needs and background. Students who require training mainly in the knowledge of pathology may opt for the theory-based thesis course of study. Students also have an opportunity to register for directed research (PATH 590). For the experiment-based thesis option, the student must take PATH 594a Master's Thesis 2, PATH 594b Master's Thesis 2. For the theory-based thesis option, the student must take GRSC 810 Studies for Master's Examination during the semester they plan to graduate if not otherwise enrolled.

Global Medicine (MS)

Keith Administration Building 317
1975 Zonal Avenue
Los Angeles, CA 90089-9024
(323) 442-3141
msgm.usc.edu
Program Director: Elahe Nezami, PhD

The Master of Science in Global Medicine (MSGM) is offered by the Department of Educational Affairs of the Keck School of Medicine. The program aims to train medical, dental and pharmacy students; current physicians and allied health professionals; and those planning to pursue degrees in the allied health professions to analyze and address critical issues in global medicine. The program provides a solid foundation in basic science while also exposing students to a broad scope of pertinent issues in global medicine. The program offers an advanced standing option for physicians, dentists, current medical/dental students and applicants with a PharmD degree from accredited institutions. Students admitted to the advanced standing option may use previous equivalent course work for 8 units of credit toward MEDS 503L Core Principles System I and MEDS 504L Core Principles System II course requirements. The advanced standing option allows students to bypass the foundation course work and focus on globally oriented course work.

By providing the knowledge and training necessary to address current and future global medical challenges, the MS in Global Medicine program responds to the Institute of Medicine's recommendation that the education of health professionals include course work that promotes literacy in global medicine. In addition to gaining a strong medical science foundation, students are immersed in course work that examines methods used to create innovative programming, solutions, and responses to global health challenges, thereby furnishing them with the problem-solving skills and analytical frameworks essential to their future career paths. Through partnerships with the Marshall School of Business and the Viterbi School of Engineering, the MS in Global Medicine also includes a Management Track for students who intend to pursue international health management. The MS in Global Medicine also offers the Interprofessional Health Track for students seeking an understanding of the interplay of various clinical specialties in providing comprehensive and integrated care to patients and the resultant impacts on healthcare administration. Upon completion of the MS in Global Medicine, students will be equipped to serve as leaders within the allied health field, including, but not limited to: medicine, pharmacy, dentistry and nursing. In addition, graduates will be prepared to collaborate with, or seek employment from, a variety of international aid, nonprofit, and global health organizations such as: the United Nations, the International Red Cross, United Nations Joint Programme on HIV/AIDS, United Nations Children's Fund, World Health Organization, World Bank and the Centers for Disease Control and Prevention.

Admission

Applicants for admission to the program must have a bachelor's degree or its equivalent from an accredited institution and have earned a GPA of 3.0 (A = 4.0) in undergraduate work. Prerequisite undergraduate course work for Clinical Track applicants must include one year of general biology, one year of general chemistry, one year of organic chemistry and one semester of either calculus or statistics. Applicants to the Management and Interprofessional Tracks must have prerequisite undergraduate course work that includes one year of general biology, one year of general chemistry, and one semester of either calculus or statistics. Organic chemistry courses are recommended but not required for Management and Interprofessional Health Track applicants.

All applicants are required to have taken the Graduate Record Examinations (GRE) General Test, the Dental Admission Test (DAT) or the Medical College Admission Test (MCAT). A minimum score of 300 on the GRE, 18 on the DAT or 505 on the MCAT is required. Applicants beneath these standardized test score requirements are asked to consult with program staff for advisement. International Medical Graduates (IMGs) from accredited institutions can submit their USMLE results in lieu of GRE, DAT or MCAT scores. Applicants must also supply three letters of recommendation from evaluators qualified to assess their potential for graduate work. If applying for the advanced standing option, U.S. applicants must have successfully completed their first year of an MD (Doctor of Medicine) or DDS (Doctor of Dental Surgery) program or earned a PharmD degree from a U.S.- accredited institute; international applicants must have earned a bachelor's degree in medicine and surgery or a degree equivalent of DDS (Doctor of Dental Surgery) or a PharmD degree from an accredited institute. Applicants must supply a completed application for graduate studies including: transcripts from all institutions previously attended, standardized test scores and three letters of recommendation. Applications are considered for enrollment in both fall and spring semesters. For further information contact: Master of Science in Global Medicine Program, (323) 442-3141, email: msgm@med.usc.edu.

Advisement

The program recommends that students meet with an academic adviser of the program each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified. A minimum of 32 units of graduate level course work is required for graduation from the clinical, interprofessional health, and management tracks. A minimum of 24 units of graduate-level course work is required for graduation from the advanced standing option.

Degree Requirements

Global Medicine students in the Clinical, Interprofessional Health, and Management Tracks must complete a minimum of 32 total units to earn the degree. (The Clinical Track offers an Advanced Standing Track option for qualified students that requires a minimum of 24 units).

Students are required to take the core and elective courses specified for the track in which they are matriculating and must complete enough courses to complete 32 or more total units.

Core Courses

GM Clinical Track Core

Clinical Track students must complete the following 12 units of core course work:

- MEDS 500 Basic Concepts in Global Health Units: 4
  OR
- MEDS 501 Critical Issues in Global Health Units: 4
- MEDS 503L Core Principles System I Units: 4
- MEDS 504L Core Principles System II Units: 4

GM Advanced Standing Track Core

The Clinical Track offers an Advanced Standing Track to those deemed eligible for the track, including: physicians, dentists, pharmacists, and current medical and dental students who have previously taken course work that is equivalent to MEDS 503L and MEDS 504L.

Advanced Standing Track students must complete 4 units from the following core course work and must select 20 units of MEDS electives.

- MEDS 500 Basic Concepts in Global Health Units: 4
  OR
- MEDS 501 Critical Issues in Global Health Units: 4

GM Interprofessional Health Track Core

Interprofessional Health Track students must complete the following 14 units of core course work:

- MEDS 500 Basic Concepts in Global Health Units: 4
  OR
- MEDS 501 Critical Issues in Global Health Units: 4
- MEDS 532 Non-communicable Diseases Units: 2

- MEDS 580 Interprofessional Team Dynamics in Healthcare Units: 4
- MEDS 581 Case Studies in Interprofessional Healthcare Units: 4

GM Management Track Core

Management Track students must complete the following 10 units of core course work:

- DSO 582 Service Management: Economics and Operations Units: 3
- GSBA 520 Business Fundamentals for Non-Business Professionals Units: 3, 4
- MEDS 500 Basic Concepts in Global Health Units: 4
  OR
- MEDS 501 Critical Issues in Global Health Units: 4

Elective Courses

GM Clinical Track Electives

Clinical Track students must complete a minimum of 20 units of course work from among the following MEDS electives:

- MEDS 510 Global Health Modules, Malaria Units: 2
- MEDS 511 Global Health Modules, Tuberculosis Units: 2
- MEDS 512 Global Health Modules, Maternal and Child Health I Units: 2
- MEDS 514 Global Health Modules, Tropical Disease Units: 2
- MEDS 515 Global Health Modules, HIV/AIDS Units: 2
- MEDS 516 Cultural Humility in Health and Medicine Units: 2
- MEDS 517 Health and Human Rights Units: 2
- MEDS 518 Children in Emergency Situations: Global Policies and Programs Units: 2
- MEDS 519 Global Oral Health Units: 2
- MEDS 520 Medical Spanish for the Health Professions Units: 2
- MEDS 521 Emerging and Re-emerging Infectious Diseases Units: 2
- MEDS 523 Global Toxicity and Carcinogenesis Units: 2
- MEDS 524 Grantwriting for Non-Government Organizations Units: 2
- MEDS 525 Global Mental Health Units: 2
- MEDS 527 Zoonotic Infectious Diseases Units: 2
- MEDS 528 Global Health Modules, Sexually Transmitted Infections Units: 2
- MEDS 529 Refugee Health Care Units: 2
- MEDS 530a Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 530b Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 530c Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 531 The Politics of Global Health Units: 2
- MEDS 532 Non-communicable Diseases Units: 2
- MEDS 535 Culture, Lifestyle, and Health Units: 2
- MEDS 550 Clinical Medicine and Health Care Reform in Taiwan Units: 2
- MEDS 551 Clinical Medicine and Socioeconomic Factors in Uganda Units: 2
- MEDS 553 Clinical Medicine and Health Care Challenges in India Units: 2
- MEDS 554 Clinical Medicine and Healthcare Delivery in Panama Units: 2
- MEDS 556 Global Health Field Study, New York Units: 2
- MEDS 557 Clinical Medicine and Healthcare Dynamics in Denmark Units: 2
- MEDS 559 Clinical Medicine and Healthcare Determinants in China Units: 2
- MEDS 560 Innovating in Healthcare in Malaysia Units: 2
- MEDS 561 Global Healthcare Development and Practices in Nepal Units: 2
- MEDS 567 Global Nutrition Units: 2
- MEDS 568 Global Issues: Aging Units: 2
- MEDS 570 Introduction to Narrative Medicine Units: 2
- MEDS 580 Interprofessional Team Dynamics in Healthcare Units: 4
- MEDS 581 Case Studies in Interprofessional Healthcare Units: 4
- MEDS 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- MEDS 599 Special Topics Units: 2, 3, 4

GM Interprofessional Health Track Electives

Interprofessional Health Track students must complete a minimum of 18 MEDS electives.

GM Management Track Electives

Management Track students must complete a minimum of 16 units of MEDS electives and 6 units (2 courses) from the following:

- ISE 507 Six-Sigma Methods and Applications Units: 3
- ISE 508 Health Care Operations Improvement Units: 3
- MKT 565 Global Marketing Units: 3
- MOR 542 Strategic Issues for Global Business Units: 3
- MOR 569 Negotiation and Deal-Making Units: 3

Notes:

On a case-by-case basis and with pre-approval, GM students may take classes outside their particular group.

Integrative Anatomical Sciences (MS)

Program Director: Kristi L. Lewton, PhD

The Department of Integrative Anatomical Sciences provides training in the basic medical sciences to health professional students. It also prepares graduate students as future teachers and researchers in the human anatomical sciences and functional morphology. The graduate-level course of study includes in-depth training in core anatomical disciplines: gross anatomy, histology and neuroanatomy, including cadaveric dissection and microscopic study of tissues. In addition, students receive an intensive introduction to fundamentals of bone and dental biology, human anatomical variation and clinical anatomical correlations. Interested students may receive training in laboratory teaching for gross anatomy or research training in functional and evolutionary morphology.

Admission

The Department of Integrative Anatomical Sciences selects highly qualified students for admission into its Master of Science program in Human Anatomical Sciences. The prerequisite for applicants to the MS program is a bachelor's degree with a science major or equivalent. Applicants should have a superior undergraduate record at an accredited college or university, with a minimum undergraduate grade point average of 3.0. Generally required courses include at least one year of college-level biology, one year of college-level physics, and mathematics through calculus. College-level courses in cell biology, developmental biology, organismal biology and physiology are recommended.

The IAS MS Program does not require the results of standardized tests (for example, GRE) for admission.

Demonstrated proficiency in the English language is required. Foreign applicants are expected to provide results from the Test of English as a Foreign Language (TOEFL). Results from Internet-based, computer-based, or paper-based tests are acceptable. However, candidates with special circumstances may be considered for conditional admission.

Progressive Degree Applicants: Current undergraduates at USC may apply to the IAS Masters Program as a Progressive Degree.

Special Admission Considerations: Special considerations may be given to students who experienced extenuating circumstances and to applicants with limited English proficiency that could be corrected by language courses offered by the University's American Language Institute.

Questions regarding program admission can be directed to: msanatomy@usc.edu

Degree requirements

The Master of Science (MS) degree is awarded for demonstrated competence in the anatomical sciences. This is a

12-month program that begins with intensive training in human gross anatomy in the summer term. Students must complete a minimum of 32 units of graduate-level courses (500 or higher) beyond the baccalaureate degree, and maintain a minimum GPA of 3.0.

Core Courses

Students complete 24 units of core courses in the anatomical sciences.

- CNB 501a Human Gross Anatomy Units: 3, 4 (3 units required)
- CNB 501b Human Gross Anatomy Units: 4
- CNB 504L Human Skeletal Anatomy Units: 3
- CNB 511aL Microscopic Anatomy Units: 3
- CNB 511bL Microscopic Anatomy Units: 3
- CNB 521 Neuroanatomy Units: 3
- CNB 550 Cell and Neurobiology Seminar Units: 1
- CNB 580 Teaching in the Anatomical Sciences Units: 1
- CNB 581 Teaching in the Anatomical Sciences: Practicum Units: 3

Elective Courses

Students complete 8 units of electives, which may be chosen from the list below or pursued in other USC departments with approval from the IAS MS Program Director.

- CNB 502L Advanced Regional Anatomy I Units: 2
- CNB 503L Advanced Regional Anatomy II Units: 2
- CNB 572 Medical Physiology I Units: 4
- CNB 573 Medical Physiology II Units: 4
- CNB 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CNB 599 Special Topics Units: 2, 3, 4

Additional Requirements

CNB 580 must be taken in the Fall, while CNB 581 can be taken in the Fall and/or Spring.

Medical Physiology (MS)

Keith Administration Building 409
1975 Zonal Avenue
Los Angeles, CA 90089-9031
(323) 442-0230
FAX: (323) 442-9031
Program Director: **H. Kaslow, PhD, hrkaslow@usc.edu**

Physiology is the study of the functions and activities of life and living matter at all levels of organization within an organism. While physiology research is frequently at the molecular level, the tradition of the discipline challenges the researcher to consider all homeostatic and developmental functions of an organism. This tradition can guide research efforts seeking to identify causes of disease and critical physiological functions possessing therapeutic and health-promoting opportunities. The Medical Physiology program focuses on the research experience of the thesis track but in special circumstances will consider applications to the non-thesis track.

Admission Applicants to the Master of Science in Medical Physiology (MPHY) program will have earned a bachelor's degree and completed course work in mathematics (including calculus), physics, chemistry and biological sciences. To be considered, applicants must complete a USC Graduate Admissions application and submit either GRE or MCAT test scores, a brief personal statement explaining the reasons for applying to the program, official transcripts from all academic institutions previously attended and three letters of recommendation. Foreign applicants are required to submit results from a TOEFL or IELTS examination. Potential applicants are encouraged to submit questions regarding the program and application process to the Medical Physiology Graduate Program Office prior to submitting the formal application (physiology@usc.edu). In the personal statement, applicants must specify whether they are applying to the thesis- or non-thesis track and the rationale for that decision. Normally, admission will be in the thesis track and a recommendation to admit an applicant will require MPHY graduate committee approval of an agreement between an applicant and a faculty member who will serve as mentor of the thesis project. The agreement shall specify the general research area of the thesis.

The Medical Physiology graduate program participates in the USC Progressive Master's Degree Program and seeks applications from qualified students (*usc.edu/programs/ugprograms/progressive*).

Course Requirements The master's degree in Medical Physiology requires the completion of at least 32 graduate-level units with a grade point average of 3.0. All students are required to take the following: INTD 531, INTD 561, MPHY 572, MPHY 573, MPHY 590, PM 510L, and at least 2 units in either INTD 574, PHBI 550 or a seminar course approved by the program director. Elective courses must be approved by the director of the MPHY Graduate Program. Students may pursue a thesis option, which requires completion of MPHY 594a, MPHY 594b, MPHY 594z. The thesis track is required when students take less than 26 units of non-research units (i.e., more than 6 research units out of the 32 units required for graduation). Students pursuing a non-thesis option must complete 32 units of approved course work.

Continued enrollment: Continued enrollment in the program requires an average GPA of at least 3.0, a grade of at least B in MPHY 572 and MPHY 573. *Beginning no later than the second year of enrollment, students must enroll in PHBI 550, INTD 574, or equivalent, and achieve a grade of at least B, "Pass" or "Credit."* At any time, after evaluating a student's progress, the MPHY Graduate Committee, at its discretion, may require a student pass a screening examination to be eligible to progress to the third or later semester of graduate study. If a student fails to achieve these metrics or pass a screening examination, the MPHY Graduate Committee will make a recommendation as to whether or not to place the student on probationary enrollment with a defined remediation sufficient to remedy the deficiency or to recommend the student withdraw or be dismissed from the program.

Thesis track:

The thesis work of a student in the thesis track will be conducted under the guidance of a Master's Student Thesis Committee, which shall consist of at least:

1. The student's adviser who shall chair the committee and be a tenure-track member of the MPHY Graduate Committee.
2. The student's thesis mentor if not the same faculty member as the adviser.
3. One additional tenure-track faculty member of the Department of Physiology and Biophysics.
4. One additional tenure-track faculty member.

Final Examination: Passing the examination requires: 1) submission of a thesis document describing the work of the thesis, and 2) an oral defense of the thesis both to the satisfaction of the Thesis Committee. The thesis document shall be distributed to the student's Master's Thesis Committee and a copy provided to the Medical Physiology Graduate Program Office at least two weeks prior to the oral examination. If the document is not provided by that date, then the oral examination shall be rescheduled to accommodate this requirement. Final acceptance of the document and passage of the oral examination requires the unanimous recommendation of all members of the thesis committee. If the student does not pass the examination on the first attempt, at its discretion the MPHY Graduate Committee may grant a second opportunity to pass the examination according to policies in the *USC Catalogue*.

Non-thesis track:

Final Examination. A comprehensive examination replaces the thesis defense. The MPHY Graduate Committee shall appoint a member of the MPHY Graduate Committee to supervise the final examination process (the "Examination Supervisor"). The examination shall be on a topic approved by the Examination Supervisor and consist of: 1) a document sufficiently discussing the topic, and 2) passing an oral examination on the substance of the topic. The document shall be submitted to the Examination Supervisor at least two weeks prior to the oral examination. If the

document is not provided by that date, then the oral examination shall be rescheduled to accommodate this requirement. To qualify as the final examination, all the faculty of the MPHY Graduate Committee shall be invited to attend the presentation with notice given at least two weeks in advance and at least three members of the MPHY Graduate Committee or alternates selected by the program director shall attend.

During and following the presentation, faculty members may pose questions relevant to the presentation to determine if the student has mastered an appropriate breadth and depth of knowledge of physiology. The Examination Supervisor shall then receive reports from faculty attending the presentation, usually within a week, and make a recommendation to the MPHY Graduate Committee as to whether or not the student passed the examination. Unless a member of the Graduate Committee objects, the recommendation shall be considered accepted. If an objection is received a decision shall be made by a secret ballot vote with two thirds of those voting in favor of passage required for passage of the examination. If the student does not pass the examination on the first attempt, at its discretion the MPHY Graduate Committee may grant a second opportunity to pass the examination according to policies in the *USC Catalogue*.

Molecular Epidemiology (MS)

Students with a bachelor's degree in quantitative biological sciences will be eligible for admission. In addition, the BA students must have completed at least one year of general biology, one semester of biochemistry and one semester of statistics to be admitted into the Graduate School. Under unusual circumstances, conditional acceptance will be offered to students who do not meet these requirements — allowing them to complete the missing undergraduate courses prior to their full admission into the Graduate School. An introductory biochemistry class is also available in the School of Pharmacy, which may satisfy the biochemistry prerequisite.

Course Requirements

The MS program requires 38 graduate-level units with a minimum grade point average of 3.0 including Epidemiology core courses, 15 units; Biological Sciences core courses, 12 units; at least 3 elective units; Research plus Thesis, 8 units. Students must also complete a Master's thesis.

Epidemiology Core Courses (15 Units)

- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 533 Genetic and Molecular Epidemiology Units: 3

Biological Sciences Core Courses (12 Units)

- BIOC 575 Predictive and Prognostic Biomarkers in Cancer Treatment Units: 2
- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 522 Infection and Host Responses Units: 4
- INTD 531 Cell Biology Units: 4
- INTD 549 Protein Chemistry — Structure and Function Units: 4
- INTD 550 Introduction to Pathology Units: 4
- INTD 551 Pathobiology of Disease Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 571 Biochemistry Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 532 Genetics in Public Health and Preventive Medicine Units: 4
- PM 554 Health Effects of Environmental Contaminants Units: 4
- PM 572 Medical Physiology I Units: 4
- PM 573 Medical Physiology II Units: 4

Electives (At Least 3 Units)

- PM 517a Research Methods in Epidemiology Units: 4
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 534 Statistical Genetics Units: 3
- PM 537 Chronic Disease Epidemiology Units: 4
- PM 549 Human Molecular Genetics and Genomics Units: 4
- PM 551 Statistical Methods in Genome-Wide Association Studies Units: 3
- PM 553 Human Exposure Assessment for Public Health Units: 4
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 560 Statistical Programming With R Units: 2
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 574 Programming In Modern Statistical Software Units: 2
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 586 Reproductive and Perinatal Epidemiology Units: 4
- PM 588 The Practice of Epidemiology Units: 4

Research + Thesis (8 Units)

Research towards the MS thesis can be conducted in combinations of wet and dry labs or dry labs only, and should consist of original work worth of submitting for publication in a peer-review journal. Research can be conducted at a wet or dry lab in Preventive Medicine, Biochemistry, or Pathology. However, a Preventive Medicine faculty needs to be included as co-chair if a thesis supervisor is selected from another department.

- PM 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 594a Master's Thesis Units: 2
- PM 594b Master's Thesis Units: 2

Molecular Microbiology and Immunology (MS)

The primary objective of the Master of Science program is to prepare students for a career in the broad field of biomedical sciences with focus on, but not limited to, microbiology, virology, immunology and cancer research. This program provides extensive theoretical preparation in combination with hands-on research, where students are trained in research laboratories located on the Health Sciences Campus (HSC), comprising the Keck Medical School, the School of Pharmacy and the USC Norris Comprehensive Cancer Center, or located at Children's Hospital Los Angeles (CHLA).

Goals of the program are to prepare students for employment opportunities in: academic research or teaching at universities, institutes or not-for-profit research centers; research and development in industry (biotech, pharma, petrol, dairies, breweries); health care (hospitals and health care providers, medical technology, diagnostic laboratories); law firms (patents, intellectual property rights, technology transfer, toxic torts); environmental organizations (advisory, management, planning); government (public health, waste management, EPA, FDA, NIH, etc.); publishing (journalism, journal editor).

Admission Requirements Applicants are expected to have a bachelor's degree in science (usually biology, chemistry or physics) from an accredited college or university. Generally required courses include: at least one year of college-level biology, chemistry through organic chemistry, mathematics through calculus, and one year of college-level physics. Students who do not meet all requirements may still apply, and admission will be decided on a case-by-case basis. In general, a minimum undergraduate GPA of 3.0 is expected. Additionally, a student must take the Graduate Record Examinations (GRE), and a minimum score of 1000 is expected. International applicants are expected to provide results from the International English Language Testing

System (IELTS) or the Test of English as a Foreign Language (TOEFL; results from Internet-based, computer-based or paper-based tests are acceptable).

Course Requirements A total of 34 units is required. Students may pursue a thesis option, which requires completion of MICB 594a, MICB 594b, MICB 594z (2-2-0) plus 30 units of approved course work, no more than 8 of which can be MICB 590 Directed Research. Students pursuing a non-thesis option must complete 34 units of approved course work. Students must choose one of these options by the end of the first year of study.

Fourteen or more course units must be taken in the Department of Molecular Microbiology and Immunology; 8 units may be pursued outside the department and, upon approval, a maximum of 8 units of directed research in molecular microbiology and immunology may be applied to the degree. No more than 4 units of course work taken outside of USC can be applied toward the MS degree requirements. Students considering such an action should submit a petition to the department and document a rigorous academic standard for the course (reading materials, tests and other performance criteria, lecture content, etc.). The graduate advisory committee will review the petition and inform the student of its decision.

Narrative Medicine (MS)

The Narrative Medicine MS degree offered by the USC Keck School of Medicine integrates narrative theory, practical experience and research methods to focus on the ethical implications of storytelling for individual/community wellness and the healthcare system. Students will be trained in narrative medicine methods of close reading, attentive listening and reflective writing in the service of community outreach and professional development. Training in this field will enhance the work of practicing and future clinicians (physicians, social workers, nurses, physician assistants, psychotherapists, occupational and physical therapists, speech pathologists, etc.), and provide support for mid-career professionals seeking to transition into teaching or service. Individuals pursuing careers in journalism, film, the non-profit sector, humanitarian leadership, social justice and community organizing, as well as those planning to apply to PhD programs in the humanities and social sciences, will develop the tools for creating boundary-crossing initiatives that address real-world problems in community health care. A cornerstone of this unique programming is USC's partnership with local non-profit outreach groups. Students in the Narrative Medicine MS program will have the opportunity to teach and learn from community partners about the relationship between health and narrative, and will become more adept at offering solutions that recognize the intersection between the biomedical, behavioral and health system sciences, and issues of healthcare equity and social justice.

Satisfactory Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

Advisement

The program recommends that students meet with an academic adviser of the program each semester prior to registration.

Unit Requirement

A minimum of 32 units of graduate-level course work is required.

Degree Requirements

Required Core Courses (24 units):
MDED 504 may be satisfied by an equivalent graduate-level course taken elsewhere.

- MDED 501 Narrative Medicine I: Witnessing, Listening, Reflecting Units: 4
- MDED 502 Narrative Medicine II: Methods and Pedagogy Units: 6
- MDED 503 Creative Writing and Its Applications in Narrative Medicine Units: 4
- MDED 504 Research Methods in Narrative Medicine Units: 4
- MDED 505 Intersubjectivity: Lived Bodies/Relational Selves Units: 4
- MDED 593 Narrative Medicine Capstone Units: 2

Electives

Select courses from the following list (8 units total). Additional 500-level courses may be selected in consultation with an adviser.

- ACMD 513 Professionalism in Academic Medicine and Health Units: 3
- ACMD 514 Accreditation and Program Evaluation in Academic Medicine Units: 3
- ACMD 591 Designing Research on Innovations in Academic Medicine Units: 2
- MDED 510 Narrative Ethics: Illness, Disability, Equity and Community Units: 4
- MDED 511 Immigrants, Illness and Narrative Medicine Units: 4
- MDED 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (4 units maximum)
- SOCI 658 Sociology of Health and Medicine Units: 4

Neuroimaging and Informatics (MS)

Degree Requirements

Graduation requires completion of 26 units, according to the required course schedule outlined below. None of the NIIN courses may be waived or substituted for other courses in the USC Catalogue. This program is intended to be completed within one academic year although a two year part-time option is available. Graduation does not include a requirement for a master's thesis. However, interested students may obtain research experience concurrent with classwork, subject to approval of available faculty research mentors.

Required Courses of Instruction

Fall

- NIIN 500 Neuroimaging and Systems Neuroscience Units: 3
- NIIN 510 Fundamentals of Human Neuroimaging Units: 3
- NIIN 530 Neuroimaging Data Acquisition w/ Magnetic Resonance Imaging Units: 3
- NIIN 540 Neuroimaging Data Processing Methods Units: 3
- NIIN 597 Current Topics in Neuroimaging Informatics Units: 1

Spring

- NIIN 520 Experimental Design for Neuroimaging Units: 3
- NIIN 550 Computational Modeling in Neuroimaging Units: 3
- NIIN 570 Neuroimaging Genetics Units: 3
- NIIN 600 Science Communications Units: 1

Students choose one of the following:

- NIIN 560 Brain Architecture and Neuroanatomic Exploratory Techniques in Animal Models Units: 3
- NIIN 580 Introduction to Data Science in Neuroimaging Units: 3

Pain Medicine (MPM)

The Master of Pain Medicine is an online program with a total 27 courses (33 academic units), specifically designed for the practicing professional who wants to improve skills and gain expertise to deliver the best care for patients with complex pain conditions. The curriculum is designed with a series of didactic courses in which students will gain knowledge about the diagnosis, pathobiology and management of pain conditions. The goal of this postdoctoral three-year master program is to give practicing health care providers advanced clinical, didactic, and evidence-based education in the field of Pain Medicine. The first year provides a foundation that years two and three build upon, giving the non-physicians the necessary background for the following two years. Nevertheless, physicians will also found the first year to be important to be a meaningful educational experience.

The students participate in weekly live online sessions with

faculty and other program students, ensuring a collaborative and social learning experience. There are 2-3 courses per trimester, with 2-4 streaming video lectures for viewing each week. After each video lecture students complete an associated online quiz (comprising multiple choice, short answer or fill-in questions).

Students need to complete 3 units of elective courses.

Required Courses

- PAIN 701 Pharmacotherapeutics for Pain Units: 2
- PAIN 702 Pain Classification and Diagnosis - Part 1 Units: 2
- PAIN 703 Psychological Aspects of the Pain Experience: Individual and Units: 2
- PAIN 704 Pain and Society: Epidemiology and Cultural issues Units: 1
- PAIN 705 Pain Assessment: History and Physical Examination Units: 1
- PAIN 706 Musculoskeletal Anatomy and Pathology Units: 2
- PAIN 707 Pain Neuroscience Units: 2
- PAIN 708 Opioids Units: 1
- PAIN 709 Pain Classification and Diagnosis - Part 2 Units: 2
- PAIN 710 Advanced Pain Physiology and Neuroscience Units: 1
- PAIN 711 Research Methodology Units: 2
- PAIN 712a Pain Medicine Capstone Units: 0.5
- PAIN 712b Pain Medicine Capstone Units: 0.5
- PAIN 712c Pain Medicine Capstone Units: 0.5
- PAIN 712d Pain Medicine Capstone Units: 0.5
- PAIN 713a Case Studies Units: 0.5
- PAIN 713b Case Studies Units: 0.5
- PAIN 713c Case Studies Units: 0.5
- PAIN 713d Case Studies Units: 0.5
- PAIN 714 Public Policy and Legal issues Units: 1
- PAIN 715 History of Pain: Theory and Treatment Units: 1
- PAIN 717 Psychological Treatments for Chronic Pain Units: 2
- PAIN 716 Neuropathic Pain Units: 1
- PAIN 718 Complementary Approaches Units: 2
- PAIN 720 Physical and Occupational Therapies Units: 1

Electives

- PAIN 719 Building a Practice: Institutional or Private Units: 1
- PAIN 721 Advanced Therapeutics Units: 2
- PAIN 722 Palliative Care in End of Life Units: 1
- PAIN 723 Orofacial Pain and Headache Units: 2

Physician Assistant Practice (MPAP)

Admission Requirements and Procedures

Application to the Physician Assistant Program requires completion of a bachelor's degree (in any discipline) from a regionally accredited four-year institution and completion of academic prerequisite requirements.

Admission to the program is for the fall semester only. Admission is granted by the physician assistant selections committee after careful review of all eligible applications. Selections are made on the basis of a formal interview (for competitive applicants) and consideration of a variety of factors, which include: academic record, amount of clinical experience, multicultural sensitivity, community service experience and understanding knowledge of the profession.

Applicants are required to submit an application through the Central Application Service for Physician Assistants (CASPA) as well as a USC Supplemental Application by November 1 of each year. Admissions decisions are made on a rolling basis. Further details regarding admission procedures including those for international student applicants are provided online at *usc.edu/pa*. The program will not waive any aspect of the application or deadline. Information on Admissions relating to COVID-19 can be found at *keck.usc.edu/physician-assistant-program/?s=COVID+FAQ*.

Transfer Students or Advanced Placement

The Physician Assistant Program does not accept transfer students, nor do we allow advanced placement based on prior education or clinical experience. Each applicant who is admitted is required to complete the full Master of Physician Assistant Practice curriculum in residence at USC. No waivers or substitutions are permitted.

Registration

Students receive information regarding registration in the summer prior to enrollment.

Advisement

Virtual information sessions are available for prospective students who would like to receive more information regarding the program. For information, please call (626) 457-4240.

Degree Prerequisites

A bachelor's degree from a regionally accredited institution and completion of all prerequisite course work are required for admission to the Physician Assistant Program.

Science Prerequisites

Biology (Courses must be taken for Biological Based Science Majors)

Two options:

Option (1):

General Biology or Human Biology*: One year sequential course work (equivalent to two semesters or three quarters**)

*If your institution does not offer General Biology or Human Biology, then you must provide proof for the biology series of introductory biology for biological based science majors (i.e. Zoology, Cell Biology, Botany).

**Applicants from an institution on the quarter system: If your institution does not offer three (3) quarters of General Biology or Human Biology, you may elect to take two (2) quarters of General Biology and one (1) quarter of one of the following – Genetics, Molecular Biology, Immunology or Cell Biology.

- OR -

Option (2):

One (1) semester/quarter of General Biology or Human Biology and;

One (1) semester or two (2) quarters of an additional Biology course(s) from the list below:

- Cell Biology
- Endocrinology
- Histology
- Molecular Biology
- Pharmacology
- Embryology
- Genetics
- Immunology
- Neuroscience

Chemistry (Courses must be taken for Biological Based Science Majors)

Two options:

Option (1):

General Chemistry with lab: One year sequential course work (equivalent to two semesters or three quarters*)

*Applicants from an institution on the quarter system: If your institution does not offer three (3) quarters of General Chemistry (Inorganic) with lab, you may elect to take two (2) quarters of General Chemistry with lab and one (1) quarter of Biochemistry with lab or one (1) quarter of Organic Chemistry with lab.

- OR -

Option (2):

One (1) semester/quarter of General Chemistry with lab and;

One (1) semester or two (2) quarters of an additional Chemistry course(s) in the following:

- Organic Chemistry w/lab
- Biochemistry w/lab
- Quantitative Analysis w/lab
- Analytical Chemistry w/lab
- Inorganic Chemistry w/lab

Three (3) semester units or four (4) quarter units of each of the following: human anatomy with lab* and human physiology*
*Human anatomy and physiology may be completed by taking a two-semester sequential course of human anatomy and physiology I and II or a quarter system equivalent sequential course.

Microbiology
Three (3) semester units or four (4) quarter units of one of the following.
May be in the following:

- Microbiology with lab
- General Microbiology w/lab
- Introductory Microbiology w/lab
- Medical Microbiology w/lab

Distance learning courses are acceptable provided they are equivalent in all dimensions (including laboratory requirements) to courses taught in "traditional" educational settings (e.g., hybrid courses). All distance learning course credit must be provided by regionally accredited institutions of higher education.
Medical terminology is strongly recommended.

All science prerequisites should be completed within 10 years of application to the program. Exceptions to the 10-year science prerequisite time frame may be granted on an individual basis to those individuals who have completed one of the following: 1) at least 8 semester units of graduate credit in a medically related natural science discipline with an overall grade point average of 3.0 or better, completed within seven years of the application deadline, or 2) received an advanced degree in the natural or clinical sciences (e.g., MS, DVM, PharmD, PhD, MD) within 10 years of the application deadline. In either case, all course work completed and degrees conferred must be from institutions of higher education accredited by an accrediting agency recognized by the Secretary of the U.S. Department of Education. Requests for this 10-year exemption should be directed to the chair of Admissions.

Non-Sciences:

Three (3) semester units or four (4) quarter units of each of the following:

- Statistics (preferably statistics for psychology, sociology or biology. Introduction to Statistics offered by a math department is acceptable.)
- Introduction/General Psychology

Two semesters or three quarters of beginning Spanish language (must be college level credit earned either through course work or by placement examination. There are no language substitutions or waivers.)

International applicants must also have completed two semesters or three quarters of English composition (AP course work is acceptable).

Note: Advanced Placement (AP) credit for science prerequisites will not be accepted. If an applicant has received one semester of AP credit (or equivalent) for one or more of the science prerequisites, the applicant may elect to complete the specific science prerequisite in one of two ways: 1) take the specific course work as outlined above (i.e., a complete two-semester or three-quarter course with lab), or 2) complete a minimum of six-semester (nine-quarter) units of upper-division course work for majors in that specific discipline. For example, if you received AP credit for one semester of general biology, you may satisfy our biology prerequisite in one of two ways: 1) complete a one-year sequential course for biology majors in general biology with laboratory, or 2) complete a minimum of six-semester (nine-quarter) units of upper-division course work for biology majors (e.g., cell, biology, genetics, histology, mammalian physiology, etc). Upper-division courses for non-majors will not be accepted for this purpose.

Students who intend to apply to the Physician Assistant Program should contact the admission office for evaluation of previous baccalaureate and/or post-baccalaureate course work.

Standardized Tests

Applicants are required to take either the GRE or MCAT examination. The examination must be taken within five years of the application deadline of November 1. Official scores of the general and analytical sections of the GRE must be submitted to USC by using the USC Keck School of Medicine CASPA code 1416. Please place the code into the CASPA application. Applicants with MCAT scores must provide their AAMC verification code to the USC PA Program. GRE or MCAT scores must be submitted by November 1. The PA Program expects that all applicants earn a combined quantitative and verbal GRE score of no less 295.

Clinical Experience Prerequisite

Hands-on paid patient care clinical experience is preferred. Successful applicants often have have worked as one of the following: emergency medical technician, licensed vocational nurse, medical assistant (back office), medical scribe, medical technologist, military medical corpsman, nursing assistant, paramedic, psychiatric technician, physical therapy aide, radiological technician, respiratory therapist, chiropractor or registered nurse. Other health care experience is equally acceptable as long as the experience is "hands-on" in nature. It is important that PA applicants are familiar with medical care environments and the role of a physician assistant, and have experience working with patients. Volunteer clinical experience is also considered in the application process and should be entered into the CASPA application, but the applicant is encouraged to describe his or her hands-on experience whether it is paid or volunteer.

Physician Assistant Shadowing Experience

Shadowing PAs is preferred in the admissions application process. Shadowing is defined by the selections committee as observing and/or working alongside a physician assistant in the care of patients. The average applicant has one to two shadowing experiences.

Community Service Prerequisite

A demonstration of community service dedication is expected of all applicants. Service that benefits underserved or disadvantaged groups is highly describe as the program has a commitment to training its students as primary care providers with these populations. Examples include: Habitat for Humanity, Boys & Girls Club, Big Brother / Big Sister, soup kitchens, homeless shelters.

Curriculum Requirements

The completion of the 33-month professional curriculum is required to earn the Master of Physician Assistant Practice degree. Students do not have choices of courses to take nor are they permitted to drop any course or courses during the semester. Progress is permitted only when the prior semester is successfully completed. Students should view the curriculum outlined here as advisory only and subject to modification.

Summative Evaluation

A summative evaluation is conducted on each student during the sixth and final semester of the program to verify that each student is prepared to enter clinical practice.

Health Requirements and Technical Standards

All accepted candidates are required to meet the PA program's technical standards (physical and psychological competencies of performance) prior to entering the program and throughout training. Upon acceptance, students will be required to submit and maintain evidence of current health status and immunizations. Students are also required to maintain university-approved health care insurance coverage while enrolled in the program. Specific details outlining these technical standards are located at *usc.edu/pa*.

Employment

The Primary Care Physician Assistant Program at USC is a full-time program. Students are strongly discouraged to accept or continue outside employment while enrolled in the program. Students are not permitted to work for the program.

Background Check

All USC Physician Assistant students are required to pass a background check prior to admission to the Master of Physician Assistant Practice (MPAP) Program.

Degree Requirements

All students in the Master of Physician Assistant Practice degree program must meet course and grade point average requirements. All students must complete each semester with a cumulative grade point average of 3.0 or greater. Failure to achieve a 3.0 cumulative grade point average will result in automatic academic probation and a subsequent semester below a 3.0 cumulative grade point average will result in academic dismissal. The degree will not be conferred until the student has successfully completed all degree requirements. Students are subject to the degree requirements in the catalogue current for the semester of their admission into the program.

Physician assistant students are enrolled in a standard curriculum during their 33 months in the program. The following courses must be successfully completed in order to earn the Master of Physician Assistant Practice degree. Only physician assistant students may enroll in these courses. Departmental clearance is required to enroll.

Year I, Fall Semester

Physician Assistant students enroll as a cohort in all five courses.

- PCPA 503 Behavioral Sciences I Units: 4
- PCPA 523 Clinical Skills I Units: 4
- PCPA 530 Basic Medical Sciences I Units: 3
- PCPA 536 PA Critical Thinking Course I Units: 1
- PCPA 543 Topics in Medicine I Units: 6

Total units: 18

Year I, Spring Semester

Physician Assistant students enroll as a cohort in all five courses.

- PCPA 506 Behavioral Sciences II Units: 4
- PCPA 526 Clinical Skills II Units: 4
- PCPA 537 PA Critical Thinking Course II Units: 1
- PCPA 540 Basic Medical Sciences II Units: 3
- PCPA 546 Topics in Medicine II Units: 6

Total units: 18

Year II, Fall Semester

Physician Assistant students enroll in all five courses.

- PCPA 509 Behavioral Sciences III Units: 4
- PCPA 529 Clinical Skills III Units: 4, 6
- PCPA 538 PA Critical Thinking Course III Units: 1
- PCPA 549 Topics in Medicine III Units: 6
- PCPA 550 Basic Medical Sciences III Units: 3

Total units: 18

Year II, Spring Semester

- PCPA 561 Clinical Assignment I Units: 3.5
- PCPA 562 Clinical Assignment II Units: 3.5
- PCPA 564a Clinical Assignment IV Units: 3.5
- PCPA 565a Clinical Assignment V Units: 3.5

Total units: 14

Year II, Summer Session

- PCPA 564b Clinical Assignment IV Units: 0
- PCPA 565b Clinical Assignment V Units: 0

Year III, Fall Semester

- PCPA 563 Clinical Assignment III Units: 3.5
- PCPA 566 Clinical Assignment VI Units: 3.5
- PCPA 567 Clinical Assignment VII Units: 3.5
- PCPA 568 Clinical Assignment VIII Units: 3.5

Total units: 14

Year III, Spring Semester

- PCPA 532 Clinical Skills IV Units: 3
- PCPA 583 Advanced Topics in PA Studies: Education Units: 4
- PCPA 586 Advanced Topics in PA Studies: Research Units: 4
- PCPA 589 Advanced Topics in PA Studies: Medical Care Organization Units: 4

Total units: 15

Note:

Requests for further information may be addressed to: Primary Care Physician Assistant Program at USC, 1000 South Fremont Avenue, Unit 7, Building A11, Room 11-150, Alhambra, CA 91803, or via email at uscpa@usc.edu. The program's website is *usc.edu/pa*.

Public Health (MPH)

The Master of Public Health (MPH) degree provides professional training in the field of public health, which is the science of protecting and improving the health of people and their communities. The MPH program addresses public health foundational knowledge and builds student competencies in public health practice (e.g., healthy lifestyle promotion; disease and injury prevention; and detection, prevention, and responses to infectious diseases, domestically and globally).

The MPH program is offered in a traditional (on-campus) and online format. The MPH degree requires a minimum of 42 semester units of required and elective graduate courses.

Students fulfill core required courses, including four foundational courses, a practical experience (practicum)* and a capstone course**. In addition, on-campus students select from one of five concentrations: Biostatistics/Epidemiology, Community Health Promotion, Global Health, Health Services and Policy, and Generalist.

For complete Admission Requirements, refer to the Department of Population and Public Health Sciences.

** The practicum, an applied practice experience (internship) in federal, state, and/or local public health agencies/organizations, including community-based organizations, health care organizations, and research settings, is a required component of the MPH degree. The practicum provides the opportunity for students to apply their public health competencies and prepare for work in governmental and non-governmental organizations in public health and health-related fields.*

*** Students enroll in the capstone course during their last semester prior to graduation. Through a paper-writing assignment, the course allows students to integrate their course work and practical experiences in public health.*

MPH Core Requirements

- PM 502 Foundations of Public Health Units: 4
- PM 503 Practice of Public Health Units: 4
- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 596 Practicum in Public Health Units: 1
- PM 597 Capstone in Public Health Units: 1

Additional Requirements

In addition, at least another 24 units of course work must be completed in their selected concentration of study.

Community Health Promotion Concentration

Required Concentration Courses (16 Units)

- PM 501 Foundations in Health Education and Promotion Units: 4
- PM 528 Program Design and Evaluation Units: 4
- PM 563 Organizing and Mobilizing Communities for Public Health Units: 4
  AND Choose 1 course (4 units) from the following course options:
- PM 526 Communications in Public Health Units: 4 * or
- PM 536 Program Evaluation and Research Units: 4 * or
- PM 562 Intervention Approaches for Health Promotion and Disease Prevention Units: 4 *

Concentration Electives (8 units)

At least 8 units from the following**:

- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 511 Health Communication Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4
- CMGT 587 Audience Analysis Units: 4
- PM 508 Health Service Delivery in the U.S. Units: 4
- PM 514 Sexually Transmitted Infections: a Systems Approach Units: 4
- PM 519 Moving Toward Health Equity in the United States Units: 4
- PM 525 Culture and Health: Global Perspectives Units: 4
- PM 526 Communications in Public Health Units: 4 *
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 536 Program Evaluation and Research Units: 4 *
- PM 540 Maternal and Child Nutrition: Practice and Policy Units: 4
- PM 542 Social Network Analysis Units: 4
- PM 561 Health and Sustainable Development in Costa Rica Units: 4
- PM 562 Intervention Approaches for Health Promotion and Disease Prevention Units: 4 *
- PM 564 Public Health Leadership and Management Units: 4
- PM 567 Public Health Disaster Management and Response Units: 4
- PM 568 Ethical Issues in Public Health Units: 4
- PM 580 Foundations of Child Health Units: 4
- PM 583 Foundations of Early Childhood Mental Health Units: 4
- PM 586 Reproductive and Perinatal Epidemiology Units: 4
- PM 587 Qualitative Research Methods in Public Health Units: 4
- PM 589 Global Health Policy in Action: Geneva Course Units: 4

  ** Students may receive credit for concentration core or concentration elective only.*

  *** Concentration elective courses will be directed by the student's needs and interests and must be approved by the student's graduate adviser. Course options vary by semester.*

Biostatistics/Epidemiology Concentration

Required Concentration Courses (16 Units)

- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4

  AND Choose 2 courses (8 units) from the following:
- PM 527 Epidemiology of Infectious Disease Units: 4 *
- PM 529 Environmental Health: An Epidemiological Approach Units: 4 *
- PM 536 Program Evaluation and Research Units: 4 *
- PM 537 Chronic Disease Epidemiology Units: 4 *

Concentration Electives (8 units)

At least 8 units from the following**:

- PM 508 Health Service Delivery in the U.S. Units: 4
- PM 514 Sexually Transmitted Infections: a Systems Approach Units: 4
- PM 515 Multivariate Statistics in Health Behavior Research Units: 4
- PM 517a Research Methods in Epidemiology Units: 4
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 519 Moving Toward Health Equity in the United States Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4 *
- PM 529 Environmental Health: An Epidemiological Approach Units: 4 *
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 532 Genetics in Public Health and Preventive Medicine Units: 4
- PM 536 Program Evaluation and Research Units: 4 *
- PM 537 Chronic Disease Epidemiology Units: 4 *
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 542 Social Network Analysis Units: 4
- PM 553 Human Exposure Assessment for Public Health Units: 4
- PM 554 Health Effects of Environmental Contaminants Units: 4
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 560 Statistical Programming With R Units: 2
- PM 561 Health and Sustainable Development in Costa Rica Units: 4
- PM 566 Introduction to Health Data Science Units: 4
- PM 567 Public Health Disaster Management and Response Units: 4
- PM 569 Spatial Statistics Units: 3
- PM 574 Programming In Modern Statistical Software Units: 2
- PM 586 Reproductive and Perinatal Epidemiology Units: 4
- PM 587 Qualitative Research Methods in Public Health Units: 4
- PM 588 The Practice of Epidemiology Units: 4
- PM 589 Global Health Policy in Action: Geneva Course Units: 4

  ** Students may receive credit for concentration core or concentration elective only.*

  *** Concentration elective courses will be directed by the student's needs and interests and must be approved by the student's graduate adviser. Course options vary by semester.*

Health Services and Policy Concentration

Required Concentration Courses (16 Units)

- PM 508 Health Service Delivery in the U.S. Units: 4
- PPD 503 Economics for Public Policy Units: 4

  AND Choose 8 units from the following course options:
- PM 504 Quality in Health Care Units: 4 *
- PM 507 Public Health Services Research Methods Units: 4 *
- PM 547 Public Health Policy and Politics Units: 4 *
- PPD 560 Methods for Policy Analysis Units: 4 *

Concentration Electives (8 units)

At least 8 units from:

- PM 504 Quality in Health Care Units: 4 *
- PM 507 Public Health Services Research Methods Units: 4 *
- PM 514 Sexually Transmitted Infections: a Systems Approach Units: 4
- PM 519 Moving Toward Health Equity in the United States Units: 4
- PM 528 Program Design and Evaluation Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 536 Program Evaluation and Research Units: 4
- PM 542 Social Network Analysis Units: 4
- PM 547 Public Health Policy and Politics Units: 4 *
- PM 568 Ethical Issues in Public Health Units: 4
- PM 577 Global Health, Law and Human Rights: Concepts and Methods Units: 1, 2, 3, 4
- PM 578 Global Health Governance and Diplomacy Units: 4
- PM 585 Child Health Policy Units: 4
- PM 589 Global Health Policy in Action: Geneva Course Units: 4
- PPD 511 Health Information Systems Units: 2
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 514 Economic Concepts Applied to Health Units: 4
- PPD 521a Information Technology Management Systems in Health Care Units: 2
- PPD 542 Policy and Program Evaluation Units: 4

- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 560 Methods for Policy Analysis Units: 4 *

** Students may receive credit for concentration core or concentration elective only.*

*** Concentration elective courses will be directed by the student's needs and interests and must be approved by the student's graduate adviser. Course options vary by semester.*

Global Health Concentration

Required Concentration Courses (16 Units)

- PM 565 Introduction to Global Health Units: 4
- PM 576 Global Health Research and Programs Units: 4

AND Choose two courses (8 units) from the following:

- PM 506 Overcoming Real World Challenges in Global Health Units: 4 * and/or
- PM 525 Culture and Health: Global Perspectives Units: 4 * and/or
- PM 577 Global Health, Law and Human Rights: Concepts and Methods Units: 1, 2, 3, 4

Concentration Electives (8 units)

At least 8 units from the following**:

- PM 506 Overcoming Real World Challenges in Global Health Units: 4 *
- PM 519 Moving Toward Health Equity in the United States Units: 4
- PM 525 Culture and Health: Global Perspectives Units: 4 *
- PM 527 Epidemiology of Infectious Disease Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 537 Chronic Disease Epidemiology Units: 4
- PM 540 Maternal and Child Nutrition: Practice and Policy Units: 4
- PM 561 Health and Sustainable Development in Costa Rica Units: 4
- PM 563 Organizing and Mobilizing Communities for Public Health Units: 4
- PM 567 Public Health Disaster Management and Response Units: 4
- PM 568 Ethical Issues in Public Health Units: 4
- PM 577 Global Health, Law and Human Rights: Concepts and Methods Units: 1, 2, 3, 4 *
- PM 578 Global Health Governance and Diplomacy Units: 4
- PM 586 Reproductive and Perinatal Epidemiology Units: 4
- PM 587 Qualitative Research Methods in Public Health Units: 4
- PM 589 Global Health Policy in Action: Geneva Course Units: 4

** Students may receive credit for concentration core or concentration elective only.*

*** Concentration elective courses will be directed by the student's needs and interests and must be approved by the student's graduate adviser. Course options vary by semester.*

Generalist Concentration

Admission to this concentration is limited to students to have already obtained an advanced graduate or professional degree (e.g. JD, PhD, MD, etc.) or those currently enrolled in an accredited U.S. based medical degree program (MD).

Required Courses (24 units)

Students will complete 24 units of course work through courses identified with their faculty adviser in an individualized program of instruction that has been tailored to their background and career plans in public health.

Public Health (MPH) (Online)

The Master of Public Health (MPH) degree provides professional training in the field of public health, which is the science of protecting and improving the health of people and their communities. The MPH program addresses public health foundational knowledge and builds student competencies in public health practice (e.g., healthy lifestyle promotion; disease and injury prevention; and detection, prevention, and responses to infectious diseases, domestically and globally).

The MPH program is offered in a traditional (on-campus) and online format. The MPH degree requires a minimum of 42 semester units of required and elective graduate courses.

Students fulfill core required courses, including five foundational courses, a practical experience (practicum)* and a capstone course**. In addition, online MPH students select from one of six concentrations: Biostatistics/Epidemiology, Community Health Promotion, GeoHealth, Global Health, Health Services and Policy, and Generalist.

For complete admission requirements, refer to the Department of Population and Public Heath Sciences.

** The practicum, an applied practice experience (internship) in federal, state, and/or local public health agencies/organizations, including community-based organizations, health care organizations, and research settings, is a required component of the MPH degree. The practicum provides the opportunity for students to apply their public health competencies and prepare for work in governmental and non-governmental organizations in public health and health-related fields.*

*** Students enroll in the capstone course during their last semester prior to graduation. Through a paper writing assignment, the course allows students to integrate their course work and practical experiences in public health.*

MPH Core Requirements

- PM 501 Foundations in Health Education and Promotion Units: 4
- PM 508 Health Service Delivery in the U.S. Units: 4
- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 564 Public Health Leadership and Management Units: 4
- PM 596 Practicum in Public Health Units: 1
- PM 597 Capstone in Public Health Units: 1

Additional Requirements

In addition, at least another 20 units of course work must be completed in their selected concentration of study.

Community Health Promotion Concentration

Required Concentration Courses (16 Units)

- PM 526 Communications in Public Health Units: 4
- PM 528 Program Design and Evaluation Units: 4
- PM 562 Intervention Approaches for Health Promotion and Disease Prevention Units: 4
- PM 563 Organizing and Mobilizing Communities for Public Health Units: 4

Concentration Elective Courses (4 units)

AND choose one course (4 units) from the following:

- PM 529 Environmental Health: An Epidemiological Approach Units: 4

  OR
- PM 536 Program Evaluation and Research Units: 4

Biostatistics/Epidemiology Concentration

Required Concentration Courses (16 Units)

- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 527 Epidemiology of Infectious Disease Units: 4
- PM 537 Chronic Disease Epidemiology Units: 4

Concentration Elective Courses (4 units)

AND choose one course (4 units) from the following:

- PM 529 Environmental Health: An Epidemiological Approach Units: 4

  OR
- PM 536 Program Evaluation and Research Units: 4

Global Health Concentration

Required Concentration Courses (16 Units)

- PM 525 Culture and Health: Global Perspectives Units: 4
- PM 565 Introduction to Global Health Units: 4
- PM 576 Global Health Research and Programs Units: 4
- PM 577 Global Health, Law and Human Rights: Concepts and Methods Units: 1, 2, 3, 4

Concentration Elective Courses (4 units)

AND choose one course (4 units) from the following:

- PM 529 Environmental Health: An Epidemiological Approach Units: 4
  OR
- PM 568 Ethical Issues in Public Health Units: 4

Health Services and Policy Concentration

Required Concentration Courses (16 Units)

- PM 504 Quality in Health Care Units: 4
- PM 547 Public Health Policy and Politics Units: 4
- PPD 503 Economics for Public Policy Units: 4
- PPD 542 Policy and Program Evaluation Units: 4

Concentration Elective Courses (4 units)

AND choose one course (4 units) from the following:

- PM 529 Environmental Health: An Epidemiological Approach Units: 4
  OR
- PM 577 Global Health, Law and Human Rights: Concepts and Methods Units: 1, 2, 3, 4

GeoHealth Concentration

Required Concentration Courses (16 Units)

- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4
- SSCI 589 Cartography and Visualization Units: 4
- SSCI 591 Web and Mobile GIS Units: 4

Concentration Elective Courses (4 units)

AND choose one course (4 units) from the following:

- PM 529 Environmental Health: An Epidemiological Approach Units: 4
  OR
- PM 536 Program Evaluation and Research Units: 4

Generalist Concentration

Admission to this track will be limited to students to have already obtained an advanced graduate or professional degree (e.g. JD, PhD, MD, etc.) or those currently enrolled in an accredited U.S. based medical degree program (MD).

Required Concentration Courses (20 units)

Students will complete 20 units of course work through courses identified with their faculty adviser in an individualized program of instruction that has been tailored to their background and career plans in public health.

Public Health Data Science (MS)

The MS in Public Health Data Science degree program consists of required courses in Biostatistics, Epidemiology and Computing in addition to at least one elective course chosen to complement one or more of these areas. From the required courses, students will learn the foundations of Data Science, including developing the coding skills to acquire, manage and analyze large, noisy health-related datasets.

Students in the MS in Public Health Data Science will learn to wrangle, scrape, create, and manage large health-related datasets; summarize, visualize, and interpret data; apply statistical methods to draw conclusions from the data; use machine learning to reveal features of large, complex health-related datasets; learn the statistical theory behind common data science methods; and effectively communicate results and findings to a broad audience. This program is designed to be a terminal degree, but for students interested in pursing further education, it can be used to lay the foundation for a PhD in Biostatistics, Statistics, Data Science or Computer Science.

Core Courses

22 units.

- PM 512 Principles of Epidemiology Units: 4
- PM 520L Advanced Statistical Computing Units: 3
- PM 522b Introduction to the Theory of Statistics Units: 3
- PM 566 Introduction to Health Data Science Units: 4
- PM 591 Machine Learning for the Health Sciences Units: 4
- PM 592 Regression Analysis for Health Data Science Units: 4

Note:

PM 522a will be waived for this program. Students must have taken an equivalent course during their undergraduate studies.

Computing Requirement

4 units; cannot double count as elective requirement.

- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 585 Database Systems Units: 4
- CSCI 587 Geospatial Information Management Units: 4
- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4
- DSCI 551 Foundations of Data Management Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4

Electives

3 units minimum; cannot double count as computing requirement.

- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 573 Probabilistic Reasoning Units: 3
- CSCI 585 Database Systems Units: 4
- CSCI 587 Geospatial Information Management Units: 4
- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4
- DSCI 551 Foundations of Data Management Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- MATH 501 Numerical Analysis and Computation Units: 3
- PM 513 Experimental Designs Units: 3
- PM 534 Statistical Genetics Units: 3
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 542 Social Network Analysis Units: 4
- PM 552 Statistical Methods in Clinical Trials Units: 3
- PM 569 Spatial Statistics Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PMEP 547 Programming Methods for Empirical Analysis of Health Data Units: 4

Practicum

3 units.

- PM 606 Health Data Science Practicum Units: 3

Minimum Units Required: 32

Speech-Language Pathology (MS)

The Master of Science in Speech-Language Pathology (MS-SLP) will provide the graduate level academic and clinical training to enter the field of speech-language pathology. Graduates will be trained in the prevention, assessment and intervention for individuals with communication and swallowing disorders across settings and across the lifespan.

The professional entry-level Master of Science (MS) in Speech-Language Pathology is a rigorous full-time program. Students must meet all admission requirements, including prerequisite courses identified by the American Speech-Language-Hearing

Association (ASHA) and must have either a bachelor's degree in Communication Sciences and Disorders (CSD) or Speech-Language Pathology or the equivalent. These undergraduate and/or post-baccalaureate programs must be completed at a program from an accredited university in the United States.

The curriculum comprises six semesters over two years, consecutive enrollment in a cohort model. The program includes both academic courses and clinical practicum courses for a total of 69 units. Clinical experiences are assigned by the program to meet the 400 hours of clinical experiences in different settings across the life span, per ASHA requirements.

Core Requirements

Students enrolled in the MS-SLP are required to take all designated core courses to fulfill degree requirements, for a total of 69 units.

- OHNS 500 Neuroanatomy and Neurophysiology for Speech, Language and Hearing Units: 3
- OHNS 501 Speech Sound Disorders Units: 3
- OHNS 502 Language and Literacy Disorders Units: 3
- OHNS 504 Speech-Language Pathology Methods and Evidence-Based Practice Units: 3
- OHNS 505 Audiology for Speech-Language Pathologists Units: 2
- OHNS 506 Autism Spectrum Disorder, AAC and Cognitive Communication Disorders in Children Units: 3
- OHNS 507 Voice and Resonance Disorders Units: 3
- OHNS 508 Assessment of Communication Disorders Units: 3
- OHNS 509 Dysphagia Units: 3
- OHNS 510 Clinical Practicum in Speech-Language Pathology Units: 2
- OHNS 511 Aural (Re)Habilitation Units: 3
- OHNS 512 Communication Disorders in Early Childhood Units: 3
- OHNS 513 Adult Neurogenic and Related Cognitive Communication Disorders Units: 3
- OHNS 514 Clinical Rotations in Speech-Language Pathology Units: 3 *
- OHNS 515 School-Based Issues in Speech-Language Programs Units: 3
- OHNS 516 Motor Speech Disorders/Craniofacial Disorders Units: 3
- OHNS 517 Multicultural Issues in Speech-Language Pathology Units: 2
- OHNS 518 Research/Capstone in Communication Sciences and Disorders Units: 1 **
- OHNS 519 Externship in Speech-Language Pathology Units: 3 *
- OHNS 520 Professional Issues in Speech-Language Pathology Units: 1
- OHNS 521 Fluency Disorders Units: 2
- OHNS 522 Telepractice and Technological Applications in Speech-Language Pathology Units: 2
- OHNS 523 Counseling in Speech-Language Pathology Units: 2

Note:

*Students must enroll in OHNS 514 and OHNS 519 twice, for a total of 6 units each.

**Students must enroll in OHNS 518 twice, for a total of 2 units.

Stem Cell Biology and Regenerative Medicine (MS)

Stem cell biology is one of the newest and most powerful approaches in biomedical science; it offers the opportunity to experimentally approach previously intractable biological questions, create models of human disease and develop cell-based therapeutics.

This intensive one-year program (with an optional second year) will give students a deep understanding of the scientific and clinical underpinnings of stem cell biology and regenerative medicine. The program includes three didactic lecture courses that address developmental cell biology and human embryology, stem cell biology and regenerative medicine, and translational and therapeutic aspects of stem cell technology. The program also includes two laboratory modules that provide guided hands-on experience with stem cells and stem cell laboratory approaches, and several different faculty-led discussion-based courses that allow detailed investigation within specific aspects of stem cell biology and regenerative medicine.

Students completing this program will be well-positioned to proceed to medical or PhD programs, find laboratory or administrative employment in the growing stem cell pharmaceutical domain, or engage in public policy or regulatory administration of academic, clinical or business efforts in this expanding discipline.

California is globally recognized as the worldwide center of stem cell science, and USC has invested significantly in building the new Department of Stem Cell Biology and Regenerative Medicine at the Keck School of Medicine of USC, within which this MS program is based and administered.

Degree Requirements

Graduation requires completion of 27 units, according to the required Year One course schedule outlined below. None of these courses may be substituted or waived.

This program is intended to be completed within one academic year, and does not include a requirement for independent laboratory research or a thesis. Students may request approval to undertake laboratory research and continuing course work during a second year research option; students must already be matriculated into the program before making this request, and not all students will be granted this opportunity (selection will be based on academic performance and student research interests, and on availability of laboratory space). During this optional second year, students must enroll in the required Year two courses listed below; none of these courses may be substituted or waived.

Year One, Fall Semester

Required Courses (14 Units):

- DSR 620 Current Topics in Stem Cell Biology and Organogenesis Units: 1
- SCRM 511 Developmental Biology and Human Embryology Units: 4
- SCRM 513 Stem Cells and Regenerative Medicine Units: 4
- SCRM 525 Tools and Techniques in Stem Cell Biology Units: 2
- SCRM 555 Writing About Stem Cell Biology and Regenerative Medicine Units: 1
- SCRM 580 SCRM External Speaker Seminar Series Units: 2

Year One, Spring Semester

Required Courses (11 Units + one required elective (2 Units) = 13 Units):

- DSR 610 Current Topics in Regenerative Medicine Units: 1
- SCRM 515 Bringing Stem Cells to the Clinic Units: 4
- SCRM 522L Biological Imaging in Stem Cell Research Units: 2
- SCRM 524L Culture and Differentiation of Human Pluripotent Stem Cells Units: 2
- SCRM 580 SCRM External Speaker Seminar Series Units: 2

Year One, Spring Semester: General Elective Courses

Select one course from the following:

- SCRM 517 Historical and Contemporary Stem Cell Research Units: 2
- SCRM 519 Historical and Contemporary Research: Neural Stem Cells Units: 2
- SCRM 521 Historical and Contemporary Research: Tissue Development Engineering Units: 2

OPTIONAL Year Two Research, Fall Semester

- DSR 574 Stem Cell and Developmental Biology Seminar Series Units: 1

- DSR 620 Current Topics in Stem Cell Biology and Organogenesis Units: 1
- SCRM 580 SCRM External Speaker Seminar Series Units: 2
- SCRM 590 Independent Research Units: 1, 2, 3, 4

OPTIONAL Year Two Research, Spring Semester

- DSR 574 Stem Cell and Developmental Biology Seminar Series Units: 1
- DSR 610 Current Topics in Regenerative Medicine Units: 1
- SCRM 580 SCRM External Speaker Seminar Series Units: 2
- SCRM 590 Independent Research Units: 1, 2, 3, 4

Stem Cell Biology and Regenerative Medicine with Research Year (MS)

Stem cell biology and regenerative medicine is one of the newest and most powerful approaches in biomedical science; it offers the opportunity to experimentally approach previously intractable biological questions, create models of human disease and develop cell-based therapeutics.

Program Description

This two-year program will give students a deep understanding of the scientific and clinical underpinnings of stem cell biology and regenerative medicine. In the first year, the program includes three didactic lecture courses that address developmental biology and human embryology, stem cell biology and regenerative medicine and translational and therapeutic aspects of stem cell technology. The program also includes two laboratory modules that provide guided hands-on experience with stem cells and stem cell laboratory approaches, along with several faculty-led discussion-based courses that allow detailed investigation within specific aspects of stem cell biology and regenerative medicine.

During the second year, under the mentorship of department faculty, students will extend their educational experience with two additional seminar courses (DSR 620 and DSR 610) and apply methodologies used in stem cell biology and regenerative medicine to create an independent capstone project. This capstone project (SCRM 594a, SCRM 594b, SCRM 594z) will involve assembling a thesis committee, meetings with the committee, preparing a thesis to be submitted to the USC library and a public defense.

Applicants to this program must have a bachelor's degree or its equivalent from an accredited institution with a minimum grade point average of 3.0 (A = 4.0) in undergraduate work. Other materials required include: official transcripts, two letters of recommendation and a Statement of Purpose. The Statement of Purpose should succinctly describe the reasons for applying to the program, the preparation for this field of study, academic interests, future career plans and any other aspects of the applicant's background that may aid the admissions committee in evaluating aptitude and motivation for graduate study in this field.

Students enrolled in the MS Program in Stem Cell Biology and Regenerative Medicine (without thesis) can petition to transfer at the completion of year 1 if they are in excellent academic standing. These students must obtain approval from both the Thesis Mentor and Program Director.

Students completing this degree will be well-positioned to proceed to PhD or medical programs, find laboratory or administrative employment in the pharmaceutical and biotechnology domains, engage in public policy or administration of academic, clinical or business efforts in the expanding discipline of regenerative medicine.

Learning Objectives

1. Describe foundational concepts in stem cell and developmental biology and translational biology.
2. Explain the principles underlying the equipment, reagents, databases and methods commonly used for research in stem cell biology and regenerative medicine.
3. Develop critical thinking skills by analysis of experimental data in published literature.
4. Outline the steps of the research process, state key research criteria and pitfalls, and design a credible and meaningful research project.
5. Evaluate current issues and approaches in stem cell biology through writing and oral presentation
6. Implement and manage academic sources and citations to competently and efficiently produce documents.
7. Create original research which will if appropriate, entail trouble shooting, hypothesis testing and data analysis.
8. Defend a master's thesis succinctly, in written and oral forms, to faculty, mentors and potential collaborators.

Degree Requirements

Graduation requires completion of 35 units according to the course schedule outlined below. This program is intended to be completed within two academic years and culminates with the completion of a capstone project to be presented and defended as part of SCRM 594a, SCRM 594b, SCRM 594z.

Year One, Fall Semester (14 units)

Required Courses:

- DSR 620 Current Topics in Stem Cell Biology and Organogenesis Units: 1
- SCRM 511 Developmental Biology and Human Embryology Units: 4
- SCRM 513 Stem Cells and Regenerative Medicine Units: 4
- SCRM 525 Tools and Techniques in Stem Cell Biology Units: 2
- SCRM 580 SCRM External Speaker Seminar Series Units: 2

Year One, Spring Semester (13 units)

Required Courses and one Elective:

- DSR 610 Current Topics in Regenerative Medicine Units: 1
- SCRM 515 Bringing Stem Cells to the Clinic Units: 4
- SCRM 522L Biological Imaging in Stem Cell Research Units: 2
- SCRM 524L Culture and Differentiation of Human Pluripotent Stem Cells Units: 2
- SCRM 580 SCRM External Speaker Seminar Series Units: 2

Year One, Spring Semester Elective

Select one course from the following:

- SCRM 517 Historical and Contemporary Stem Cell Research Units: 2
- SCRM 519 Historical and Contemporary Research: Neural Stem Cells Units: 2
- SCRM 521 Historical and Contemporary Research: Tissue Development Engineering Units: 2

Year Two, Fall Semester (3-5 units)*

- SCRM 590 Independent Research Units: 1, 2, 3, 4 (1 unit required)
- SCRM 594a Master's Thesis Units: 2

Year Two, Spring Semester (3-5 units)*

- SCRM 590 Independent Research Units: 1, 2, 3, 4 (1 unit required)
- SCRM 594b Master's Thesis Units: 2

Year Two Electives

*Select 2 units from the following electives to be taken in either fall or spring of year two. SCRM 517, SCRM 519 and SCRM 521 cannot be taken twice for credit.

- DSR 610 Current Topics in Regenerative Medicine Units: 1
- DSR 620 Current Topics in Stem Cell Biology and Organogenesis Units: 1
- SCRM 517 Historical and Contemporary Stem Cell Research Units: 2
- SCRM 519 Historical and Contemporary Research: Neural Stem Cells Units: 2
- SCRM 521 Historical and Contemporary Research: Tissue Development Engineering Units: 2

Translational Biomedical Informatics (MS)

Keck School of Medicine of USC
Harlyne J. Norris Cancer Research Tower
1450 Biggy St. NRT 2508
Los Angeles, CA 90089-9601
Email: davidwcr@usc.edu
Program Director: David W. Craig, PhD
dtg.usc.edu/education/translational_bioinformatics

Program Summary

The Department of Translational Genomics is offering a Master of Science (MS) degree in Translational Biomedical Informatics. This MS program aims to train medical students, fellows and other healthcare scientists in biomedical informatics, specifically around translational applications in human health and care moving from bench to bedside. The goal of this program is to provide individuals with a solid biology or medical background a program a degree grant mechanism for transitioning from the bench to the dry-lab in academic biomedical research, clinical research and pharmaceutical research. Graduates will have the practical skills to understand molecular biology, systems biology, structural biology, proteomics, genomic sequencing and genomic tools and datasets.

The program focuses on training in human biomedical informatics centered around applications in healthcare and biomedical research. Students will learn to effectively implement, develop, and design analytical solutions within for different healthcare applications from prototyping to production. Moreover, students will learn by application with a major emphasis on data analysis, data processing, and interpretation of next-generation sequencing (NGS) datasets. Students will be trained and gain an understanding of modern web-development frameworks, and how to extract and interact with a wide variety of databases spanning open access frameworks to restricted and regulated frameworks. A capstone project helps students build an on-line portfolio that showcases both their ability to conduct complex analysis and share their results through interactive web-applications.

The program is intended to be flexible, and attract applicants with training in biology, medicine, and related biomedical disciplines. It will focus on individuals with a background in biology and medicine, and is not intended or appropriate for those with computer engineering and software degrees.

Admission

Applicants should have a minimum cumulative undergraduate GPA 3.0. Applicants should have two semesters/three quarters of General Biology; two semesters/two quarters of General Chemistry, and one semester/one quarter of Statistics.

A minimum score of 300 on the Graduate Record Examinations (GRE) General Test is required. In lieu of GRE, DAT (minimum 18), MCAT (minimum 28 pre-2015 or 505 post-2015) or USMLE may be submitted. Applicants must also supply a statement of purpose and three letters of recommendation from evaluators qualified to assess their potential for graduate work. Please visit program website for additional information on admission and application procedures.

Advisement

The program recommends that students meet with an academic adviser of the program each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

A minimum of 28 units of graduate level course work is required for graduation.

Required (20 Units)

- TRGN 510 Basic Foundations in Translational Biomedical Informatics Units: 4
- TRGN 514 Introduction to Human Genomic Analysis Methods Units: 4
- TRGN 515 Advanced Human Genomic Analysis Methods Units: 4
- TRGN 516 Translational Genomics, Applied Databases and Datastructures Units: 4
- TRGN 520 Translational Biomedical Informatics Capstone Portfolio Units: 2, 3, 4

Electives (8 Units)

- PM 591 Machine Learning for the Health Sciences Units: 4
- TRGN 524 Applications of Genomic Technology in Biomedical Research I Units: 4
- TRGN 525 Applications of Genomic Technology in Biomedical Research II Units: 4
- TRGN 526 Clinical Bioinformatics in Genomic Testing Units: 2
- TRGN 527 Applied Data Science and Bioinformatics Units: 4
- TRGN 537 Pathway and Target Discovery Units: 4
- TRGN 539 Translational Biotechnology Practicum Units: 2, 3, 4
- TRGN 543 Biotechnology Entrepreneurship and Commercialization I Units: 2
- TRGN 544 Biotechnology Entrepreneurship and Commercialization II Units: 2

Translational Biotechnology (MS)

Keck School of Medicine of USC
Harlyne J. Norris Cancer Research Tower
1450 Biggy St. NRT 2508
Los Angeles, CA 90089-9601
(323) 442-3237
Email: CarolLin@usc.edu
Program Director: Carol S. Lin, PhD, MAE
keck.usc.edu/translational-biotechnology-program/
dtg.usc.edu/education/translational_biotechnology

Keck School of Medicine Department of Translational Genomics offers a Master of Science (MS) degree in Translational Biotechnology. This program combines a unique curriculum and distinctive practical training that exposes students to biotechnology and its applications in translating genomic and molecular insights into developing novel therapies and precision medicine. Drawing strength from the Keck School of Medicine faculty's education, research, and practice expertise, this program educates students on approaches used in the academic research, biotechnology and medical sciences industries.

Program Summary

Students in this program will gain an understanding of:

- the science of human diseases and their interventions
- the role of biotechnology in developing new therapies and precision medicine
- the scope of issues and decisions faced by collaborating basic and clinical researchers in the bench-to-bedside process
- the regulatory framework that impacts the use of new interventions
- the private and public capital that develop the growing biotechnology and biomedical markets.

The program is ideal for those who are passionate about biomedical sciences and would like a career in biotechnology beyond laboratory research.

- Students with a moderate biology background have the opportunity to extend their course work in biotechnology and biological sciences and continue in these fields.
- Professionals in management, investment, regulatory affairs or law in the biotechnology industry are able to extend their knowledge of the science behind this industry, enabling them to make better decisions regarding this rapidly developing technology.
- Students interested in doctoral programs or professional degree programs, such as medical school and law school,

will build a strong foundation in biotechnology prior to applying to their top programs of study.

Admission

Admission requirements include a minimum GPA of 3.0 and an undergraduate major in biological sciences, or at least 6 bioscience courses in the molecular, cellular, genetics and biochemistry topics.

A minimum score of 300 on the Graduate Record Examinations (GRE) General Test is required. In lieu of GRE, DAT (minimum 18), MCAT (minimum 28 pre-2015 or 505 post-2015) or USMLE may be submitted. Applicants must also supply a statement of purpose and three letters of recommendation from evaluators qualified to assess their potential for graduate work. Please visit program website for additional information on admission and application procedures.

Advisement

The program requires that students meet with an academic adviser of the program each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

A minimum of 28 units of graduate level course work is required for graduation.

Core Lecture Courses (Required, 12 Units)

Students with strong background in biotechnology may substitute TRGN 536 with another appropriate course, with permission of the program director. A minimum grade point average of 3.0 on all core courses is required.

- TRGN 536 Biotechnology Primer Units: 4
- TRGN 537 Pathway and Target Discovery Units: 4
- TRGN 538 Seminar in Translational Biotechnology Units: 2
- TRGN 543 Biotechnology Entrepreneurship and Commercialization I Units: 2

Experiential Learning (Required, 7 Units)

Experiential learning includes a total of 4 units of TRGN 539 plus two Capstone courses. This program does not require a thesis. Instead, students are required to defend their program capstone through TRGN 540 and TRGN 541, which include practicum conclusion, reflective narratives, and portfolio presentation.

- TRGN 539 Translational Biotechnology Practicum Units: 2, 3, 4
- TRGN 540 Translational Biotechnology Capstone Preparation Units: 1
- TRGN 541 Translational Biotechnology Capstone Defense Units: 2

Electives (At least 9 Units)

At least 4 units must be from TRGN. No more than 4 units of TRGN 590 may be used to fulfill degree requirements.

- BAEP 551 Introduction to New Ventures Units: 3
- BAEP 552 Venture Feasibility Units: 3
- BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences Units: 1.5
- BAEP 563 Corporate Entrepreneurship Units: 3
- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 531 Cell Biology Units: 4
- INTD 572 Medical Physiology I Units: 4
- INTD 573 Medical Physiology II Units: 4
- TRGN 510 Basic Foundations in Translational Biomedical Informatics Units: 4
- TRGN 514 Introduction to Human Genomic Analysis Methods Units: 4
- TRGN 515 Advanced Human Genomic Analysis Methods Units: 4
- TRGN 516 Translational Genomics, Applied Databases and Datastructures Units: 4
- TRGN 524 Applications of Genomic Technology in Biomedical Research I Units: 4
- TRGN 525 Applications of Genomic Technology in Biomedical Research II Units: 4
- TRGN 526 Clinical Bioinformatics in Genomic Testing Units: 2
- TRGN 527 Applied Data Science and Bioinformatics Units: 4
- TRGN 542 Biotechnology-based Therapeutics Units: 2
- TRGN 544 Biotechnology Entrepreneurship and Commercialization II Units: 2
- TRGN 545 Exploring Chemical and Biological Therapeutic Modalities Units: 2
- TRGN 546 Biotechnology Intellectual Property, Regulatory, and Corporate Law Units: 2
- TRGN 550 Communicating Science: Writing Units: 1
- TRGN 551 Communicating Science: Speaking Units: 1
- TRGN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- TRGN 599 Special Topics Units: 1, 2, 3, 4, 5, 6, 7, 8

Dual Degree

Doctor of Medicine/Master of Business Administration (MD/MBA)

In response to the ongoing reorganization of health care delivery systems, and the growing awareness of the impact of business decisions on health care, the Keck School of Medicine and the USC Marshall School of Business jointly offer an innovative program for individuals seeking knowledge in both medicine and business administration. The program is designed to prepare its graduates to assume leadership in the design and management of health care systems.

The MD/MBA program spans five years. Interested students apply during their second or third year of medical school, and begin required MBA courses following successful completion of the first two or first three years of medical school. The remaining time is devoted to the clinical clerkships of the Keck School of Medicine and completion of graduate business elective courses. At the conclusion of the program, students will have completed 48 units in the Marshall School of Business, including required and elective courses, and four years of courses in the Keck School of Medicine. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units.

First and Second Years: Required medicine courses.

Third or Fourth Year: Required MBA courses and graduate business electives.

Remaining Years: Keck School of Medicine core, selective and elective clerkships and graduate business electives.

Admission Requirements

Students who have a baccalaureate degree from an accredited college or university and have successfully completed at least two years in the Keck School of Medicine will be considered for admission to the Marshall School of Business. Requirements for admission to the regular MBA Program (with the exception of the GMAT) must be fulfilled by the medical student for admission to the Marshall School.

The MD and the MBA degrees are awarded simultaneously upon completion of their requirements by the Keck School of Medicine and the Marshall School of Business.

Doctor of Medicine/Master of Public Health (MD/MPH)

The joint MD/MPH program at the Keck School of Medicine is designed for individuals who envision a medical career that combines public health and medical disciplines. Many individuals entering careers as medical doctors or public health practitioners wish to acquire not only medical practice competencies, but also an understanding of the history, organization, goals and philosophy of public health. The joint MD/MPH program offers a broadbased

orientation to public health while the student completes medical school requirements. The Master of Public Health degree provides increased knowledge of and sensitivity to the political, historical, economic and social environments of health promotion and health services delivery.

The MD/MPH program can be completed in five years. After the successful completion of at least the first two years of medical school, students take one year off from medical school to complete the MPH program in one year. Upon completion of the MPH program, students will return to medical school. The remainder of the program is devoted to clinical clerkships of the School of Medicine.

Students who are enrolled in the Keck School of Medicine must apply to the Master of Public Health program no later than January of their third year. All requirements for admission to the regular MPH program must also be fulfilled by dual degree applicants.

All students in the MD/MPH program must meet course requirements, grade point average requirements and program proficiency requirements of both programs. Students must have a grade point average of 3.0 in the MPH curriculum to meet graduation requirements.

The MD and the MPH degrees are awarded simultaneously upon completion of the Keck School of Medicine and the Master of Public Health program requirements. For more information, contact the MPH Program Office at (323) 442-7257.

Doctor of Medicine/Master of Science, Global Medicine

The dual degree in Doctor of Medicine and Master of Science in Global Medicine will provide medical students with formal education in the field of global health. Students will benefit from a curriculum that supplements and strengthens their medical knowledge with additional expertise in cultural competence, the specific diseases that affect various populations worldwide, and the unique issues respective to practicing medicine in a developing country or in vulnerable, underserved populations domestically.

Requirements

Current enrollment in the Keck School of Medicine MD program and successful completion of at least the first two years of the MD curriculum are required prior to submitting an application to the MS in Global Medicine program for admission to the dual degree program. Students must gain admission to and fulfill the degree requirements for both programs, which include four years of course work for the Doctor of Medicine and 24 units of the MS in Global Medicine (Clinical track only).

For the dual degree with Global Medicine Clinical Track, 24 GM elective units should be successfully completed. The MD and the MS in Global Medicine degrees are awarded simultaneously upon successful completion of both degree requirements.

Program Adaptation

For the dual degree with Global Medicine Clinical Track, there are no Global Medicine core unit requirements. Students enrolled in MD/MSGM dual degree will be eligible to apply 2 GM study-abroad elective units and 2 other GM elective units (except MEDS 503, MEDS 504, MEDS 520, MEDS 524 and MEDS 530a, MEDS 530b, MEDS 530c) toward their MD program elective requirements. GM Management Track electives cannot be applied toward either degree requirements.

Master of Public Health/Doctor of Pharmacy (MPH/PharmD)

The School of Pharmacy and the Master of Public Health program, in recognition of the rapidly changing health care environment, and in response to the growing demand for pharmacists who are knowledgeable in both pharmacy and population-based health care issues, have developed a dual degree program. The joint PharmD/MPH degree will enable graduates to be more responsive to today's health care needs and will provide training for pharmacists who seek to be agents of change within the profession and to assume leadership roles in the pharmacy field and in public health at the local, state and national levels.

Students who are enrolled in the School of Pharmacy must apply to the Master of Public Health program no later than January of their first year. All requirements for admission to the regular MPH program must also be fulfilled by dual degree applicants.

The PharmD/MPH program spans five years (four years of pharmacy school courses and one year of public health courses). Students begin the core MPH courses following the successful completion of the first year of pharmacy school. The last three years of the program are devoted to course work and the clinical rotations of the School of Pharmacy and to the completion of the elective courses and practicum (field experience) of the MPH program.

All students in the PharmD/MPH program must meet course requirements, grade point average requirements and program residency requirements of both programs. Students must have a cumulative GPA of 3.0 in the PharmD curriculum and a 3.0 in the MPH curriculum to meet graduation requirements.

The PharmD and the MPH degrees are awarded simultaneously upon completion of the School of Pharmacy and the Master of Public Health requirements.

Admission Requirements and Procedures

Students applying for the dual degree program must meet the respective admission requirements for each program. This includes having completed a baccalaureate degree from an accredited college or university with a minimum GPA of 3.0 and having acceptable GRE and TOEFL or IELTS scores as applicable. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MPH degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students who are accepted by only one program may choose to attend that program, but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the MPH program during their first year of enrollment in the PharmD prior to the MPH published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the MPH program using this approach will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA.

Master of Public Health/Master of Science, Social Entrepreneurship (MPH/MS)

The Master of Public Health/Master of Science in Social Entrepreneurship (MPH/MSSE) dual degree program is designed for individuals who wish to create sustainable solutions to public health challenges through the creation of innovative enterprises and organizations. This program combines the business aspects of social entrepreneurship with the knowledge and understanding of public health challenges and how to improve the health of individuals, communities, and populations, locally and globally. It will enable graduates to become agents of change by equipping them with the tools to build innovative enterprises that balance financial sustainability with public health impact, preparing them uniquely to become leaders in the field.

Application and Admission

Applicants to the MSSE/MPH should apply for admission to both schools simultaneously.

Information about the application process and admission requirements for the MPH degree is available on the MPH Website at *preventivemedicine.usc.edu*

Information about the application process and admission requirements for the MSSE degree is available on the MSSE Website at *marshall.usc.edu/msse/admission*

Degree Requirements

The total unit requirement for the MPH/MSSE dual degree is 62 units: 38 units for the MPH degree and 24 units for the MSSE degree.

Students are required to complete 38 units of MPH specific course work, including 18 units of MPH core course work and 20 units of concentration specific course work. Students may choose from any concentration within the MPH program.

Students are required to complete 24 units, including all "Required Courses," in the Master of Science in Social Entrepreneurship curriculum. Dual degree program students may not count courses taken outside the USC Marshall School of Business toward the MSSE degree. Visit the Social Entrepreneurship (MS) section of this Catalogue for MSSE degree requirements.

Students must have a cumulative GPA of 3.0 in the MSSE curriculum and a 3.0 in the MPH curriculum, in addition to having a minimum 3.0 cumulative overall GPA in all graduate coursework taken at USC in order to meet graduation requirements.

The MSSE and the MPH degrees are awarded simultaneously upon completion of all program requirements.

Master of Public Health/Master of Social Work (MPH/MSW)

The Master of Public Health/Master of Social Work (MPH/MSW) dual degree offers the student interdisciplinary preparation in the fields of public health and social work leading to the Master of Social Work (MSW) and Master of Public Health (MPH) degrees.

The dual degree program is a collaborative effort between the USC Suzanne Dworak-Peck School of Social Work and the Department of Preventive Medicine in the Keck School of Medicine. The objectives of the program are to provide students with the knowledge and skills necessary to promote health, prevent disease, and enhance the delivery of health and social services in the community. Students will build interdisciplinary skills and an interdisciplinary professional identity by developing an understanding of the breadth of each field and their interface, while permitting concentration in particular specialization areas. The program prepares graduates for work in a variety of interdisciplinary settings; and for some, it will provide the basis for doctoral study.

Program Requirements:

Students must complete a minimum of 82 units for completion of this dual degree; 48 units in Social Work and 34 units in Public Health. Most students complete both program requirements over three years for full-time students; however, the program may be completed in less time if the student takes a full course load during the two summer sessions (MPH course work only; MSW is not available during the summer).

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined in the Social Work (MSW) section of the catalogue. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF departments. Students will be advised into the appropriate courses.

Students will take MPH course work specific to the following public health concentrations, based on their chosen MSW department:

*AMHW and CYF Students will take required curriculum in the Community Health Promotion concentration.

*SCI Students will take required curriculum in the Health Services and Policy concentration.

Students in the dual degree program are not required to take the 8 units of concentration electives.

Students must have a cumulative GPA of 3.0 in the MSW curriculum and a 3.0 in the MPH curriculum to meet graduation requirements.

Master of Science, Global Medicine/Doctor of Pharmacy (PharmD/MS)

The dual degree in Pharmacy and Global Medicine is designed for students who are interested in providing pharmaceutical care to underserved populations around the world. Students enrolled in this dual degree program will benefit from an advanced understanding of the role of, and issues surrounding, modern medicine in developing countries.

Requirements

Students must gain admission to and fulfill the degree requirements for both programs, which include 136 units for the Doctor of Pharmacy and 24 units for the MS in Global Medicine. Six units of MEDS elective units can be used toward the PharmD elective requirement, and PHRD 503 and PHRD 504 substitute for MEDS 503 and MEDS 504.

Program Adaptation

Because MEDS 503 and MEDS 504, core requirements for the MS in Global Medicine program, cover the same material as PHRD 503 and PHRD 504, the PharmD/Global Medicine dual degree program substitutes PHRD 503 and PHRD 504 for MEDS 503 and MEDS 504 as core requirements for the dual degree.

Medicine (MD/PhD)

Departments and programs of the University of Southern California and the California Institute of Technology participate in the joint MD/PhD degree program administrated by the USC Graduate School, the Keck School of Medicine and the California Institute of Technology. This program integrates the medical school curriculum with graduate curricula in the basic sciences, to provide a unified course of study leading to both the MD and PhD degrees.

This program is especially designed to prepare highly qualified students for careers in academic medicine and medical research. Formal course work and dissertation research provide the student with in-depth scientific preparation and research experience which enhances the application of basic science information to the diagnosis, treatment and prevention of disease. Conversely, the PhD education becomes more meaningful because of its disease-oriented emphasis.

The curriculum for MD/PhD students differs from that of PhD graduate students in the basic sciences in that the former take medical school courses as well as selected graduate level basic science courses and specific courses designed for MD/PhD students. The integrated training of the MD/PhD program enables students to compress their total academic effort by applying some course work toward the requirements of both degrees. On average, completion of the combined program requires a total of eight years.

The following graduate programs from the Keck School of Medicine participate in the MD/PhD program:

- Cancer Biology and Genomics
- Development, Stem Cells and Regenerative Medicine
- Medical Biology
- Molecular Structure and Signaling
- Biological Sciences/Neurosciences, Molecular and Computational Biology
- Engineering
- Preventive Medicine (Biostatistics, Epidemiology, IPR/Health Behavior, Molecular Epidemiology)

Selected graduate programs from the USC Viterbi School of Engineering and the USC Dornsife College of Letters, Arts and Sciences also participate in the combined degree program.

Time limits for qualifying examinations and other procedures are determined by considering MD/PhD students as medical students for the periods when they are following the medical curriculum and as full-time graduate students during their years of graduate research prior to advancement to the Junior/Senior Continuum.

MD/PhD candidates have the option of pursuing a laboratory experience before beginning the Year I medical curriculum through a laboratory rotation at either USC or the California Institute of

Technology. This laboratory experience is strongly encouraged although not required.

During the first two years of their program, MD/PhD students follow the medical school curriculum and gain added exposure to research faculty through a special survey course. Students are guided by the MD/PhD executive committee, which outlines the integration of the graduate program with the medical school curriculum and serves as the students' liaison until they have selected a graduate program and graduate research adviser. The graduate programs vary widely in the extent to which they allow credit toward the PhD for courses taken during the first two years of medical school. MD/PhD students are encouraged to select a graduate program by early spring of the second year of medical school. Students are required to apply for admission to the PhD program of their choice by the recommended deadline on the graduate application.

Prior to entering PhD studies, the Keck School of Medicine allows MD/PhD candidates the option of beginning their clinical training by taking a clinical clerkship. This can provide an early introduction to clinical medicine and a context for integration with the basic sciences of the thesis years.

Beginning with the third year of the MD/PhD program, students enter their selected program as full-time graduate students. Although the content of graduate courses required of MD/PhD students is generally identical to that required of PhD students in the same graduate program, MD/PhD students are permitted greater latitude in the scheduling of their graduate courses. Four years are commonly necessary to fulfill requirements for the PhD, including course work, qualifying examinations, independent dissertation research, and writing of the dissertation.

After completion of the graduate program, the student is advanced to the Junior/Senior Continuum and completes the final two years of clinical training required by the medical school curriculum. No portion of clinical training is deleted from the joint program. Prior to beginning the clinical component of the joint degree, students will be expected to participate in a clinical shadowing experience, which could be done throughout the PhD studies or as part of an intensive program prior to entering the clinic. MD/PhD students are also required to complete a four-week ambulatory medicine elective upon return to the year 3 curriculum.

Keck School of Medicine-Caltech MD/PhD Program

A joint program between the Keck School of Medicine and the California Institute of Technology (Caltech) was established for the granting of the MD/PhD degree. Students do their preclinical and clinical work at the Keck School of Medicine and their PhD work with any member of the Caltech faculty, including the biology, chemistry, engineering, applied sciences divisions and interdisciplinary programs divisions.

Admission to this joint program is made through the usual Keck/USC MD/PhD process. All applicants are interviewed at Keck School of Medicine and Caltech. Matriculated students in this program have the option of doing their PhD at USC or Caltech. The MD degree will be awarded from the Keck School of Medicine and the PhD from Caltech.

Further information about the MD/PhD program at the Keck School of Medicine may be obtained by contacting: MD/PhD Program, Keck School of Medicine, 1975 Zonal Avenue (KAM 108), Los Angeles, CA 90089-9023; (323) 442-2965, FAX: (323) 442-0386; email mdphdpgm@usc.edu.

Graduate Certificate

Academic Medicine Certificate

University Certificate Programs

Academic Medicine Certificate

Students who do not wish to pursue a Master of Academic Medicine degree at this point may earn a university certificate in Academic Medicine. The certificate requires 12 units of course work. Each learner may only seek a single certificate. There are two options available, the Teaching/Learning Track and the Leadership Track. The teaching learning track provides graduates with the essential principles of teaching and learning needed to integrate leaning principles, teaching techniques and assessment methods within the health professions to effectively teach health professions' learners at all levels: undergraduate, graduate and continuing education. The leadership track is designed to prepare those in academic medicine for leadership positions, for example assistant/associate dean, program director (including assistant or associate), designated institutional officer and associate or vice chair for education. After completion of the certificate, if a learner decides to go on to pursue a Master of Academic Medicine (MACM) degree all 12 units of the certificate can be applied to the MACM degree.

All students begin with the core course: ACMD 501 (Introduction to Academic Medicine Worldwide, 3 units). Students then take two required courses (6 units) related to their selected track. Each student completes the 12-unit certificate with 3 units of elective course work from the courses available within the Master of Academic Medicine program. All courses should be selected with the approval of the learner's adviser.

Academic Medicine Certificate (all learners)

All certificate students are required to take the core course.

- ACMD 501 Introduction to Academic Medicine Worldwide Units: 3

Teaching/Learning Track

Students in the Teaching/Learning track must select two of the three courses below (6 units).

- ACMD 511 Competencies in Academic Medicine and Health I Units: 3
- ACMD 512 Competencies in Academic Medicine and Health II Units: 3
- ACMD 513 Professionalism in Academic Medicine and Health Units: 3

Leadership Track

Students in the Leadership track must take the two courses listed below to provide core skills in leadership (6 units).

- ACMD 502 Becoming a Leader in Academic Medicine Worldwide Units: 3
- ACMD 503 Leading Change in Academic Medical Centers Units: 3

Elective

All certificate students are required to take 3 units of elective course work from the courses available within the Master of Academic Medicine program. All courses should be selected with the approval of the learner's adviser.

Clinical, Biomedical and Translational Investigations Certificate

Students who do not wish to pursue an MS degree may earn a university certificate in clinical, biomedical, and translational investigations. The certificate program requires 12 didactic credits and a minimum of six months (PM 590 Directed Research 3 units) of practical experience working on a research project approved by the faculty mentor and co-directors.

Global Health Innovation and Entrepreneurship Graduate Certificate

The certificate in Global Health Innovation and Entrepreneurship is offered by the Keck School of Medicine in partnership with the Marshall School of Business and is designed to supplement the knowledge of those in the healthcare, health policy and administration and social entrepreneurship fields who have an interest in contributing innovative solutions to global health challenges. Completion of the certificate requires a minimum of 12 units of course work, including one elective MEDS course selected in consultation with Global Medicine advisers. Application for the certificate should be made through the MS in Global Medicine program office. More information can be obtained by emailing msgm@med.usc.edu.

Required MEDS Courses

In addition to one of the courses below, students are required to complete one MEDS elective course numbered 510 or higher.

- MEDS 500 Basic Concepts in Global Health Units: 4 or
- MEDS 501 Critical Issues in Global Health Units: 4

Required BAEP Courses

Complete 6 units of BAEP courses from the following:

- BAEP 551 Introduction to New Ventures Units: 3
- BAEP 552 Venture Feasibility Units: 3
- BAEP 553 Cases in New Venture Management Units: 1.5, 3
- BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences Units: 1.5
- BAEP 562 Entrepreneurship in eCommerce Units: 1.5
- BAEP 563 Corporate Entrepreneurship Units: 3
- BAEP 591 Social Entrepreneurship Units: 2, 3

Minimum Units: 12

Global Medicine Graduate Certificate

The certificate program in global medicine is for students who do not wish to pursue an MS degree in global medicine, but hope to pursue or expand careers in global health care. Students will study current topics in global health and health care, and will have a strong grounding in cultural competence, specific diseases, and creating and implementing health interventions in developing countries.

Students take 16 units of graduate course work that may not be used or have been used for any other degree or certificate program. These units include one core class and 12 units of electives, as follows:

Core Course (4 units)

- MEDS 500 Basic Concepts in Global Health Units: 4
  or
- MEDS 501 Critical Issues in Global Health Units: 4

Elective Courses (12 units)

Students will take 12 units of electives, chosen in consultation with their adviser, from among all MEDS courses numbered 510 or above.

Pain Medicine Certificate

The online Certificate in Pain Medicine is a program with a total seven courses (12 academic units), specifically designed for the practicing professional who wants to improve skills and gain expertise to deliver the best care for patients with complex pain conditions. The curriculum is designed with a series of didactic courses in which students will gain knowledge about the diagnosis, pathobiology and management of pain conditions. The goal of this one-year certificate program is to give practicing health care providers didactic, and evidence-based education in the field of Pain Medicine.

The students participate in weekly live online sessions with faculty and other program students, ensuring a collaborative and social learning experience. There are two-three courses per trimester, with two-four streaming video lectures for viewing each week. After each video lecture students complete an associated online quiz (comprising multiple choice, short answer or fill-in questions).

Course List

- PAIN 701 Pharmacotherapeutics for Pain Units: 2
- PAIN 702 Pain Classification and Diagnosis - Part 1 Units: 2
- PAIN 703 Psychological Aspects of the Pain Experience: Individual and Units: 2
- PAIN 704 Pain and Society: Epidemiology and Cultural issues Units: 1
- PAIN 705 Pain Assessment: History and Physical Examination Units: 1
- PAIN 706 Musculoskeletal Anatomy and Pathology Units: 2
- PAIN 707 Pain Neuroscience Units: 2

Pain Science Certificate

The certificate program in Pain Science is a program with eight courses (12 academic units), specifically designed for the non-clinical professional who wants to improve skills and gain expertise in the field of chronic pain.

Pain Sciences Courses

The Certificate requires completion of all courses:

- PAIN 702 Pain Classification and Diagnosis - Part 1 Units: 2
- PAIN 703 Psychological Aspects of the Pain Experience: Individual and Units: 2
- PAIN 704 Pain and Society: Epidemiology and Cultural issues Units: 1
- PAIN 714 Public Policy and Legal issues Units: 1
- PAIN 715 History of Pain: Theory and Treatment Units: 1
- PAIN 717 Psychological Treatments for Chronic Pain Units: 2
- PAIN 718 Complementary Approaches Units: 2
- PAIN 720 Physical and Occupational Therapies Units: 1

Stem Cell Biology and Regenerative Medicine Certificate

The certificate program is designed for current students in the Master of Science in Stem Cell Biology and Regenerative Medicine program at USC, who have completed the requirements for the MS degree and wish to complete a second year of study including an independent research project. Graduates from other programs and other institutions both inside and outside the U.S., who desire advanced training in this field may also be considered for admission. A smaller number of students may come from nontraditional backgrounds (business, legal, etc.) and seek specific training in this discipline in order to advance specific career paths in which they are already employed. All students are expected to already have completed undergraduate courses in cell and molecular biology.

Stem cell biology is one of the newest and most powerful approaches in biomedical science; it offers the opportunity to experimentally approach previously intractable biological questions, create models of human disease and develop cell-based therapeutics. This one-year program will give students a solid understanding of the scientific and clinical underpinnings of stem cell biology and regenerative medicine.

Students completing this program will be well positioned to proceed to medical or PhD programs, find laboratory or administrative employment in the growing stem cell pharmaceutical domain, or engage in public policy or regulatory administration of academic, clinical or business efforts in this expanding discipline.

California is globally recognized as the worldwide center of stem cell science, and USC has invested significantly in building the new Department of Stem Cell Biology and Regenerative Medicine at the Keck School of Medicine of USC, within which this certificate program is based and administered.

Degree Requirements

Graduation requires completion of 16 units according to the course schedule outlined below. None of these courses may be substituted or waived. This program is intended to be completed within one academic year, and does not include a requirement for a thesis.

- DSR 574 Stem Cell and Developmental Biology Seminar Series Units: 1
- DSR 610 Current Topics in Regenerative Medicine Units: 1
- DSR 620 Current Topics in Stem Cell Biology and Organogenesis Units: 1
- SCRM 580 SCRM External Speaker Seminar Series Units: 2
- SCRM 590 Independent Research Units: 1, 2, 3, 4

Note:

DSR 574 (1 unit) and SCRM 580 (2 units) must be taken twice for a total of 6 units. SCRM 590 (1-4 units) must be taken twice for a total of 8 units.

Translation and Entrepreneurship in Biomedical Sciences Certificate

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(323) 865-1591
Fax: (323) 442-2490
Email: dtg@usc.edu
dtg.usc.edu
Program Director: Carol S. Lin, PhD, MAE
keck.usc.edu/translational-genomics/
dtg.usc.edu/education/translation_entrepreneurship

Keck School of Medicine Department of Translational Genomics offers a Graduate Certificate in Translation and Entrepreneurship in Biomedical Sciences (TEBS). This program combines a unique curriculum and distinctive practical training to enable students who already have advanced biosciences training to gain familiarity with drug and device development from the initial discovery process, e.g., translation; the regulatory framework; the processes involved in management of private and public capital to develop growing markets, and the economics, business, and law terminologies important in navigation of the commercialization process.

Program Summary

The certificate program in TEBS is for students who wish to expand career options in the biotechnology or biomedical sciences industry, adding to their existing advanced graduate degree training.

Students in the program will gain an understanding of

- The role of scientific discovery in the development of new therapies
- The process of moving inventions from a university to a commercial entity and finally to the marketplace
- The regulatory environment that impacts novel therapies
- Investment in new discoveries, and the sources of capital needed to commercialize new treatments
- The legal processes that govern biomedical invention and translation to commercialization

The program is ideal for postdoctoral researchers, PhD students and clinician scientist scholars who

- Aspire toward an academic career with a strong translational component
- Seek to become entrepreneurs
- Seek a career in a start-up company in the life sciences
- Aspire towards a career in small to large pharma or biotech companies.

Or, for professionals in management, investment, regulatory affairs or law in the biotechnology industry with a strong background in the biomedical sciences and who wish to get a deeper understanding of the commercialization process and how it links to scientific discoveries.

Admission

Admissions requirements include a strong graduate preparation in biological sciences. Examples of this include appointment as a postdoctoral fellow with a PhD degree in a relevant topic, appointment as a clinician scientist as a faculty, resident or fellow with relevant basic science preparation, and/or acquisition of relevant course work in the PhD program consistent commensurate with that required for advancement to candidacy.

Applicants must also supply a statement of purpose and two letters of recommendation from evaluators qualified to assess their potential for graduate level course work. Please visit the program Website for additional information on admission and application procedures.

Advisement

The program requires that students meet with an academic adviser of the program each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

A minimum of 14 units of course work from the TEBS curriculum is required for the completion of certificate program.

Required (12 units)

- TRGN 537 Pathway and Target Discovery Units: 4
- TRGN 543 Biotechnology Entrepreneurship and Commercialization I Units: 2
- TRGN 546 Biotechnology Intellectual Property, Regulatory, and Corporate Law Units: 2
- TRGN 548 Seminar in Translation and Entrepreneurship in Biomedical Sciences Units: 1 * (2 units required)
- TRGN 549 Translation and Entrepreneurship in Biomedical Science Capstone Project Units: 2

Elective (2 units)

Select 2 units at the graduate level with academic adviser approval. Options may include the courses below.

- BAEP 557 Technology Commercialization Units: 3
- BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences Units: 1.5
- TRGN 544 Biotechnology Entrepreneurship and Commercialization II Units: 2
- TRGN 550 Communicating Science: Writing Units: 1
- TRGN 551 Communicating Science: Speaking Units: 1

Translational Biotechnology Certificate

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Fax: (323) 442-2490
Email: dtg@usc.edu
dtg.usc.edu
Program Director: Carol S. Lin, PhD, MAE
keck.usc.edu/translational-biotechnology-program/
dtg.usc.edu/education/translational_biotechnology

Keck School of Medicine Department of Translational Genomics offers a Graduate Certificate in Translational Biotechnology. This program combines a unique curriculum and distinctive practical training that exposes students to biotechnology and its applications in translating genomic and molecular insights into developing novel therapies and precision medicine. Drawing strength from the Keck School of Medicine faculty's education, research, and practice expertise, this program educates students on approaches used in the academic research, biotechnology and medical sciences industries.

Program Summary

The certificate program in Translational Biotechnology is for students who wish to expand career options in the biotechnology or biomedical sciences industry, but do not wish to pursue a graduate degree.

Students in this program will augment their current background with additional knowledge of:

- the science of human diseases and their interventions
- the role of biotechnology in developing new therapies and precision medicine
- the scope of issues and decisions faced by collaborating basic and clinical researchers in the bench-to-bedside process
- the regulatory framework that impacts the use of new interventions
- the private and public capital that develop the growing biotechnology and biomedical markets.

The program is ideal for

- Professionals in management, investment, regulatory affairs or law in the biotechnology industry, to extend their knowledge of the science behind this industry, enabling them to make better decisions regarding this rapidly developing technology.

- Current graduate students, to learn translational biotechnology in addition to their own field of concentration.
- Students with a moderate biology background, to extend their course work in biotechnology and therapeutic discovery and development.
- Students interested in doctoral programs or professional degree programs, to build a strong foundation in biotechnology prior to applying to their top programs of study.

Admission

Admission requirements include a minimum GPA of 3.0 and an undergraduate major in biological sciences, or at least six bioscience courses in the molecular, cellular, genetics and biochemistry topics.

Applicants must also supply a statement of purpose and three letters of recommendation from evaluators qualified to assess their potential for graduate-level course work. Please visit the program Website for additional information on admission and application procedures.

Advisement

The program requires that students meet with an academic adviser of the program each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

A minimum of 14 units of course work from Translational Biotechnology curriculum is required for completion of certificate program.

Core (Required, 6 units)

Student with strong background may substitute core with other appropriate courses, with permission of the program director.

- TRGN 537 Pathway and Target Discovery Units: 4
- TRGN 543 Biotechnology Entrepreneurship and Commercialization I Units: 2

Electives (8 units)

Choose from below as well as other courses available within the Translational Biotechnology program. All courses should be selected with the approval of the student's academic adviser.

- TRGN 536 Biotechnology Primer Units: 4
- TRGN 538 Seminar in Translational Biotechnology Units: 2
- TRGN 539 Translational Biotechnology Practicum Units: 2, 3, 4
- TRGN 542 Biotechnology-based Therapeutics Units: 2
- TRGN 544 Biotechnology Entrepreneurship and Commercialization II Units: 2
- TRGN 545 Exploring Chemical and Biological Therapeutic Modalities Units: 2

Doctoral Degree

Biostatistics (PhD)

The department offers a degree program leading to the PhD in biostatistics. The program is designed to produce biostatisticians who will have in-depth knowledge of statistical theory and methodology and the ability to apply this knowledge creatively to statistical problems in the biological and health sciences. All students will enroll in a set of core courses that cover both biostatistical theory and applications. Students will then choose from one of four tracks that will allow them to develop expertise in a specific area. The available tracks are: (1) biostatistics theory; (2) statistical genetics; (3) environmental statistics; (4) clinical trials.

Course Requirements

A minimum of 60 units of graduate study is required for the PhD degree; a maximum of 19 of these units may be from research and dissertation. In preparation for the qualifying examination, students are required to take all remaining core and track-specific courses.

Screening Procedure

In preparation for the screening examination, all students must take four core courses: PM 511a, PM 511b and PM 522a, PM 522b. A student failing the screening examination will either terminate or will terminate with the MS degree upon completion of an acceptable thesis.

Qualifying Exam Committee

A formal qualifying exam committee will consist of at least five faculty members. The committee chair and at least two additional members must be affiliated with the student's program. At least three members of the committee must be tenured or tenure track.

Qualifying Examination

The written portion of the qualifying examination will comprise testing on track-specific course content and focus on the student's dissertation topic. An oral examination will ascertain the student's competence in orally communicating this knowledge. Students must pass the written portions and the oral portions in order to pass the qualifying examination.

Annual Research Appraisal (ARA)

Beginning in the second year, each student must register for PM 610 (1 unit) and present an annual progress report to the program oversight committee. Once a dissertation topic has been selected, the annual progress report is presented to the student's qualifying exam committee. Once the student has passed the qualifying examination and is appointed to candidacy, the annual progress report is presented to the student's dissertation committee. The student will meet annually with the dissertation committee, until he or she graduates from the program. The oral portion of the screening examination as well as the qualifying examination and the defense examination will count as ARAs.

Dissertation and Oral Defense

Upon passing the qualifying examination the PhD candidate and his or her chair will recommend a three-member dissertation committee. The dissertation should be completed within two years and should be oriented toward a theoretical-methodological application to a problem area in the biological or health sciences. The oral defense is based on a rough draft or final version of the dissertation. The defense is administered by the dissertation committee, with other faculty invited to attend.

Prerequisite

- PM 510L Principles of Biostatistics Units: 4

Required Courses For All Tracks (Screening Exam Courses)

- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 522a Introduction to the Theory of Statistics Units: 3
- PM 522b Introduction to the Theory of Statistics Units: 3

Recommended Courses: All Tracks

- PM 511cL Data Analysis Units: 4
- PM 520L Advanced Statistical Computing Units: 3
- PM 610 Seminar in Biostatistics and Epidemiology Units: 1

Recommended Courses: Biostatistics Theory Track

- PM 513 Experimental Designs Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3

Recommended Courses: Statistics Genetics Track

- PM 534 Statistical Genetics Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4

Recommended Courses: Environmental Statistics Track

- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3

Recommended Courses: Clinical Trials Track

- PM 513 Experimental Designs Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 552 Statistical Methods in Clinical Trials Units: 3

Elective Courses

- BISC 478 Computational Genome Analysis Units: 4
- BISC 502a Molecular Genetics and Biochemistry Units: 4
- BISC 502b Molecular Genetics and Biochemistry Units: 4
- BISC 505 Genomics and Molecular Genetics Units: 4
- BISC 577a Computational Molecular Biology Laboratory Units: 2
- BISC 577b Computational Molecular Biology Laboratory Units: 2
- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 573 Probabilistic Reasoning Units: 3
- CSCI 585 Database Systems Units: 4
- CSCI 587 Geospatial Information Management Units: 4
- CSCI 653 High Performance Computing and Simulations Units: 4
- DSCI 550 Data Science at Scale Units: 4
- DSCI 551 Foundations of Data Management Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 572 Medical Physiology I Units: 4
- INTD 573 Medical Physiology II Units: 4
- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 505a Applied Probability Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 507a Theory of Probability Units: 3
- MATH 507b Theory of Probability Units: 3
- MATH 509 Stochastic Differential Equations Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 542 Analysis of Variance and Design Units: 3
- MATH 543 Nonparametric Statistics Units: 3
- MATH 545 Introduction to Time Series Units: 3
- MATH 547 Mathematical Foundations of Statistical Learning Theory Units: 3
- MATH 548 Sequential Analysis Units: 3
- MATH 578a Computational Molecular Biology Units: 3
- MATH 578b Computational Molecular Biology Units: 3
- PM 511cL Data Analysis Units: 4
- PM 513 Experimental Designs Units: 3
- PM 516a Statistical Problem Solving Units: 1
- PM 516b Statistical Problem Solving Units: 1
- PM 517a Research Methods in Epidemiology Units: 4
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 520L Advanced Statistical Computing Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 534 Statistical Genetics Units: 3
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 542 Social Network Analysis Units: 4
- PM 544L Multivariate Analysis Units: 3
- PM 549 Human Molecular Genetics and Genomics Units: 4
- PM 551 Statistical Methods in Genome-Wide Association Studies Units: 3
- PM 552 Statistical Methods in Clinical Trials Units: 3
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 565 Introduction to Global Health Units: 4
- PM 569 Spatial Statistics Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 591 Machine Learning for the Health Sciences Units: 4
- PM 599 Special Topics Units: 2, 3, 4
- PM 603 Structural Equation Modeling Units: 4, 2 years
- PM 605 Systematic Review and Meta-Analysis Units: 4
- PM 610 Seminar in Biostatistics and Epidemiology Units: 1
- PMEP 547 Programming Methods for Empirical Analysis of Health Data Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4
- SSCI 589 Cartography and Visualization Units: 4

Cancer Biology and Genomics (PhD)

The PhD program in Cancer Biology and Genomics (CBG) focuses on training investigators in strategies to understand the mechanisms of cancer development and progression which includes cell biological and genomic approaches. The ultimate objective is to translate basic findings into diagnostics, treatments and ultimate cures. The program applies a multidisciplinary approach toward these goals, with the full realization that cancers in different organs represent different diseases. However all cancers relate to uncontrolled cell proliferation with many cancers having a strong genetic predisposition. Consequently, major features of this program include the breadth of medically related interests and training and faculty characterized by wide and varied skills in many cancer-related research areas. To facilitate the application of multidisciplinary approaches to make cancer a disease of the past, close and regular contact between participating faculty of different disciplines and students is a major theme of this PhD program.

Cancer Biology and Genomics students are required to take CBG 580 and CBG 504 and must complete a total of 4 units from the following: INTD 549, INTD 685, MPTX 500, PM 512, PM 517a, PM 517b, PM 533*, PM 534*, PM 570*, PM 579, PM 599, TRGN 510, TRGN 514, TRGN 515 or other courses approved by the academic adviser. In the second year, students are required to register for CBG 580 in the fall and spring semesters. In the third and subsequent years, students should register for INTD 600 every fall and spring semester. In addition, students are required to complete at least 4 units of CBG 794a Doctoral Dissertation, CBG 794b Doctoral Dissertation.

PhD students must supplement course work by registering for CBG 790 Research during the fall, spring, and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Cancer Biology and Genomics, students must adhere to the unit/course

requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Development, Stem Cells, and Regenerative Medicine (PhD)

The goal of the PhD program in Development, Stem Cells, and Regenerative Medicine is to train the next generation of investigators in the history and practice of developmental and stem cell biology. The ultimate aim is to understand how the genomes of animals are translated into complex morphological forms, and to apply this basic knowledge to the emerging field of regenerative medicine. Close and regular contact between participating faculty of different disciplines and students is expected to facilitate the application of multidisciplinary approaches toward regenerative medicine.

Development, Stem Cells, and Regenerative Medicine students are required to complete DSR 542 and at least 2 units from the following: DSR 610, DSR 620, INTD 504 or other courses approved by the faculty adviser. In the second and subsequent years, students are required to register in DSR 574 every fall and spring semester. In addition, students are required to complete at least 4 units of DSR 794a Doctoral Dissertation, DSR 794b Doctoral Dissertation.

PhD students must supplement course work by registering for DSR 790 Research during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Development, Stem Cells, and Regenerative Medicine, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Doctor of Nurse Anesthesia Practice

The USC Doctor of Nurse Anesthesia Practice offers a concentrated academic and comprehensive clinical curriculum. Students will gain experience in the various required clinical specialty areas including general, cardiothoracic, neurosurgical, genitourinary, gynecologic, head and neck, plastic, orthopedic, trauma, obstetrics, pediatric and ambulatory outpatient procedures as well as experience in regional anesthesia, pain management, trauma, and emergency airway response. The program consists of 78 units and is completed in 36 months of continuous enrollment (nine semesters).

This professional doctoral program includes the essentials for doctoral education from the American Association of Colleges of Nursing and the Council on Accreditation of Nurse Anesthesia Programs. Core science courses in anatomy, physiology, pathophysiology, pharmacology, and principles of nurse anesthesia complement the clinical experiential training. The student will discuss and synthesize current policies of the complex health care environment, review principles of population health, explore technologic health advances, and become an advocate of evidence-based research in clinical practice. (Note: during the first summer semester students will be on campus for a three-day orientation followed by online hybrid courses). Beginning fall semester, students will be in residence and course work will be a combination of on-campus and hybrid format(s). High fidelity simulation is incorporated into the curriculum to enhance student learning and clinical assimilation through skills workshops and communication, leadership and critical thinking.

Academic and Scientific Prerequisites

Program prerequisites include appropriate undergraduate course work in biology, anatomy, physiology, inorganic chemistry, organic chemistry, biochemistry, introductory physics, statistics or nursing research, health assessment and English composition. A minimum of one year of critical care or emergency department experience in a high acuity setting and shadow experience of CRNAs or anesthesiologists. Licensure as a registered nurse in California and current BLS, ACLS and PALS certifications are required prior to enrollment. Science work in anatomy, physiology, and chemistry/biochemistry is essential and must be current (completed within 10 years of program admission). Essential science course work older than 10 years must be retaken to meet admissions requirements. Conversational Spanish is strongly recommended.

Computer Skill Requirements

During the program, students must have a personal computer or notebook with Internet access. The primary mode of program communication is email and the Blackboard learning platform. Email and Blackboard accounts are provided by the University to all students and can be activated online.

Advisement

Prospective students should contact the program's admission office, (323) 442-2037 or uscnap@usc.edu for evaluation of previous course work and clinical background and for dates of information sessions offered each May and July.

Admission

General requirements for admission include graduation from a regionally accredited school of nursing, a baccalaureate degree (minimum requirement), in nursing or a related field from a regionally accredited university or college, a minimum of two years of critical care nursing experience (surgical, medical, neurosurgical, trauma, pediatric or neonatal acceptable; postanesthesia care unit and/or emergency department will be determined on an individual basis), a cumulative undergraduate GPA of 3.0, or higher, on a scale of 4.0, Graduate Record Examinations score with a suggested minimum of 300 on verbal and quantitative combined, completion of university *and* program supplemental applications, current licensure as a registered nurse, completion of shadow verification form, submission of two statement of purpose questions, a professional resume and three letters of recommendation.

Competitive applicants will be interviewed and must articulate their reasons for seeking this educational opportunity and demonstrate an acceptable understanding of the role and responsibilities of certified registered nurse anesthetists. Selections are made on the basis of the formal interview and consideration of a variety of factors that include academic record, type and amount of clinical experience and professionalism.

Admission procedures follow the information in the USC Graduate School section of this catalogue. Admission standards for the USC nurse anesthesia program are established jointly by the Keck School of Medicine, the USC Graduate School and the Department of Anesthesiology. Interested students should apply online at *gradadm.usc.edu*. Additional admissions requirements and the supplemental application can be obtained from the nurse anesthesia program website at keck.usc.edu/nurse-anesthesia-program/ or can be requested through email at uscdnap@usc.edu.

Degree Requirements

The program consists of a minimum of 78 units (including academic and clinical courses, the doctoral capstone project, and four semesters of Clinical Synthesis). The program is completed in 36 months of continuous enrollment (nine semesters).

Academic Courses

- ANST 501 Advanced Pharmacology of Anesthesia Practice I Units: 4
- ANST 502 Principles of Nurse Anesthesia Practice Units: 4
- ANST 503 Advanced Pharmacology of Anesthesia Practice II Units: 4
- ANST 504 Advanced Pathophysiology Related to Anesthesia Practice Units: 4
- ANST 506 Advanced Principles of Nurse Anesthesia Practice Units: 4
- ANST 508 Research: Investigative Inquiry Units: 3

- ANST 601 Professional Integration to the Clinical Environment Units: 2
- ANST 602 Analytical Methods for Evidence-Based Practice Units: 3
- ANST 604 Healthcare Policy for Advocacy in Health Care Units: 3
- ANST 605 Clinical Prevention and Population Health Units: 3
- ANST 608 Advanced Clinical Anatomy for Nurse Anesthesia Practice Units: 2
- ANST 609 Advanced Health Assessment Units: 3
- ANST 610 Advanced Physiology for Nurse Anesthesia Practice Units: 4
- ANST 611 Leadership and Collaborative Practice Units: 3
- ANST 613 Clinician-Technology Interface Units: 3
- ANST 691 The Doctor of Nurse Anesthesia Practice Essentials Units: 2
- ANST 694a Doctoral Capstone Project Units: 2
- ANST 694b Doctoral Capstone Project Units: 2
- ANST 694c Doctoral Capstone Project Units: 2

Clinical Residency Courses

- ANST 614 Clinical Residency in Nurse Anesthesia I Units: 2
- ANST 615 Clinical Residency in Nurse Anesthesia II Units: 2
- ANST 616 Advanced Clinical Residency in Nurse Anesthesia I Units: 2
- ANST 617 Advanced Clinical Residency in Nurse Anesthesia II Units: 2
- ANST 618 Advanced Clinical Residency in Nurse Anesthesia III Units: 2
- ANST 619 Advanced Clinical Residency in Nurse Anesthesia IV Units: 3

Note

All students will take the Self-Evaluation Examination (SEE) administered by the National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA) in the sixth *and* eighth clinical semesters. The Program administration will determine and certify students eligible to sit for the National Certification Examination (NCE) administered by the NBCRNA, contingent upon successful completion of all course work.

Epidemiology (PhD)

The department offers a degree leading to the PhD in epidemiology. This program may be an extension of the applied biostatistics and epidemiology MS program and is especially aimed at persons with a strong background in medicine: in particular, students enrolled in the MD program of the Keck School of Medicine who wish to interrupt their MD studies after two years to complete a PhD degree. This program is designed to produce an epidemiologist with in-depth statistical skills. The program requires a solid core of courses in methodological aspects of statistics and in statistical thinking as applied to medicine, as well as a solid grounding in epidemiological methods and in certain medical disciplines.

Summary of course requirements:

Fourteen units of core course work are required in year 1 as preparation for the screening exam (assuming students have completed PM 510L and PM 512 or comparable classes from MS training). Additional units of track-specific course work are required in year 2 or after. A total of 60 units are required for completion, which may be fulfilled by any approved electives, plus dissertation research units. After passing the screening exam, all students must enroll in at least two semesters of PM 610: Graduate Seminar in Biostatistics. The first semester of PM 610 is typically taken before the Qualifying Examination and the second semester of PM 610 before the final dissertation defense.

Special Requirements: By the end of the first semester, the student should have selected a faculty mentor who will verify the student's readiness for the screening exam (e.g., have passed the first semester's core courses and be registered for the second semester's courses or have equivalent prior training) and must sign the application for the screening exam. The mentor will also work with the student to identify a suitable dissertation chair and explore possible topics. Identification of the dissertation chair and formation of the student's Qualifying Exam Committee is expected to be done by the end of the second year.

Executive Committee: The Epidemiology Executive Education Committee will review mentors, as well as approve changes in the curriculum and qualifying exam. They will also ensure that required courses are taught, will make decisions on which electives are continued, added, or removed, and will work with the course organizers to collect and summarize course evaluations. Members of the Epidemiology Executive Education Committee are represented on the Preventive Medicine Education Committee, chaired by the Vice Chair for Education (currently Dr. Richard Watanabe), which is charged with establishing general department-wide policies.

Admissions Committee: The majority of applications first come directly to the department and are reviewed by the Epidemiology Admissions Committee. Candidates recommended for admissions and funding are then presented to the KSOM PhD Programs Committee for approval. Direct admissions to the individual faculty member's research team are handled in the same way, must meet the same standards and be approved by the Epidemiology Admissions Committee. PIBBS students may elect to join the Epidemiology PhD program, provided they have done at least one rotation with an epidemiology faculty member who agrees to support that student and the students acceptance is approved by the Chair of the Epidemiology Admissions Committee.

Course Guidance or Advising Committee: The student will decide along with his/her mentor and dissertation committee chair which, if any, additional course work will be undertaken.

Qualifying Examination Committee: The student, in consultation with his/her mentor, will nominate five faculty members to serve on the Qualifying Examination Committee. Three of the faculty must be from the Epidemiology Program and one from another department (the "External Member"). The Committee should reflect a diversity of expertise and typically will include one member from a different division of the Department of Preventive Medicine (e.g., one with subject-matter expertise in the proposed application portion of the dissertation). The role of the Qualifying Examination Committee is to guide the student on development of an appropriate dissertation project, both in content and time commitment, and to evaluate the student's knowledge of the topic, epidemiological and biostatistical methodology, and readiness for completing the dissertation research.

Dissertation Committee: The Dissertation Committee is typically drawn from the membership of the Qualifying Examination Committee and includes the student's primary mentor as chair, an external member, and at least one other member of the Epidemiology Division. All Qualifying Examination Committee members may be retained if preferred by the student. The role of the Dissertation Committee is to advise the doctoral student on the research topic and methods, and then to review the final completed dissertation for acceptance. Students are expected to meet with the dissertation committee at least once per year to discuss progress; more frequent meetings will typically be needed as the student approaches the final defense of the dissertation. Dissertation committee members are expected to read and comment on a dissertation within 2 weeks from its submission. The student and faculty will coordinate a time line for the student to present the dissertation to the committee. This time line must allow all dissertation committee members enough time to fulfill their responsibilities within the two-week deadline.

Review of Membership in Faculty Mentorship:

Membership should be reviewed on a three-year cycle, with one-third of the members reviewed each year. The main criteria for membership are the existence of an active research program related to epidemiologic research; evidence of outstanding past mentoring; and participation in programmatic and/or teaching activities. Members are expected to actively participate in teaching, screening exams, qualifying exams, dissertation committees and recruitment. Review of members will be conducted by the

Executive Committee. Mentors whose record reflects poor academic performance, poor mentoring or poor participation will be subject to non-renewal or to a probationary period in which improvements in noted deficiencies must be demonstrated as a condition of continuing membership.

Prerequisites:

As a condition of admission, students must hold a Master's degree in a related discipline (e.g., mathematics, statistics, epidemiology, public health) and have completed a Master's thesis. Students entering the program with a relevant Master's degree that does not require a thesis (e.g. Master of Public Health) will be assigned an administrative or research mentor upon entering the program who will evaluate their quantitative and writing skills before the student takes the screening exam. All students are required to pass the program screening examination before being fully admitted as a doctoral student in the program. It is preferred that all students admitted to the program have successfully completed a minimum of one class in epidemiology and one class in biostatistics before entering the doctoral program. Some students may be admitted to the program without meeting the Master's program requirements (e.g., if they have strong research background and clear evidence of ability in the health research field or were admitted through PIBBS), but will be expected to complete PM 510L and PM 512 and pass the screening examination prior to being considered fully admitted as a doctoral student in the program.

- PM 510L Principles of Biostatistics Units: 4 (or the equivalent)
- PM 512 Principles of Epidemiology Units: 4
  *It is recommended that students TA or re-take these courses if credit taken at separate institution prior to starting program at USC.

Screening Exam Core Courses (14 units)

- PM 511aL Data Analysis Units: 4 *
- PM 517a Research Methods in Epidemiology Units: 4
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
  *PM 511b is recommended for Screening Exam

EPIDEMIOLOGY TRACKS (11-12 units)

Please choose one track: Cancer Epidemiology, Genetic Epidemiology, Environmental Epidemiology, Clinical Trials, or General Epidemiology and Methods

Cancer Epidemiology

- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- PM 559 Cancer Epidemiology Units: 4
- PM 570 Statistical Methods in Human Genetics Units: 4 or
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4

Genetic Epidemiology

- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- INTD 531 Cell Biology Units: 4 or
- PM 549 Human Molecular Genetics and Genomics Units: 4

Environmental Epidemiology

- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 553 Human Exposure Assessment for Public Health Units: 4 or
- PM 554 Health Effects of Environmental Contaminants Units: 4 or
- PM 555 Environmental Health, Policy and Practice Units: 4
- PM 569 Spatial Statistics Units: 3 or
- PM 570 Statistical Methods in Human Genetics Units: 4 or
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4

Clinical Trials

- MPTX 517 Structure and Management of Clinical Trials Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 511cL Data Analysis Units: 4 or
- PM 515 Multivariate Statistics in Health Behavior Research Units: 4

General Epidemiology and Methods

Includes students who choose to design specific class electives with their adviser, tailored to their unique research interests.

- PM 588 The Practice of Epidemiology Units: 4
- PM 605 Systematic Review and Meta-Analysis Units: 4
- PM 523 Design of Clinical Studies Units: 3 or
- PM 559 Cancer Epidemiology Units: 4 or
- PM 569 Spatial Statistics Units: 3 or
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4 or
- PM 607 Nutrition and Health: Myths, Controversies and Science Units: 4

Electives (34-35 units)

In addition to the required courses, the remaining required units may be selected from any of the following courses:

- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 531 Cell Biology Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 571 Biochemistry Units: 4
- MICB 551 Prokaryotic Molecular Genetics Units: 4
- MPTX 511 Introduction to Medical Product Regulation Units: 3
- MPTX 512 Regulation of Pharmaceutical and Biological Products Units: 3
- MPTX 513 Regulation of Medical Devices and Diagnostics Units: 3
- PHBI 550 Seminar in Advanced Cellular, Molecular and Systemic Physiology Units: 1
- PM 512 Principles of Epidemiology Units: 4
- PM 515 Multivariate Statistics in Health Behavior Research Units: 4
- PM 516a Statistical Problem Solving Units: 1
- PM 516b Statistical Problem Solving Units: 1
- PM 517a Research Methods in Epidemiology Units: 4
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 522a Introduction to the Theory of Statistics Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 534 Statistical Genetics Units: 3
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 544L Multivariate Analysis Units: 3
- PM 549 Human Molecular Genetics and Genomics Units: 4
- PM 552 Statistical Methods in Clinical Trials Units: 3
- PM 553 Human Exposure Assessment for Public Health Units: 4
- PM 554 Health Effects of Environmental Contaminants Units: 4
- PM 555 Environmental Health, Policy and Practice Units: 4
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 559 Cancer Epidemiology Units: 4
- PM 569 Spatial Statistics Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 571 Applied Logistic Regression Units: 3
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3

- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 588 The Practice of Epidemiology Units: 4
- PM 591 Machine Learning for the Health Sciences Units: 4
- PM 603 Structural Equation Modeling Units: 4, 2 years
- PM 605 Systematic Review and Meta-Analysis Units: 4
- PM 607 Nutrition and Health: Myths, Controversies and Science Units: 4
- PM 610 Seminar in Biostatistics and Epidemiology Units: 1
- PM 611 Advanced Topics in Epidemiology Units: 3
- PM 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 794a Doctoral Dissertation Units: 2
- PM 794b Doctoral Dissertation Units: 2
- PSCI 665 Drug Transport and Delivery Units: 4
- PSYC 514 Psychopathology Units: 4
- PSYC 524 Research Design in Developmental Psychology Units: 4
- RSCI 531 Industrial Approaches to Drug Discovery Units: 4
- RSCI 532 Early Stage Drug Development Units: 3
- RSCI 533 Safety Evaluation during Drug Development Units: 3
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 583 Spatial Analysis and Modeling Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4
- SSCI 591 Web and Mobile GIS Units: 4

Note:
Electives will be determined by the student's needs and interests. When appropriate, courses not listed above may be chosen from the University course offerings with approval from the student's adviser and Program Director. Sufficient familiarity in computer languages to operate major software packages for data management and analysis is required.

Additional Requirements

Preparation for Screening Examination

The Screening Examination will be taken at the end of the first or second year after students have completed their core classes and covers material learned in these classes and the core knowledge of epidemiologic theory and applications. Prior to the screening examnation a mentor who will serve on the qualifying exam committee must be identified. The screening examination will consist of an applied and theory component and will be conducted in class over two to three days. The written component will be drawn from the core courses. A student failing the screening examination may be given a second opportunity to retake either one or both portions. Students failing the examination for the second time will terminate with the MS degree upon satisfactory completion of 37 units and an acceptable master's thesis.

Annual Research Appraisal (ARA)

After advancing to candidacy, progress on dissertation research is evaluated annually with an Annual Research Appraisal (ARA) by the Annual Dissertation Committee. A key element is participation in PM 610: Graduate Seminar in Epidemiology and Biostatistics for at least two semesters after passing the Screening Exam. It is recommended that students take PM 610 to gain presentation experience and feedback before completing the qualifying examination and again before completing the final dissertation defense. Students give seminars and research updates that encompass both a global view of their area of investigation and a focus on the problem they are addressing. The oral portion of the screening examination as well as the qualifying examination and the defense examination will count as ARAs.

Infectious Diseases, Immunology and Pathogenesis (PhD)

The objective of the PhD program in Infectious Diseases, Immunology and Pathogenesis (IDIP) is to educate investigators to develop strategies to translate and implement knowledge from cellular, molecular and genetic advances into studies of normal human organ system function as well as mechanisms of human organ system dysfunction in disease and how to reverse this dysfunction by medical treatment. Animal disease models as well as clinical trials in patients are frequently used to advance this field.

The program applies multidisciplinary approaches to understanding the human organism as a whole. Breadth of medically related interests and training are major features of this track and wide and varied skills in many research areas characterize the faculty. To facilitate application of multidisciplinary approaches, close and regular contact between participating faculty and students is a major theme of this PhD program.

The IDIP program caters to MD/PhD students, clinician scientists and PIBBS students interested in but not limited to the following fields: immunology (including cancer immunology), virology (including cancer virology), microbiology, physiology and pathology (for example: diabetes, obesity, autoimmunity, infectious diseases, gastro-intestinal and liver diseases, heart and lung diseases, hypertension, central nervous system diseases, etc.)

Infectious Diseases, Immunology and Pathogenesis (IDIP) students are required to complete 8 units from the following courses: INTD 504, INTD 522, INTD 549, INTD 550, INTD 551, INTD 572, INTD 573 or other courses approved by the faculty adviser. In the second and subsequent years, students are required to register in INTD 574 every fall and spring semester. In addition, students are required to complete at least 4 units of MEDB 794a Doctoral Dissertation, MEDB 794b Doctoral Dissertation.

PhD students must supplement course work by registering for MEDB 790 Research during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Infectious Diseases, Immunology and Pathogenesis (IDIP), students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Medical Biophysics (PhD)

The goal of the PhD program in Medical Biophysics (MBPH) is to train the next generation of structural biologists and biophysicists to a) be very familiar with the basic chemical and physical principles important in every living organism, b) be proficient with the theoretical and practical aspects of the of important experimental and theoretical biophysical methods, c) to be able to apply these methods to answer fundamental biomedical questions and d) to become responsible investigators eager to translate their findings. The program includes all aspects of biophysics, with an emphasis on structural biology and on application of biophysical methods and theories to answer important biomedical questions.

The MBPH program is an inter-campus program that includes faculty from all over USC who not only have active biophysical research programs and serve as mentors, but also contribute to courses offered by the program. In addition, a monthly biophysics seminar series with presentations from USC and outside faculty will expose the students to current biophysical research. As the result, the MBPH program will teach a comprehensive overview about all aspects of biophysics including hands-on training in many biophysical methods. Consequently, students will obtain practical and theoretical knowledge as well as the necessary overview to be able to complete a successful thesis.

Medical Biophysics students are required to complete one of the following courses: BIOC 522, CHEM 521, CHEM 488, CHEM 544, CHEM 565L, CHEM 625, PHBI 650, PHBI 651, PSCI 557, PSCI 664, PSCI 665 or other courses approved by the faculty adviser program directors. In the second and subsequent years, students are required to register in INTD 600 every fall and spring semester. In addition, students are required to complete at least 4 units of MBPH 794a Doctoral Dissertation, MBPH 794b Doctoral Dissertation.

PhD students must supplement coursework by registering for MBPH 790 Research during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Medical Biophysics, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal and dissertation with oral defense as outlined in the PhD Programs in Biomedical and Biological Sciences section of the catalogue.

Medicine (MD)

Renewed Curriculum- Effective Fall of 2021

The Keck School of Medicine (KSOM) MD program has implemented a new three-phase Physician-Citizen-Scholar Curriculum beginning fall 2021. The goals of the new curriculum are to ensure that KSOM MD students: 1) gain the medical knowledge and clinical skills to be outstanding physicians; 2) learn through collaboration with other health professionals, patients and our surrounding communities to be respectful and respected citizens who serve and lead and; 3) are trained in methods of scientific inquiry and equipped as lifelong scholars who are able to contribute to new discoveries and to solving problems of patient care and health systems.

Phase 1: Scientific and Clinical Foundations

- Provides students with a broad and extensive range of knowledge and skills in biomedical sciences and clinical care.
- Composed of blocks of curricular content organized around function.
- Longitudinal instruction in core clinical skills and clinical reasoning is integrated throughout using active and case-based learning.
- Students actively engage in the surrounding community to gain a firsthand understanding of the factors that influence health and health outcomes.
- Service-learning experiences give students the opportunity to work directly with our local communities and to gain exposure to the impacts of social determinants of health while serving the needs of our surrounding population.
- Students participate in Longitudinal Learning Communities with a dedicated faculty coach as part of a curriculum for individualized professional development.

Phase 2: Clerkship Phase: Clinical Immersion

- Provides students with rich and immersive clinical training in core clerkships: Family Medicine, Internal Medicine, Neurology, Obstetrics and Gynecology, Pediatrics, Psychiatry, and Surgery.
- Students will participate in dedicated course work in Health Justice and Systems of Care.
- Students serve and learn as important contributing members of interprofessional teams.
- Two "Just in Time Training" weeks will prepare students for their subsequent core clerkships and will reinforce application of the basic sciences in clinical medicine.
- Cross-cutting themes in quality improvement and patient safety, geriatric medicine, chronic disease prevention and management and mental health will be integrated throughout.
- Longitudinal Learning Communities for coaching and individualized professional development will continue through the clerkship phase.

Phase 3: Post-Clerkship: Individuation and Transformation

- Provides students with an extensive array of clinical opportunities to individualize and tailor their education to determine and achieve their postgraduate career goals.
- All students participate in a residency preparation course.
- Students may select an area of emphasis for in-depth exploration. Areas of emphasis include:
- Biomedical Research
- Health Policy and Advocacy
- Medical Education
- Medical Humanities
- Primary Care and Community Engagement
- Health Technology and Innovation
- Clinical Medicine: Practice and Administration
- Students complete a scholarly project related to an area of emphasis or special interest.

Introduction to Clinical Medicine

Introduction to Clinical Medicine (ICM) is a longitudinal clinical skills curriculum integrated with instruction in the Scientific and Clinical Foundations phase. ICM exemplifies the patient-centered orientation of the medical school curriculum. Students are introduced to patients and are involved in patient care activities beginning in the first few weeks of medical school. ICM emphasizes the systematic acquisition of clinical skills and students gain competency in interviewing, history taking, physical examination and medical record keeping.

A group of eight students spend approximately four hours each week learning and practicing basic clinical skills in training sessions in simulated environments and on hospital wards or other clinical settings with real patients. Each group has a single instructor from the clinical faculty who remains with the same group for one to three semesters.

Health Justice and Systems of Care

It is well known that historical and systemic social forces (e.g., poverty, racism, sexism, homophobia, immigration, violence and environmental issues) contribute substantially to a wide range of deleterious effects on health, which disproportionately affect individuals from disenfranchised groups. Physicians are well-positioned to be at the forefront of social change and the Keck School of Medicine has a deep commitment to equity, justice and structural transformation with a goal of ameliorating health disparities and benefiting society. The establishment of a Health Justice Curriculum reflects the commitment of the Keck School of Medicine to social justice and its efforts to impact health equity. The Health Justice curriculum is core content for all KSOM medical students and a certificate in Health Justice is issued at graduation. The goal is to provide KSOM medical students with transformative and immersive educational experiences in Health Justice, which create and sustain future generations of physicians, imbuing them with the knowledge and skills to build practices and organizations that meet the needs of individuals and communities and enabling them to lead policy efforts to address healthcare inequities in society.

Health Justice Curriculum Objectives:

To earn the Health Justice certificate, KSOM students will:

- Build knowledge of theories of justice and explore how interrelated topics such as residential segregation, income, education, gender, food insecurity, and structural racism impact human rights and health disparities.
- Recognize the ways in which socioeconomic systems deny or promote individuals' realization of human rights based on categories of prejudice or privilege locally and globally.
- Employ skills of communication, community assessment, organizing and mobilization, leadership, and advocacy needed to influence systems and societal structures to cultivate an equitable healthcare system and provide equitable health care.

- Gain insight into the role of community organizing and mobilization in driving policy and practice to respond to the challenges of inequities in health and health care.

Core Content:

The curriculum will progress from an inward look at self, to interactions with others including peers, community members and patients and to understanding societal and legal influences on health and healthcare.

- Implicit bias training
- Theories of justice and human rights
- Health justice ethics
- Cultural humility
- Health care disparities
- Social determinants of health
- Structural competency
- Structural racism
- Access to care
- Healthcare for homeless populations
- Trauma-informed care
- Adverse childhood events
- Community assessment and mobilization
- Advocacy

Health Justice Certificate

The establishment of a Health Justice Curriculum reflects the commitment of the Keck School of Medicine (KSOM) to social justice. The Health Justice curriculum is core content for all KSOM medical students and a certificate in Health Justice is issued at graduation to recognize the depth of that work. All KSOM medical students participate in transformative and immersive educational experiences to equip KSOM graduates with the knowledge and skills to build practices and organizations that meet the needs of communities and lead policy efforts to address healthcare inequities in society. The curricular requirements of the Health Justice certificate are fulfilled through experiences in the community and health systems (e.g., patient navigator, street medicine, advocacy project), selected readings and videos, team-based learning sessions, and focused topic meetings with students in round table fashion or in small groups. Skills are taught through mentoring, in which students are given the opportunity to process their experiences in real time through dialogue with community providers engaged in the service experiences and through complementary reflective sessions with faculty.

Legacy Curriculum (Effective for the Classes of 2024, 2023, and 2022)

Scholarly Project

The Scholarly Project is a longitudinal learning and experiential course that takes place during the second year of medical school. The objective is to engage medical students in hypothesis-driven research to develop skills and attitudes of critical thinking around evidence-based medicine and research. Students identify a project mentor and are given a timeline that includes the milestones for the course. Students complete the bulk of their "hands on" research during the summer between Years I and II and throughout Year II. All students will submit an abstract and have a poster presentation at the Annual Spring Medical Student Research Forum to meet course requirements.

Year III–IV (two academic years)

Years III and IV are designed as a continuum of two calendar years. Students rotate throughout the Year III/IV continuum in cohort groups of approximately 28 students on required clinical clerkships and selective/elective experiences. When on required clinical clerkships (family medicine, internal medicine, obstetrics and gynecology, neurology, pediatrics, psychiatry and surgery), students are immersed in clinical settings and learn while providing direct care to patients as integral members of interprofessional healthcare teams.

Transition to Clinical Practice

Transition to Clinical Practice is a one-week course at the beginning of Year III designed to prepare students for the transition from predominantly classroom-based instruction in Years I/II to learning while on clinical clerkships. The course provides learning experiences in cultural sensitivity, teamwork, patient safety and quality, and personal resilience and well-being. Students are also afforded the opportunity to acquire skills in basic radiology, EKG interpretation, the presenting and documenting of clinical encounters, the use of aseptic technique, managing airways, and in achieving compliance with different types of isolation requirements. The course culminates in students donning a white coat and a group recitation of the Hippocratic Oath to reinforce the commitment to professional principles as they transition to their new roles as student physicians on healthcare teams.

Required Clerkships

There are nine required clerkships in the Year III/IV continuum. All required clerkships provide comparable experiences across clinical sites and core didactic curricula.

Family Medicine (six weeks)

The Family Medicine Clerkship provides students with individualized opportunities for medical students to explore the breadth of family medicine and understand the role of a family physician. Students will care for patients across the full spectrum of ages within the context of an ongoing personal patient-physician relationship focused on integrated care. This clerkship offers students a close, collegial relationship with their preceptors as they address preventive care, acute and chronic illness, and mental health in the outpatient setting. In addition to outpatient clinic, students may participate in home visits, hospital rounds, nursing home rounds, obstetrical deliveries, volunteer clinics, or sporting events to ensure experiences that cover the breadth of family medicine practice.

General Surgery (six weeks)

The Surgery Clerkship provides students with experiences in caring for patients with common general surgery diagnoses and traumatic injuries. These patients range from infants to geriatric patients. The students are integral members of an inpatient team consisting of a faculty attending, a fellow, a senior resident, several junior residents, one to two interns and three to four third-year students. All student activities revolve around perioperative care. Students participate in the operating room and are active in doing surgical consults, seeing patients in the clinic, and rounding daily with their inpatient teams.

Internal Medicine (six weeks)

The Internal Medicine Clerkship provides students with a comprehensive experience in hospital medicine. The clerkship exposes students to a diverse patient population with a wide range of medical conditions and students become familiar with the role that hospitalists play in providing inpatient care. While a member of the medical team, students gain experience managing complicated medical conditions, interacting with consulting services, and developing specific disposition plans for individual patient needs.

Obstetrics and Gynecology (six weeks)

The Obstetrics and Gynecology Clerkship provides students the opportunity to interact with women in all stages of life, from adolescence through and beyond menopause. Students experience a variety of obstetrical and gynecological conditions in both outpatient and inpatient settings. Students gain an understanding of the primary care mission within obstetrics and gynecology in the outpatient segment, and the inpatient experience provides an exposure to the dynamic aspects of birth, obstetric and gynecologic surgeries, and emergencies.

Pediatrics (six weeks)

The Pediatrics Clerkship addresses issues unique to newborns, infants, children and adolescents by focusing on the health and well-being of the developing human, emphasizing growth and development, principles of health supervision, and recognition and treatment of common health problems. Additionally, the clerkship emphasizes the importance of the interaction of family, community, and society on the complete health of the patient. The role of the pediatrician in prevention of disease and injury, and the importance

of collaboration between the pediatrician, other health professions, and the family is emphasized.

Psychiatry (six weeks)

The Psychiatry Clerkship provides students with experiences engaging in the care of patients in several different treatment settings, including inpatient wards, the psychiatric emergency room, outpatient clinics and hospital-based consultation services. Students are exposed to pathology ranging from uncomplicated depression and anxiety disorders to severely decompensated psychotic disorders. Students learn in detail about the biopsychosocial model and a holistic approach to treatment of mental illness, including the use of both psychotherapy and psychopharmacology, and the importance of individualized social interventions. The integration of psychiatry into the broader field of medicine is emphasized, as is the use of bioethical concepts in the treatment of all patients.

Neurology (four weeks)

The Neurology Clerkship provides students with experiences interacting with patients of different ages who have damage to the nervous system of varying types and degrees. Many neurological disorders are insidious in onset with gradual deterioration over time. Students learn to appreciate that neurologic diseases may impair physical functioning and/or can alter the core of what defines individuals as a person, i.e., cognition, memory, and personality. Students learn how to evaluate and treat these patients and their families. Furthermore, because many patients are followed for extended periods of time, students learn how neurologic disease affect, and may restrict, one's lifestyle choices, family interactions, work, school, living situations and levels of activity.

Internal Medicine Sub-internship (four weeks)

The Internal Medicine Sub-Internship enables Year IV students to work directly with attending physicians and residents in the provision of patient care in an inpatient, sub-internship experience. Students are integral members and contributors to the patient care team and assume a more advanced level of responsibility under the supervision of the resident and attending physician.

Intersessions I and II

Intersessions I and II are one-week-long sessions delivered early in Year III (Intersession I) and late in Year III (Intersession II) that enable students to pause, reflect and consolidate the many and varied clinical/educational experiences in which they participate during Year III. The sessions provide experiences in advanced clinical skills, professional development, evidence-based medicine, patient safety and quality, health policy, ethical decision-making, the business of medicine and the residency application process.

Selective Clerkships

Students are required to complete 16 weeks of selective clerkships chosen from a list of four-week clerkships. Selective clerkships are always exactly four continuous weeks and are under the direction of USC faculty members at USC affiliated hospitals and encompass virtually all specialty and subspecialty areas. Students are required to take one critical care or acute care (emergency medicine) selective, a medicine or pediatric subspecialty rotation, and two additional selectives from the above designations or other specialties.

Elective Clerkships

The elective period consists of 16 weeks, during which students may complete research and a combination of approved rotations at KSOM, other medical schools, or other medical centers in the United States or abroad.

Track Mentor Program

The KSOM Year III Track Mentor Program capitalizes on the KSOM structure of student cohorts to promote the continued development of professional attributes and a positive learning environment. Each Year III student cohort group meets with their assigned mentor (who is not involved in the evaluation process) six to seven times during the academic year. The mentors facilitate discussions on topics such as professional development; ethical, professional, and cultural challenges; student health and well-being; and collaboration and team development.

Humanities, Ethics, Arts, and Law (HEAL) Curriculum

This four-year curricular thread is integrated into a variety of courses throughout medical school including ICM, required clerkships and Intersessions. The curriculum begins in Year I with collaborative discourse about ethical problems to help students learn to identify, analyze, and resolve clinical ethical problems. The program then focuses on ethical discernment and action in simulated settings and the study of the human dimensions of medicine. Year III includes ethics education by clinical role models as an integral part of the core clerkships. During Intersessions, the program includes a series of sessions that focus on the humanities, arts, contemporary health care and systems issues, and the physician-in-society.

Fifth-year Research Option and Dean's Scholars

USC offers students the opportunity to take a full year of research experience with either a Keck School of Medicine faculty mentor or an approved faculty mentor at another institution. This program is open to any student in good academic standing who has completed his or her first year of medical school. Students interested in the option identify a faculty preceptor and present a description of the proposed research program and funds available in support of the program to the director of the fifth-year research option. A stipend, comparable to that received by a graduate student at the postgraduate level, is available for selected dean's research scholars pursuing this option.

Preventive Medicine (Health Behavior Research) (PhD)

The Department of Preventive Medicine, Division of Health Behavior Research, offers a degree program in preventive medicine (health behavior), leading to attainment of the PhD. The program is designed to train exceptional researchers and scholars in the multidisciplinary field of health behavior research. Students receive a thorough grounding in academic and research experience, encompassing theoretical and methodological training in such allied fields as communication, psychology, preventive medicine, biostatistics, public health and epidemiology. Students receive research experience by participating in projects conducted through the USC Institute for Health Promotion and Disease Prevention Research (IPR). The doctoral program is full-time: students are expected to enroll for fall, spring and summer semesters.

Assistantships

Financial and educational support is provided to qualified doctoral students in health behavior research. Graduate (research and/or teaching) assistantships are half-time (20 hours per week) and provide tuition remission as well as a monthly stipend.

Computer Language Requirement

Sufficient familiarity in computer languages to operate major software packages for data management and analysis is required.

Course Requirements

The doctoral program in health behavior research is structured as a four to five year course of study for students entering with a bachelor's degree. Time requirements are subject to review and approval by the division's Graduate Program Committee and the Graduate School.

A total of 60 units of graduate study is required for the PhD in health behavior research. Students are required to complete nine core courses: PM 500, PM 511a, PM 511b, PM 515, PM 530, PM 601, PM 604, PM 615 and PM 756 (total of 37 units). Other requirements include: two elective PM courses, one not offered by health behavior faculty (minimum of 7 units); and a minimum of 4 units each in PM 590, PM 690 series (PM 690a, PM 690b, PM 690c, PM 690d, PM 690z), PM 790 and the PM 794 series (PM 794a, PM 794b, PM 794c, PM 794d, PM 794z).

For students entering with a bachelor's degree, one of the directed research projects will be equivalent in scope to a master's thesis. All research experiences/projects must be completed before registering for the PM 794 Doctoral Dissertation series (PM 794a, PM 794b, PM 794c, PM 794d, PM 794z).

Screening Procedure

The progress of each student is reviewed at the end of every academic year. At the end of the second year of study, students who have not made satisfactory progress are advised that they will be dropped from the program unless their progress improves during their second year.

Qualifying Exam Committee

Each student's qualifying exam committee consists of five members, including: no more than three health behavior faculty members; one other member from the Department of Preventive Medicine; and one member from a doctorate-granting program outside the Department of Preventive Medicine, representing the student's minor field.

Qualifying Examination

Following course work and prior to beginning the dissertation, students must demonstrate written and oral mastery of the general field of health behavior research as well as of their chosen area of specialization. The qualifying process includes a written examination on theory and literature relevant to a selected content area. The examination is administered by the student's qualifying exam committee.

In addition to the qualifying examination, each student is expected to produce the following as evidence of qualification to conduct dissertation research: an academic dossier consisting of a summary of the student's academic record, teaching and research experience, and professional presentations and publications; at least one original empirical research paper of publishable quality, produced in connection with one of the student's courses or research experiences or developed independently; a dissertation proposal; and an oral defense of all the preceding materials.

PhD Programs in Biomedical and Biological Sciences (PIBBS)

Keith Administration Building 409
1975 Zonal Avenue
Los Angeles, CA 90089-9031
(323) 442-1609
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pibbs.usc.edu
Program Director: Ite Offringa, PhD

The USC PhD Programs in Biomedical and Biological Sciences (PIBBS) is a gateway program into graduate studies at the USC Health Sciences Campus, leading to a PhD degree in a broad range of biological and biomedical disciplines.

PIBBS students experience a common first-year curriculum that will build a solid foundation in biomedical and biological sciences. Students are required to complete 29 units of core classes and laboratory rotations during the fall, spring and summer semesters of the PIBBS year, including courses in cell biology, molecular biology, human molecular genetics, protein chemistry, principles of biostatistics, ethics and accountability in biomedical research, and writing in the biomedical and biological sciences.

At the end of the spring semester of the first year, students will select a faculty adviser and a specific PhD program from among the four participating programs listed. In the second year, students will take classes that will differ depending on the PhD program they join; second year classes may include, but are not limited to, topics such as biochemistry, epidemiology, stem cell biology, cancer biology, bioinformatics, virology, immunology and physiology. In addition, each student will complete qualifying examinations for the chosen PhD program and will develop and complete an original research project that will serve as the basis for a doctoral dissertation.

PhD Graduate Programs

Cancer Biology and Genomics (PhD)
Development, Stem Cells, and Regenerative Medicine (PhD)
Infectious Diseases, Immunology and Pathogenesis (PhD)
Medical Biophysics (PhD)

PIBBS Admission Requirements

Application Deadline (priority review): December 1

Applicants to PIBBS should have a baccalaureate degree in natural sciences, or sufficient courses in mathematics and the life sciences. This is required to provide a strong background for studies in biomedical and biological research. Appropriate undergraduate degrees include biology, physiology, engineering, chemistry or computer science.

Applicants should have a strong record of academic achievement. Other requirements for admission include: a detailed statement of purpose as well as three letters of recommendation, one of which should be from a wet laboratory or computational research mentor. Previous research experience is expected. Students are admitted for the academic year in the fall semester. Applicants who are accepted with minor deficiencies are expected to correct these during the first year following enrollment. Although there is no formal application deadline, complete applications received by December 1 will be given priority.

Financial Support

Admitted students are supported by research assistantships or fellowships during their graduate career. Tuition, health insurance and health fees are also covered.

Lab Rotations

During the first year, students register for INTD 790 Research (4 units in the fall semester and 3 units in the spring semester) and rotate through the labs of three faculty members of the program (potential research advisers). By the first summer of graduate study, but no later than after 12 months in the program, each student is expected to have selected a faculty mentor/research adviser.

PIBBS Required Core Curriculum and Research

First Semester

- INTD 531 Cell Biology Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- (4 units)

Second Semester

- BIOC 549 Protein Chemistry – Structure and Function Units: 4
- INTD 549 Protein Chemistry — Structure and Function Units: 4
- INTD 577 Writing in the Biomedical and Biological Sciences Units: 1
- INTD 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- (3 units)

Third Semester

- INTD 500 Ethics and Accountability in Biomedical Research Units: 1
- PM 510L Principles of Biostatistics Units: 4

Admission Requirements for PhD Programs

Admission to the Keck School of Medicine PhD program is open to all incoming PIBBS students provided all PIBBS admission requirements are met and all first year course and lab rotation

requirements have been satisfactorily completed. Students from other sources, such as MD/PhD students and clinician scientists, may also be eligible on a case-by-case basis.

In general, new graduate students apply for admission to USC through the PhD programs in Biomedical and Biological Sciences (PIBBS), and become enrolled in one of four PhD programs at the Keck School of Medicine after the successful completion of the PIBBS year. During the PIBBS year, students must complete the core curriculum of 29 units, maintain a 3.0 grade point average with no grade lower than a C on all courses, complete three laboratory rotations and successfully identify a lab to join in order to continue into a PhD program.

Application information is available by contacting the PIBBS Program at pibbs@usc.edu.

Unit/Course Requirements

A minimum of 60 units of graduate course credits is required for the PhD, including course work, seminars, research and dissertation units. No more than 8 units of 794 may be applied toward the PhD degree. Students must complete the first year PIBBS core curriculum as well as course requirements for their specific PhD program. Thirty units of course work, including the PIBBS core curriculum, must be completed before students are considered for the qualifying examination. Additional course work relevant to the student's research interests may be required by the student's qualifying exam committee or by the student's faculty adviser.

Guidance Committee

After 30 units of course work, which includes the PIBBS core curriculum and course requirements for one of the four PhD programs, the student, in consultation with a faculty adviser, will nominate five faculty members to serve on the guidance committee for the qualifying examination. A minimum of three of the faculty must be from the student's PhD program, and one must be a faculty member from outside the PhD program. The chair of the guidance committee must be a member of the student's PhD program and the faculty adviser is not allowed to be on the committee (but may be a silent presence during the exam). These nominations are submitted to the chair of the program for formal appointment.

Qualifying Examination

Students in the PhD program must pass both the written screening and the oral portions of the qualifying examination administered by their guidance committee during the second year of graduate study.

The written screening exam involves writing a research grant proposal. The deadline for completion of the written screening is the second week of January of the second year. Students who receive a failing score will be allowed one resubmission, with a deadline of within 30 days of notification of score receipt. The written portion must be passed before the oral portion can be taken.

The oral examination must be completed within 60 days after successful completion of the written screening exam. The oral examination consists of two parts. The first part consists of a presentation of the proposed thesis research. The second part consists of an open forum in which the guidance committee asks general questions on any topic related to the student's research.

Final evaluation of the examination is determined by a consensus of the guidance committee. If a student does not pass, it is at the discretion of the committee to allow the student to repeat the oral examination within 60 days. If the student is again unable to pass, this will be grounds for dismissal from the program.

Advancement to Candidacy

Recommendation for advancement to candidacy for the PhD degree is made on the basis of the successful completion of the qualifying examination, course requirements and the student's maintenance of at least a 3.0 GPA. A student who has not been recommended for advancement to candidacy at the end of the first semester of the third year will be dismissed from the program.

Dissertation Committee

After advancement to candidacy, the student must form a dissertation committee, in consultation with a faculty adviser. A minimum of three committee members must be selected, one of which is the faculty adviser, and at least one of which must be a tenured or tenure-track faculty member of the student's PhD program. Committee members may be non-tenure track. The chair of the dissertation committee must be a member of the student's PhD program and may not be the faculty adviser. The dissertation committee is responsible for counseling the student during preparation of the dissertation and conducting the final oral examination during the dissertation defense. Students are expected to meet with the dissertation committee once per year to discuss progress.

Annual Research Appraisal (ARA)

After advancing to candidacy, each graduate student presents an annual progress report to his or her dissertation research committee. Prior to the meeting, the student prepares a short written document describing significant experiments, problems and projected studies. This document is distributed to the committee and is included in the student's file. The ARA meeting is intended to be a working session between the student and his or her committee; experimental results and problems are discussed with this context. In addition the student presents a research plan for the next year of work. A satisfactory ARA is required of every student for each year of residence after the completion of the qualifying exam. A final ARA is required the semester before the student is permitted to defend the dissertation.

Dissertation and Oral Defense

The student's research is reported in a dissertation written under the guidance of the dissertation committee. The dissertation must demonstrate the student's capacity for independent research, scholarly achievement and technical mastery of a special field. Students are expected to have at least one first author publication accepted in a peer-reviewed journal before the defense.

When the final draft of the dissertation is ready, the student will take the final oral defense. Students must submit their dissertations to the dissertation committee at least one month before they expect to make final revisions.

Dissertation committee members are expected to read and comment on a dissertation within two weeks from its submission. The student and faculty will coordinate a timeline for the student to present the thesis to the dissertation committee. This timeline must allow all dissertation committee members enough time to fulfill their responsibilities within the four-week deadline.

The dissertation defense is a formal public presentation of the student's research before the program faculty and students. Dissertation defenses must be publicized at least two weeks prior to the oral defense.

All doctoral candidates must be registered in 794 Doctoral Dissertation each semester (excluding summer sessions) from the time of their advancement to candidacy until their dissertation is approved and submitted to the Graduate School.

Department of Anesthesiology

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Doctor of Nurse Anesthesia Practice (DNAP)
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Program Directors: Elizabeth Bamgbose, PhD, CRNA; Jeffery Darna, DNP, CRNA, ACNP-BC
Associate Program Directors: Teresa Norris, EdD, CRNA; Michele E. Gold, PhD, CRNA
Administrative Faculty: Erica McCall, MS, CRNA, MPH; Jennifer Hogan, MS, CRNA; Robert Olson, DNAP, CRNA; Paula Belson PhD(c), CRNA; Natalie Meyers, PhD, CRNA; Charles Griffis, PhD, CRNA; Regaldo Valerio, DNP, CRNA; Tahira Smith-Aifsehei, EdD, CRNA

Faculty

Chair and Professor: Holly Muir, MD
Professors of Clinical Anesthesiology: Jack Berger; Michele Gold; Gligor Gucev; Steven Haddy; Mary Joseph; Philip Lumb; Steven Richeimer; Duraiyah Thangathurai; Vladmir Zelman
Associate Professors of Clinical Anesthesiology: Dimiter Arnaudov; Eugenia Ayrian; Sherif Kandil; Jeffrey Lee; Rajesh Patel; Peter Roffey; Ashraf Sedra; Earl Strum; Fayez Takla
Assistant Professors of Clinical Anesthesiology: Russel Alexander; Rudolfo Amaya; Tawfik Ayoub; Elizabeth Bamgbose; Maxim Benbassat; Janak Chandrasoma; Isaac Chu; Connie Chung; Kari Cole; Jeffrey Darna; Judith Franco; Rougbeh Jahansouz; Wayne Kaufman; Michael Kerns; Rafat Khan; Michael Kim; John Lee; Rodney McKeever; Arash Motomed; Chuck Nguyn; Teresa Norris; Linda Rever; Candace Tay; Michael Tom; Chelsia Varner
Instructors of Clinical Anesthesiology: Claudia Altomare; Priscilla Arceo; Roberta Ashley; Debbie Avnet; Babatunde Bamidele; Brindusa Bauer; Paula Belson; Daniel Bourke; Ryan Brown; Chelsea Caine; James Carey; Jennilyn Casalme; Adrian Castro; Verzhine Chaparyan; Gicela Chen Zhou; Adrian de La Cruz; Kavita Davenport; Melissa Dowling; Geoff Edwards; Kevin Faustino; Jerome Fernandez; Charlotte Garcia; Katharine Getz; Dolores Gibbs; David Godden; Daniel Gregory; Tseganesh Haileselas; Jennifer Hogan; Dina Hunt; Monique Jabbour; Ronald Jarvina; Kelsey Johnson; Kim Jones-Tang; Andrea Kaek; Rory Keenan; Joseph Kim; Philip Klaine; Vadim Kuraev; Danielle Kuykendall; Edgar Lampano; Cheryl Lansang; Krichelle Lanson; Nikola Lazovich; Jennifer Lee; Rubin Macias; Victoria Mahony; Jason Malig; Tracy May; Jon McIntyre; Paul Montori; Sharon Munfus; Arthur Norcliff; Cathy Ngo; Aileen Nguyen; Michelle Olivares; Margaret Oliveto; Robert Olson; Patricia Omoto; Nilu Patel; Nancy Perez; Sharon Perez; Erin Peters; Karissa Picolo; Nicole Que; Seth Quiambao; Ali Quilter; Christina Raimondo; Joseph Sammut; Jacob Schonau-Taylor; Avneet Signh; Tahira Smith-Aifesehi; Ethan Tate; Crystal Trinooson; Regalado Valerio; Suzanna Valerio; Rhona Wang; Kelly Zhou

The USC Program of Nurse Anesthesia prepares qualified registered nurses to obtain a doctoral of nurse anesthesia practice; upon successful completion of the curriculum the student is authorized to sit for the certification examination given by the National Board of Certification and Recertification of Nurse Anesthetists. The USC Program of Nurse Anesthesia offers a concentrated academic and comprehensive clinical curriculum. Students will gain experience in the various required clinical specialty areas, including but not limited to general, cardiothoracic, neurosurgical, genitourinary, gynecologic, head and neck, plastic, orthopaedic, trauma, obstetric, pediatric and ambulatory outpatient procedures, regional anesthesia, pain management, trauma, POCUS, and emergency airway response. Our mission is to promote *scholarly education* and *professional development* of future nurse anesthetists with the academic strength and leadership skills to advance our profession.

Students enrolling in the Doctor of Nurse Anesthesia Practice (DNAP) course of study must complete 75-80 units, over the course of a continuous full-time, 36-month curriculum. Advanced science courses in anesthesiology, anatomy and physiology, pathophysiology, and pharmacology complement the two-year nurse anesthesia clinical residency. Graduates become experts in anesthesiology, perioperative care and pain management, as well as proponents of translational science. Students learn to analyze, synthesize and translate scientific evidence into clinical practice and demonstrate their skill proficiency in a scholarly doctoral capstone project. In addition, course work in health care policy, leadership and advocacy, informatics and technology, and population health prepare nurse anesthesia students for becoming industry leaders and change agents. The USC Program of Nurse Anesthesia has received accreditation through 2023 by the Council on Accreditation (COA) of Nurse Anesthesia Educational Programs and continues its commitment to excellence in the education of its nurse anesthetist students.

The program is based in the Department of Anesthesiology, and classroom instruction is provided by nurse anesthesia program faculty, the Department of Integrative and Anatomical Services within the Keck School of Medicine, as well as clinical instructors from the affiliated clinical sites. Clinical training occurs at Los Angeles County + USC Medical Center, Keck Hospital of USC, Harbor-UCLA Medical Center, UCLA-Santa Monica Medical Center, Arrowhead Regional Medical Center and West Los Angeles Veterans' Administration Medical Center for the primary rotations. Advanced rotations occur at those sites, as well as Cedars-Sinai Medical Center, Children's Hospital of Los Angeles, UCLA Medical Center, Endeavor Surgical Center, UCI Medical Center, Los Angeles Downtown Medical Center and the Raymond Renaissance Surgery Center.

Programs

Doctor of Nurse Anesthesia Practice

Pain Medicine Program

USC Pain Center
1520 San Pablo St, Building HCC 2, Suite #3450
Los Angeles, CA 90033
(213) 740-9158
FAX: (213) 821-2972
Email: painmed@usc.edu
Student adviser: Claudia Lopez at Lope212@usc.edu

Faculty

Information for individual faculty: *painmed.usc.edu/faculty*
Steven Richeimer, MD, *Professor of Anesthesiology and Psychiatry, Chief, Division of Pain Medicine, Keck School of Medicine Program Director, Pain Medicine Fellowship, Diplomat in Psychiatry (ABP&N) Diplomat in Anesthesiology (ABA) Diplomat in Pain Medicine (ABA and ABPM)*
Glenn Clark, DDS, MS, *Professor and Section Chair for Diagnostic Sciences, Ostrow School of Dentistry, Director, Orofacial Pain/Oral Medicine Center, Diplomat in Orofacial Pain, Fellow in Oral Medicine, Program Director, Conventional Orofacial Pain Residency Program, Program Director, Hybrid-Online MS degree in Orofacial Pain and Oral Medicine*
Professor: John Berger *(Professor of Clinical Anesthesiology)*
Associate Professors: Melissa Durham, *(Clinical Pharmacy & Pharmaceutical Econonomics and Policy)*; Susan Enguidanos *(Gerontology);* Shahin Sadik *(Anesthesiology);* Faye Miriam Weinstein *(Anesthesiology & Psychiatry and the Behavioral Sciences)*

Assistant Professors: Reyes Enciso; John Lee *(Anesthesiology)*; Mariela Padilla *(Periodontics, Diagnostic Sciences & Dental Hygiene)*; Kathryn Havens *(Biokinesiology and Physical Therapy)*; Shahin Sadik; Jonathan Chen Sum *(Physical Therapy)*; Ashley Uyeshiro *(Occupational Therapy)*; Yogi S. Matharu *(Physical Therapy)*; Sunita Puri *(GIM - PAT.Care)*; Armaity V Austin *(Family Medicine)*; William F. Spalding *(Anesthesiology)*
Adjunct Professors: Reed Levine *(Neurology)*; John D. Harwell *(Law)*

The administrative offices of the Pain Medicine programs are located on the University Park Campus. Faculty of the department are located predominantly at the Health Sciences Campus.

Programs

Pain Medicine (MPM)
Pain Medicine Certificate
Pain Science Certificate

Department of Biochemistry and Molecular Medicine

1975 Zonal Avenue, KAM 400
Los Angeles, CA 90089-9151
(323) 442-1145
FAX: (323) 442-2494
Email: msbmm@usc.edu
keck.usc.edu/biochemistry-and-molecular-medicine/

Faculty

Departmental Chair: Peggy J. Farnham, PhD
Faculty with Primary Appointments in BMM
Peggy J. Farnham, *Professor and The William M. Keck Chair in Biochemistry and Molecular Biology*
Amy S. Lee, *Professor and The Judy and Larry Freeman Chair in Basic Science Research*
Joseph G. Hacia, *Associate Professor and Vice Chair for Medical Education*
Judd Rice, *Associate Professor and Director of the BMM Master of Science Program*
Professors: Peter V. Danenberg; Vijay Kalra; Frank S. Markland, Jr.; Robert Maxson; Pragna Patel; Michael Stallcup
Associate Professors: Woojin An; Sita Reddy
Research Assistant Professors: Jobin Varkey; Daniel Weisenberger
Faculty with Secondary Appointments in BMM
Hooman Allayee *(Professor of Preventive Medicine)*; Ruchi Bajpai *(Assistant Professor of Dentistry);* Zea Borok *(Professor of Medicine)*; Paula Cannon *(Professor of Molecular Microbiology and Immunology)*; Lily Chao *(Clinical Assistant Professor of Pediatrics);* Jianfu Chen *(Assistant Professor of Dentistry);* David Cobrinik *(Associate Professor of Opthamology)*; Lucio Comai *(Professor of Molecular Microbiology and Immunology)*; Yves De Clerck *(Professor of Pediatrics)*; Robert Farley *(Professor of Physiology and Biophysics)*; Baruch Frenkel *(Professor of Orthopaedics)*; Mark Frey *(Assistant Professor of Pediatrics)*; Young-Kwon Hong *(Associate Professor of Surgery)*; Chih-Lin Hsieh *(Professor of Urology)*; Ralf Langen *(Professor of Physiology & Neuroscience)*; Troy McEachron *(Assistant Professor of Research Translational Genomics);* Ite Offringa *(Associate Professor of Surgery)*; Michael Lieber *(Professor of Pathology)*; Ching-Ling Lien *(Assistant Professor of Pediatrics)*; Carol Lin *(Associate Professor of Clinical Medical Education)*; Wange Lu *(Associate Professor of Stem Cell and Regenerative Medicine)*; Crystal Marconett *(Research Assistant Professor of Surgery)*; Amy Merrill *(Assistant Professor of Dentistry)*; Marcel Nimni *(Professor of Pediatrics)*; Brent Polk *(Professor of Pediatrics)*; Bodour Salhia *(Assistant Professor of Translational Genomics);* Ansgar Siemer *(Assistant Professor of Physiology and Neuroscience);* (Stephen Swenson *(Research Assistant Professor of Neurological Surgery)*; Tobias Ulmer *(Associate Professor of Physiology and Neuroscience)*; Jian Xu *(Assistant Professor of Dentistry)*
The USC Department of Biochemistry and Molecular Medicine prides itself on maintaining a broad-based approach to various aspects of biochemical and molecular biological research. Altogether, the department numbers 43 primary and joint-appointment faculty members, with major research programs in the molecular basis of control and regulation of gene expression, cancer biology and epigenomics, molecular mechanisms of signal processing and transduction, developmental and stem cell biology, detailed analyses of macromolecular structure and function, the biochemistry and molecular biology of the brain, and genetic medicine including gene therapy.
Members of the department are also members of the USC Norris Comprehensive Cancer Center, the USC Institute for Genetic Medicine (IGM), the USC Zilkha Neurogenetic Institute (ZNI), the Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC, and the Children's Hospital Los Angeles (CHLA).
The offices and laboratories of the primary faculty members are located on the Health Sciences Campus.

Graduate Programs

Biochemistry and Molecular Medicine Master of Science: Most applicants to the Master of Science graduate program in Biochemistry and Molecular Medicine have a bachelor's degree with an undergraduate major in one of the natural sciences. Undergraduate course work should have included biochemistry, physics, mathematics and courses in the biological sciences. A minimum GPA of 3.0 in the natural sciences (including mathematics) is normally required. Applicants must pass satisfactorily the general portions of the Graduate Record Examinations. In addition, the department requires at least three letters of recommendation from faculty members who can evaluate the applicant's potential for graduate work and independent research. See keck.usc.edu/biochemistry-and-molecular-medicine-program/ for more details about the program. Students can apply to the MS program in Biochemistry and Molecular Medicine at gradadm.usc.edu/apply/.

PhD Programs: Faculty members of the Department of Biochemistry and Molecular Medicine participate in the USC Programs in Biomedical and Biological Sciences (PIBBS). Students interested in pursuing a PhD degree in the fields related to biochemistry, molecular and cellular biology, and genetics should apply to PIBBS. Applications for the PhD Programs in Biomedical and Biological Sciences should be submitted online through the PIBBS website (usc.edu/pibbs).

Fellowships

Students admitted to PIBBS PhD programs are awarded fellowships that pay for tuition and provide a stipend. No fellowships are available for master's degree students.

Programs

Biochemistry and Molecular Medicine (MS)

Caruso Department of Otolaryngology, Head and Neck Surgery

Caruso Department of Otolaryngology, Head and Neck Surgery
1540 Alcatraz, Suite 204
Los Angeles, CA 90033
Email: Barbara.Moore@med.usc.edu
Director: Barbara J. Moore, EdD, CCC-SLP, BCS-CL

The Caruso Department of Otolaryngology, Head and Neck Surgery (OHNS) offers two academic programs related to the care of individuals with communication and swallowing disorders. The minor in Speech-Language and Hearing Professions is designed to introduce undergraduate students from a wide variety of majors to the field of communication sciences and disorders (i.e. speech-language pathology and audiology) and guide them in the development of interdisciplinary knowledge, which will lead to collaborative practices in health care, social services and education, as it relates to serving individuals with communication disabilities. The department's new Master of Science program in Speech-Language Pathology plans to accept its first cohort in fall of 2021.

Minor

Speech-Language and Hearing Professions Minor

Programs

Speech-Language Pathology (MS)

Department of Integrative Anatomical Sciences

Department of Integrative Anatomical Sciences
Bishop Hall 401
1333 San Pablo Street
Los Angeles, CA 90089-9151
(323) 442-2771
FAX: (323) 442-2411
Email: laramire@usc.edu
keck.usc.edu/integrative-anatomical-sciences/

Faculty

Professor and Chair: E.R. Seiffert*
Professors: M. Snow*; R.I. Wood*
Associate Professors: K.J. Carlson; R. Gopalakrishna*; K.L. Lewton*; C.M. McGowan; B.A. Patel; M. Winfield*
Assistant Professors: A.K. Huttenlocker; A.D. Kemp; M.F. Laird
Emeritus Professors: G. Albrecht*; T.H. McNeill*; J.E. Schechter; D. Warren III
**Recipient of university-wide or school teaching award.*

The Department of Integrative Anatomical Sciences provides training in the basic medical sciences to health professional students, and prepares graduate students as future teachers and researchers in the human anatomical sciences and functional morphology.

Integrative Anatomical Sciences Graduate Program

The graduate-level course of study includes in-depth training in core anatomical disciplines: gross anatomy, histology and neuroanatomy, including cadaveric dissection and microscopic study of tissues. In addition, students receive an intensive introduction to fundamentals of bone and dental biology, human anatomical variation, and clinical anatomical correlations. Interested students can receive training in laboratory teaching for gross anatomy, or research training in functional and evolutionary morphology.

Admission

The Department of Integrative Anatomical Sciences selects highly qualified students for admission into its Master of Science program in Integrative Anatomical Sciences. The prerequisite for applicants to the MS program is a bachelor's degree with a science major or equivalent. Applicants should have a superior undergraduate record at an accredited college or university, with a minimum undergraduate grade point average of 3.0. Generally required courses include at least one year of college-level biology, one year of college-level physics and mathematics through calculus. College-level courses in cell biology, developmental biology, organismal biology and physiology are recommended.

Demonstrated proficiency in the English language is required. Foreign applicants are expected to provide results from the Test of English as a Foreign Language (TOEFL). Results from Internet-based, computer-based or paper-based tests are acceptable. However, candidates with special circumstances may be considered for admission with continuing registration requirements.

Applicants will need to submit the following for consideration:

1. Three letters of recommendation from faculty members who can evaluate the applicant's potential for graduate work and independent research.
2. Complete undergraduate transcripts.
3. TOEFL scores (if applicable).
4. Statement of Purpose (should describe your reasons for seeking a MS degree in the anatomical sciences and describe your career goals).
5. Answers to the following application questions:
   A. Describe your motivation for pursuing a MS degree in Integrative Anatomical Sciences. (150-300 words)
   B. Describe your preparation for entering a MS degree program. What courses have you taken that have prepared you for advanced training in anatomical sciences (e.g., human anatomy and physiology, embryology, biology, evolutionary biology, biological anthropology, neuroscience)? Describe any extracurricular experiences (e.g., volunteer work, employment) that have prepared you for a MS degree in anatomical sciences. (200-300 words)
   C. Describe your intended career path, explain how a MS degree in anatomical sciences will assist you in reaching your career goals, and describe why the MS IAS Program at USC is an ideal fit. (200-300 words)
   D. Optional – Do you have diverse life experiences that have shaped your personal development in ways that could contribute to increasing equity, diversity and inclusion in science? (200-300 words, OPTIONAL)

Programs

Integrative Anatomical Sciences (MS)

Department of Family Medicine

Division of Physician Assistant Studies
Primary Care Physician Assistant Program
1000 South Fremont Avenue
Unit 7, Building A10, Ste. N10100
Alhambra, CA 91803
Phone: (626) 457-4240
FAX: (626) 457-4245
Email: uscpa@usc.edu
Website: usc.edu/pa
Program Director: Kevin Lohenry, PhD, PA-C
Medical Director: Katherine Gibson, MD

Faculty

Clinical Professor of Family Medicine: K. Lohenry, PhD, PA-C
Clincial Associate Professors of Family Medicine: C. Feifer, DrPH; A. Vallejo, PhD
Clinical Assistant Professors of Family Medicine: M. D'Aquila, MACM, PA-C; B. Feldman, MSPAS, PA-C; C. Feldman, MMS, PA-C; S. Ma, PharmD; M. Maldonado, MPH, MPAP, PA-C
Clinical Instructors of Family Medicine: G. Benitez, DMSc, PA-C; L. Hudson, MSPA, PA-C, MPH; A. Ingalls, MS, PA-C; D. Mayo, MPAS, PA; C. Powell, DMSc, PA-C; J. Ramos, MPAP, PA-C; J. Tramel, MS-HPE, PA-C Emeritus; A. Villapudua, BA, Court Certified Interpreter by the Judicial Council of California, Medical Certified Interpreter by CCHIA

The Primary Care Physician Assistant Program at USC is dedicated to the advancement of physician assistant education and emphasizes service to the medically underserved. The program is committed to preparing students from diverse backgrounds to positively transform the healthcare system. Students, graduates, faculty and staff are committed to doing this through collaboration, inclusivity, innovation, integrity, excellence and joy. The Primary Care Physician Assistant Program at USC prepares students to practice medicine under the supervision of a physician. Students earn a Master of Physician Assistant Practice (MPAP) degree upon completion of the program.

The program is a full-time educational and professional training program. Students are required to participate in all scheduled program activities, as well as comply with all program policies, including requirements of professional behavior. Instructors include PA, NP, MD, DO, PhD, MSW, OT, RN and PharmD. While most classes are held during the day, there are some curricular activities in the evening. Currently, course work is given virtually, both in real-time and asynchronously. Clinical assignments include both day and evening shifts, weekends and some on-call schedules. Written examinations and performance evaluations are scheduled regularly throughout the duration of the program. Students must pass each component of the curriculum in order to make satisfactory academic progress in the program. Student learning services may be recommended for students who experience academic difficulty. Students must meet all health requirements and maintain current health records.

General areas of study include basic sciences (anatomy, physiology, pathophysiology, genetics, pharmacology); cross-cultural critical thinking; health behavior; clinical skills including patient interviewing, history-taking, written documentation, all components of physical assessment; laboratory and radiological principles; nutrition; principles of primary care, including prevention and patient education; medical Spanish; interpretation of medical literature; professional development; and specialty seminars in research, education and medical care organizations. Additionally, students participate in clinical training in the areas of family medicine, pediatrics, women's health, general surgery, general orthopedics/occupational medicine, internal medicine, geriatrics, behavioral and mental health, and emergency medicine. The curriculum consists of 33 months of didactic and clinical training. The educational process consists of a total of four semesters of didactic (classroom-based) instruction and 54 full-time equivalent weeks of on-site clinical education.

Clinical education takes place at multiple clinical sites throughout the greater Los Angeles region, including the Los Angeles County+USC Medical Center, Keck Medicine of USC Medical Center, Cedars Sinai Medical Center, a range of private offices, and managed care settings, community-based clinics, VA facilities, and specialty settings. Clinical training sites and clinical preceptors are established and maintained by the PA program. The program assigns students to the appropriate clinical rotations and exercises the right to assign students within a 60-mile radius of the Health Sciences Alhambra Campus.

The Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) has granted Accreditation-Continued status to the USC Physician Assistant (PA) Program, sponsored by USC. Accreditation-Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA Standards.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the Standards. The approximate date for the next validation review of the program by the ARC-PA will be June 2029. The review date is contingent upon continued compliance with the Accreditation Standards and ARC-PA policy.

The program's accreditation history can be viewed on the ARC-PA website at arc-pa.org/wp-content/uploads/2020/03/Accreditation-History-U-of-Southern-Cal-153.pdf.

For more information on the Primary Care Physician Assistant Program at USC, please call us at (626)457-4240 or email us at **uscpa@usc.edu**.

Programs

Physician Assistant Practice (MPAP)

Department of Medical Education

Department of Medical Education
Keck School of Medicine of USC
1975 Zonal Avenue KAM 218
Los Angeles, CA 90089
(323) 442-1875
medkeck@usc.edu
keck.usc.edu/medical-education/
Donna Elliott, MD, *Chair*
Cha-Chi Fung, PhD, *Vice Chair*
Cathy Jalali, MD, *Vice Chair*

Established in 1963, the Department of Medical Education supports and encourages the improvement of medical education by providing faculty development; consulting on the design, implementation and revision of educational programs; and conducting research into effective means of delivering medical education.

Programs

Academic Medicine (MACM)
Narrative Medicine (MS)

Department of Molecular Microbiology and Immunology

Hoffman Medical Research Center 401
2011 Zonal Avenue
Los Angeles, CA 90089-9094
(323) 442-1711
FAX: (323) 442-1721
Email: mmidept@usc.edu
keck.usc.edu/molecular-microbiology-and-immunology/

Faculty

Distinguished Professor and Chair: Jae U. Jung, PhD
Distinguished Professor: Paula Cannon, PhD
Professors: Omid Akbari; Siyi Chen; Lucio Comai; W. Martin Kast; Minnie McMillan; Jing-Hsiung Ou; Paul Pattengale *(Pathology)*
Associate Professors: Emil Bogenmann *(Pediatrics)*; Roger Duncan *(Pharmacy)*; Henry Fong *(Ophthalmology)*; Ambrose Jong *(Pediatrics)*; Joseph R. Landolph; Hayoun Lee; Chengyu Liang; Keigo Machida; Takeshi Saito *(GI Liver-Medicine);* Axel Schönthal; Stanley Tahara; Weiming Yuan; Ebrahim Zandi
Assistant Professors: Juliet Emamaullee *(Surgery)*; Hyungjin Eoh; I-Chueh Huang; Brian Luna
Associate Professor of Research: Sung Yong Park
Clinical Assistant Professor: Jie Li

The Department of Molecular Microbiology and Immunology is located on the Health Sciences Campus in the Elaine Stevely Hoffman Medical Research Center, the USC Norris Comprehensive Cancer Center and the Zilkha Neurogenetic Institute. Faculty guidance and specialized facilities are available for advanced research in a variety of biomedical research projects.

Graduate Program

Admissions

An applicant to the graduate program in molecular microbiology and immunology must have a bachelor's degree from an accredited college or university with a major in science — usually biology, chemistry or physics. The applicant must have demonstrated strength in science or mathematics. Undergraduate course work should include at least one year of biology, chemistry through organic chemistry, mathematics through calculus, physics and physical chemistry. Deficiencies may be made up early in the predoctoral program.

The department encourages applicants to contact its office prior to making formal application. Each applicant must pass the Graduate Record Examinations (GRE) or the Medical College Admissions Test (MCAT). Furthermore, applicants must arrange for three letters of recommendation to be sent on their behalf. Applicants must also provide a one-page statement of career objectives, including the general area of research interest. This statement is intended to facilitate selection of those students who will most benefit from the department's graduate program. A personal interview is recommended but not required.

Program

Molecular Microbiology and Immunology (MS)

USC Mark and Mary Stevens Neuroimaging and Informatics Institute

2025 Zonal Ave.
Los Angeles, CA 90033
(323) 44-BRAIN
Email: NIIN@ini.usc.edu
niin.usc.edu

NIIN Core Faculty

Professors of Neurology: Hong Wei Dong, PhD; Danny Wang, PhD
Associate Professor of Neurology: Yonggang Shi, PhD
Assistant Professors of Neurology: Meredith Braskie, PhD (*NIIN Program Director*); Dominique Duncan, PhD; Neda Jahanshad, PhD; Hosung Kim, PhD; Judy Pa, PhD; Lirong Yan, PhD
Assistant Professor of Radiology: Vishal Patel, MD, PhD
Assistant Professors of Research: Houri Hintiryan, PhD; Kay Jann, PhD; Farshid Sepehrband, PhD

Introduction

The Master of Science (MS) in Neuroimaging and Informatics (NIIN) program provides students with an understanding of the scientific and clinical underpinnings of neuroimaging science and how to leverage that knowledge to make new and important discoveries in biomedicine. Students who successfully complete the program will be ideally positioned to apply to formalized medical training programs, join PhD research training programs, obtain laboratory or administrative employment in the growing field of brain imaging neuroscience, or engage in public policy or regulatory administration of academic, clinical or business efforts in this expanding discipline.

The program comprises 10 courses (eight 3-unit and two 1-unit) to be taken in one academic year. Didactic lectures address the technology of neuroimaging, a detailed examination of brain anatomy and function, and the variety of data-type dependent as well as integrative computational processing approaches. Laboratory modules (1) provide guided, hands-on experience with neuroimaging data collection approaches for examining anatomy, connectivity and functional activity; and (2) examine and develop optimized data processing strategies. Finally, scholarship is enriched by several distinct faculty-guided, discussion-based courses that allow detailed examination of specific aspects of neuroimaging of elemental neurological processes and carefully selected applications in neurological and psychiatric medicine. Graduation requires completion of 26 course units.

Admissions Requirements

Applicants must supply a completed application for graduate studies including: transcripts from all institutions previously attended, standardized test scores, a personal statement describing scientific and career interests, and two letters of recommendation. Applications are generally anticipated for fall enrollment. Applicants to the program must apply to the USC Graduate School and must meet the minimum requirements for admission to the Graduate School. Students should have an overall undergraduate GPA of 3.0 or better (or equivalent) and have achieved graduation with a BS or BA degree (or equivalent) prior to matriculation. Students are expected to have taken the general portion of the GRE exam before application and to have met or exceeded university score requirements. Applicants not meeting Graduate School requirements for regular standing may, with the approval of the Graduate School, be conditionally admitted. International students from non-English speaking home countries are expected to demonstrate English language proficiency or take remedial English language courses, according to Graduate School policy.

Advisement

The program director, assistant director and other faculty are available to advise and promote students in the program.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 in the program is required at all times. Any student whose graduate GPA falls below 3.0 will be given written notification that they have been placed on academic probation. Students who do not raise their GPA to 3.0 in the second semester are academically disqualified.

Programs

Neuroimaging and Informatics (MS)

Department of Pathology

Hoffman Medical Research Center 204
2011 Zonal Avenue
Los Angeles, CA 90089-9092
MS Student Adviser: Cheng-Ming Chuong, MD, PhD, (323) 442-1296
PhD Student Adviser: Florence M. Hofman, PhD, (323) 442-1153
Program Director, Pathology Residency Training Program: Wesley Y. Naritoku, MD, PhD; (323) 409-4698
MD Student Adviser: Wesley Y. Naritoku, MD, PhD; (323) 409-4698

Faculty

Michael E. Selsted, MD, PhD, *Professor and Chair*
Renette and Marshall Ezralow Family Chair in Cancer Therapeutics: Parkash Gill, MD
Harold E. Lee Chair in Cancer Research: Michael F. Press, MD, PhD
Kenneth T. Norris Jr. Chair in Medicine and Hastings Professor of Medicine: Edward D. Crandall, MD, PhD
Rita and Edward Polusky Chair in Basic Cancer Research: Michael Lieber, PhD, MD
Rupert and Gertrude Stieger Vision Research Chair: Narsing Rao, MD
Gavin S. Herbert Professor of Vision Research: David R. Hinton, MD
Professors: T.C. Chen *(Neurological Surgery)*; C.-M. Chuong; T.D. Coates *(Pediatrics)*; Wendy Cozen *(Preventive Medicine)*; E.D. Crandall *(Medicine)*; L. Dubeau; A.L. Epstein; P.S. Gill *(Medicine, Urology)*; S. Govindarajan; D. Hinton *(Neurological Surgery, Ophthalmology)*; F.M. Hofman *(Ophthalmology, Neurological Surgery)*; R.W. Jelliffe *(Medicine)*; M.N. Koss*; P.R. Levitt *(Pediatrics, Pharmacology & Pharmaceutical Sciences, Psychology)*; M.R. Lieber *(Biochemistry and Molecular Biology, Molecular Microbiology and Immunology)*; T.M. Mack *(Family and Preventive Medicine)*; C.A. Miller *(Neurology)*; A.J. Ouellette; P.K. Pattengale *(Molecular Microbiology and Immunology)*; M.F. Press; F.P. Quismorio, Jr. *(Medicine)*; N.A. Rao *(Ophthalmology)*; S. Rasheed*; M.E. Selsted; D.K. Shibata; I.A. Shulman; M.R. Stallcup *(Biochemistry and Molecular Biology)*; C.R. Taylor*; T.J. Triche *(Pediatrics)*; H. Tsukamoto
Professors (Clinical Scholars): J.A. Biegel; M.R.G. O'Gorman *(Pediatrics)*; D.M. Parham; H. Shimada
Associate Professors: S. Asgharzadeh, *(Pediatrics)*; S. Bellusci *(Surgery)*; A. Erdreich-Epstein *(Pediatrics)*; B.H. Gross *(Psychiatry and Behavioral Sciences, Medicine)*; Y.M. Kim, *(Pediatrics)*; A. Kovacs *(Pediatrics)*; J.R. Landolph *(Molecular Microbiology and Immunology, Molecular Pharmacology and Toxicology)*; H.A. Liebman *(Medicine)*; S.E. Martin; S.B. Turkel *(Psychiatry and Behavioral Sciences, Pediatrics)*
Associate Professor (Clinical Scholar): A.R. Judkins
Assistant Professors: T. Saito *(Medicine, Molecular Microbiology, Biology & Immunology)*; B. Stiles *(Pharmacology and Pharmaceutical Sciences)*; D. Tian
Clinical Professors: C.A. Bell; H.N. Canawati; J.N. Carberry; J. Cicciarelli *(Urology, Surgery)*; K.A. Frankel; F.H. Gilles *(Neurological Surgery, Neurology)*; D.S. Harrington; R.E. Horowitz; G. Kanel; D.V. Kon; O.T. Kuzma *(Medicine)*; D.H. Mills; J. Nelson; P. Nichols; P.N. Rao; C. Rogers; A.A. Roscher; L. Sathyavagiswaran *(Medicine)*; S.V. Sostrin; A. Verity
Adjunct Clinical Professors: R.Y. Osamura; S.-R. Shi
Clinical Associate Professors: C. J. Cobb; T.E. Howard; G. Pezeshkpour; A.S.S. Raza; J.S. Wollman
Adjunct Clinical Associate Professors: M.M. Cosgrove; M. Pietruszka
Clinical Assistant Professors: JD Augustine; A. Baltayan; E. Carpenter, Jr.; J.A. Chan; W. Chick; O. Chinwah; P.D. Colman; E.C. Dinovo; R. Djabourian; R. Gellibolian; K.E. Grimm; M.D. Haimowitz; J. Iqbal; M. Kennedy; M.T. Kiyabu; B. Kwok; B.J. Le Berthon; M.S. Lewis; K. Matsuda; V. Nelson; S.D. Oh; R. Phan; G. Pinsky; S. Prabhu; S.T. Pullarkat; L.A. Scheinin; R.A. Soni; J.P. Tovar; K.J. Young; S.K. Young
Clinical Assistant Professor (Clinical Educator): N.M. Shillingford
Adjunct Clinical Assistant Professors: F. Antelo; M.A. Fajardo; N.M. Green; C. Lwin; Z. Pavlova; O.C. Upko
Professors of Clinical: R.K. Brynes; P. Carpenter; J.F. Emerson; A.L. Hiti; Y. Iwaki *(Urology, Surgery)*; P. Mhawech-Fauceglia *(Obstetrics and Gynecology)*; W.Y. Naritoku; A.E. Sherrod; S. Wu *(Pediatrics)*; G.-Q. Xiao
Adjunct Professor of Clinical: L.A. Baxter-Lowe
Professors of Research: J. Groffen *(Pediatrics)*; E. Heisterkamp *(Pediatrics)*
Associate Professors of Clinical: M. Aron; R.C. Bender (She); S. M. Butler-Wu; D.B. Casebolt; J. Dien Bard; A.N. Fedenko *(Orthopaedic Surgery)*; X. Gai; D. Hawes; S. He *(Ophthalmology)*; G.H. Kim *(Dermatology)*; Y. Ma; A. Mathew; K.A. Nash*; G. Raca; S. Saitta; I. Siddiqi; L.L. Wang *(Surgery)*; P.M. Ward; G.D. Zeger
Assistant Professors of Clinical: M. Burnett *(Neurology)*; A.B. Chambliss; S. Chopra; A.J. Correa; J. Cotter; B.K. DeClerck *(Dermatology)*; W.A. Elatre; X. Fu; J.P. Hudgins; K.M. Hurth; J. Ji; K. Lai; M.J. Oberley; L. O'Brien; A.C. Perumbeti; P. Sanchez *(Pediatrics)*; M.E. Sibug Saber *(Ophthalmology)*; S. Tatischev; M. Vegara-Lluri; M. Warren; S. Zhou
Associate Professors of Research: K. Asahina; R.B. Widelitz
Research Associate Professor: T.V. Tatarinova
Assistant Professors of Research: D.E. Feldman; T. Jiang; R.A. Moats *(Radiology)*; P. Tongaonkar; P. Wu; Jun Xu; D. Zhu
Research Assistant Professors: P. Hu; N.W. Marten; Y. Ouyang
Adjunct Research Associate Professor: S.A. Imam
Resident Clinical Instructors: Z. Ashraf; L. Aye; C. Chang; T. Chong; C. Costales; A. Fong; M. Goebel; R. Golestani; W. Guo; S. Hamidi; T. Jenkins; T. Jong; M. Khoshchereh; T.H. Kim; I. Larsen; J. Makker; A. Mehta; R. O'Connell; N. Plaza; M. Takeda; S. Walia; D. Wang; C. Wei; D. Yau
Resident Clinical Instructors – Fellows: F. Baratelli; M. Boonyasampant; K. Duncan; E. Enbom; B. Kay; X. Li; V. Martin; B. Song; L. Szymanski; N. Tirawi; E. Yung
Emeritus Professors: S.B. Chandor; P.T. Chandrasoma; B.N. Nathwani; J.W. Parker; P. Roy-Burman; N.E. Warner; E.T. Wong
Emeritus Associate Professor: A.D. Cramer
Emeritus Clinical Professors: R.D. Aller; M. Greenblatt; G.G. Hadley; W.H. Kern; D.S. Shillam; R.J. Schroeder
Emeritus Clinical Associate Professor: W.C. Smith
Emeritus Clinical Assistant Professors: R.L. McClure; J.K. Waken
Emeritus Professors of Clinical: K.-M. Chan; D.L. Commins; J.F.P. Dixon; C.B. Inderlied; T.T. Noguchi *(Emergency Medicine, Surgery)*
Emeritus Associate Professor of Clinical: W.P. Lewis
Emeritus Assistant Professor of Clinical: R.B. Hopper
Emeritus Professor of Research: T.L. Lincoln
**Recipient of university-wide or school teaching award.*

The Department of Pathology provides training for both medical and graduate students. Medical students are trained in general, systemic and cellular pathology, providing them with an understanding and visualization of the basic processes underlying symptoms and clinical courses, as well as the ability to evaluate laboratory findings. This department also contributes to the training of residents and fellows at the LAC+USC Healthcare Network, Keck Hospital of USC and the USC Norris Cancer Hospital, Childrens Hospital Los Angeles and Los Angeles County Coroner/ Medical Examiner's Office, providing these residents and fellows with an intensive residency program in anatomic and clinical pathology and offering subspecialty fellowship training in surgical pathology, cytopathology, hematopathology, neuropathology and forensic pathology.

The Department of Pathology has a Master of Science program. The two-year MS program provides training in the latest technologies and concepts of biomedical research and provides the graduate with enhanced opportunities for positions

in biotechnology companies, teaching colleges and various health department/governmental positions.

With 96 full-time faculty and 52 residents and fellows in training, the USC Department of Pathology is one of the largest pathology departments in the United States. The department has strong and diverse research programs in basic, clinical and translational pathology. Basic research includes programs in stem cell biology and organogenesis, molecular mechanisms of cancer, mechanisms of neurodegeneration and ocular diease, and pathogenesis of liver injury and disease. Clinical research is particularly strong in surgical pathology, cytopathology, hematopathology, immunohistochemistry, molecular pathology, microbiology, neuropathology, ocular pathology and pediatric pathology. Investigators in the department are leading programs developing novel therapeutics utilizing peptides, immunotherapies and stem cells. Residency training has added months in dermatopathology and molecular pathology at Keck Hospital of USC and in cytogenetics at CHLA. The hematopathology fellowship has increased fellowship items from two to three fellows and added Norris Cancer Hospital and CHLA as affiliated institutions, making this one of the leading hematopathology fellowships in the nation. CHLA has also provided funding for a second neuropathology fellow, and rotations at CHLA have been added in surgical and autopsy neuropathology, molecular genetics and research. The forensic pathology fellowship training program at the Los Angeles County Medical Examiner/Coroner's Office has administrative affiliation with the LAC+USC Medical Center.

The department provides diagnostic laboratory services for the LAC+USC Medical Center, the USC Norris Comprehensive Cancer Center and Hospital, Keck Hospital of USC, the USC Clinical Laboratories Group, and all USC Clinics. Approximately 30 of the department's full-time faculty members work in service laboratories throughout the LAC+USC Medical Center, where they are supported by 40 residents and fellows and a technical and clerical staff numbering in excess of 300. The USC Norris Comprehensive Cancer Center and Hospital and Keck Hospital of USC, as well as the USC clinics, are served by 34 full-time pathologists, two fellows, three residents and approximately 200 technical and support staff.

Graduate Programs

General Admissions

Applicants to the graduate program in pathology must have a bachelor's degree from an accredited college or university with an undergraduate major in one of the natural sciences; a minimum cumulative GPA of 3.0 for undergraduate work is required. Applicants must submit undergraduate transcripts and letters of recommendation from two undergraduate teachers with their application. All applicants must take the general portion of the Graduate Record Examinations (GRE). A combined score of at least 315 for the verbal and quantitative scores is required. International students whose native language is not English must submit scores from the IELTS (International English Language Testing System) or the TOEFL (Test of English as a Foreign Language) examination. Personal interviews by members of the department's graduate committee may be requested.

Original application materials, except letters of recommendation, should be sent to the Office of Admission, University of Southern California. To expedite consideration of the application, applicants should also send photocopies of the application, transcripts and GRE scores to the Pathology Department's graduate committee secretary. Letters of recommendation should be addressed directly to the secretary, graduate committee. Applications are considered for admission to both the fall and spring semesters.

Residency and Fellowship Programs

The Department of Pathology offers six first-year residency positions and 24 residency positions in its fully ACGME-accredited four-year training program in anatomic and clinical pathology at the LAC+USC Medical Center. Training is offered in autopsy and surgical pathology, neuropathology, cytology, microbiology, hematopathology, immunohematology, clinical chemistry, toxicology, immunopathology, cytogenetics, cytogenomics, instrumentation, laboratory management, clinical informatics, electron microscopy, molecular pathology and other specialty areas. The Department of Pathology also offers the Accreditation Council on Graduate Medical Education (ACGME) fully accredited fellowship training in cytopathology (four positions), hematopathology (three positions), neuropathology (two positions), surgical pathology (seven positions) and forensic pathology (six approved positions). Admissions to residency is exclusively through ERAS (Electronic Residency Application Service) and the NRMP (National Resident Matching Program). Applicants to fellowship should contact the fellowship program director and program coordinator directly; the CAP (College of American Pathologists) Universal Fellowship Application Form is accepted by all USC fellowships.

Programs

Experimental and Molecular Pathology (MS)

Department of Physiology and Biophysics

Keith Administration Building 400
1975 Zonal Avenue
Los Angeles, CA 90089-9037
(323) 442-1145
FAX: (323) 442-2494
Email: janet.stoeckert@usc.edu
Student Adviser: H. Kaslow, PhD; hrkaslow@usc.edu

Faculty

Information for individual faculty: profiles.sc-ctsi.org/search/
Chair of the Department of Physiology and Biophysics and Director of the Center for Neurodegeneration and Regeneration at the USC Zilkha Neurogenic Institute: Berislav V. Zlokovic, MD, PhD
Director, USC Research Center for Liver Diseases, Chief, Division of Gastrointestinal and Liver Diseases, USC Associates/Thomas H. Brem Chair in Medicine, and Veronica P. Budnick, MD, Chair in Liver Disease: Neil Kaplowitz, MD
Professors: Vito M. Campese; Robert H. Chow; Casey Donovan *(Exercise Science)*; Robert A. Farley* *(Biochemistry)*; Caleb Finch *(Gerontology and Neurobiology)*; Michael Goran *(Preventive Medicine)*; Sarah Hamm-Alvarez *(Pharmaceutical Sciences)*; Cage Johnson *(Professor Emeritus);* Neil Kaplowitz *(Medicine/GI Liver/Patient Care)*; Thomas Keens *(Pediatrics);* Kwang Jin Kim *(Medicine, Biomedical Engineering)*; Herbert J. Meiselman; Austin K. Mircheff; Janos Peti-Peterdi; Richard Watanabe; Alan G. Watts; Li Zhang
Associate Professors: Harvey R. Kaslow; Richard L. Lubman *(Medicine/Pulmonary Patient Care)*; Steven Mittelman; Jang-Hyun Youn
Assistant Professors: Jon Detterich; Joyce Richey
Adjunct Professor: Dwight W. Warren III
**Recipient of university-wide or school teaching award.*
The administrative offices of the Department of Physiology and Biophysics are located on the Health Sciences Campus. Faculty of the department are located predominantly at the Health Science Campus.

Programs

Medical Physiology (MS)

Department of Population and Public Health Sciences

Biostatistics Division
2001 N. Soto Street, Suite 205
Los Angeles, CA 90032-9234
Director: W. Gauderman, PhD
(323) 442-1810
FAX: (323) 442-2993
Email: mtrujill@usc.edu
biostats.usc.edu

Health Behavior Research Division
c/o USC/IPR
2001 N. Soto Street, Suite 205
Los Angeles, CA 90032-3628
Director: Mary Ann Pentz, PhD
(323) 442-8299
Email: sfagan@usc.edu
phdhbr.usc.edu

Environmental Health Division
2001 N. Soto Street, Suite 230
Los Angeles, CA 90032-3628
Director: Frank D. Gilliland, MD, PhD
(323) 442-1096
FAX: (323) 442-3272
keck.usc.edu/preventive-medicine/

Master of Public Health Program
2001 N. Soto Street, Suite 205
Los Angeles, CA 90032-3628
Director: Louise A. Rohrbach, PhD, MPH
(323) 442-8237
Email: rchon@usc.edu
mph.usc.edu

Health Promotion and Disease Prevention Studies Program
837 Downey Way
Stonier Hall, Suite 101
Los Angeles, CA 90089-1149
Director: Elahe Nezami, PhD
(213) 740-1060
Email: bhealthy@usc.edu
hpdp.usc.edu

Global Health Studies
837 Downey Way
Stonier Hall, Suite 101
Los Angeles, CA 90089-1149
Director: Elahe Nezami, PhD
(213) 740-1060
Email: bhealthy@usc.edu
hpdp.usc.edu

Faculty

Professor and Chair: Howard Hu, MD, MPH, ScD
AFLAC Chair in Cancer Research: Christopher Haiman, ScD
Verna R. Richter Chair in Cancer Research: Duncan Thomas, PhD
Sidney R. Garfield Chair in Health Sciences: Mary Ann Pentz, PhD
Ira Goodman Chair in Cancer Research: Mariana Stern, PhD
Professors: H. Allayee (*Chemistry and Mol Biology*); L. Baezconde-Garbanati; R. Bluthenthal; L Chatzi; M. Cockburn; D. Conti; G. Dunton (*Psychology*); C. Haiman; H. Hu; W.J. Gauderman; F.D. Gilliland; S. Gruskin (*Gould Law School*); A. Leventhal (*Psychology*); Chun Li; T.M. Mack (*Pathology*); Wendy Mack (*Gerontology*); R. McConnell; M.A. Pentz; W. Setiawan (*Medicine*); K. Siegmund; D. Stram; S. Sussman; T. Valente (*Dentistry and Annenberg*); D.C. Thomas; P.D. Thomas, Jr. (*Molecular & Computational Biology*); J. Unger; R. Watanabe (*Physiology and Biophysics*); J. Wiemels; A. Wu
Associate Professors: C. Breton; J.C. Chen; S. Eckel; S. Ingles (*OB/GYN*); J. Tsui
Assistant Professors: J. Barrington-Trimis; B. Belcher; D. Black; Z. Chen; C. Chiang; K. de la Haye; A. Farias; S. Farzan; L. Ferguson; E. Garcia; S. Gazal; M. Herting (*Pediatrics and CHLA*); J. Johnston; D. Meeker (*Pediatrics and CHLA*); N. Mancuso; A. Tackett
Professors of Clinical: E.L. Avol; V. Cortessis (*OB/GYN*); M. Cousineau; D. Deapen; J. Klausner; L. Rohrbach; M. Stern (*Urology*); D. Van Den Berg
Associate Professors of Clinical: D. Barkauskas; T. Boley-Cruz; M. Franklin; R. Habre; R. Karim; S. Kumar; L. Liu; R. Mckean-Cowdin (*Ophthalmology*); E. Nezami (*Viterbi*); M. Wilson; H. Wipfli; M. Withers
Associate Professor of Clinical and Educational Scholar: C. Patino-Sutton
Assistant Professors of Clinical: T. Bastain; R. Burke; F. Choudhury; H. Dang; A. de Smith; J. Hartiala; A. Hwang; L. Ji; S. Kim; J.P. Lewinger; T. Mason; K. Miller; M. Nuno; J. Piao; T. Pickering; L. Polfus; A. Ritt; C. Soto (*Children, Youth and Families*); J. Steinberg; S. Tommasi;
Professors of Research: T. Alonzo; J.D. Buckley (*Pediatrics and CHLA*); M. Li; S. Groshen; A. Hamilton; S. Hempel; M. Krailo; P. Marjoram
Associate Professors of Research: H. Bersaratinia; J. Huh; E. Lee; H. Mi; L. Renfro
Assistant Professors of Research: J.P. Allem; J. Cho, K. Islam; M. Kirkpatrick; J. Millstein; R. Pang; S. Smiley; J. Wang
Adjunct Professors: K. Berhane; W. Cozen; J. Figueriedo; R. Khosla; L. Mascola; J. Miles; F. Pratt; R. Reporter; D.J.M. Tarantola; G. Singh
Adjunct Associate Professors: T. Evans; W. Linn; J. Milam; L. Park; A. Xiang
Adjunct Assistant Professors: T. Alderate; M. Bashash; T. Salam; C. Toledo-Corral; N. Wade
Emeritus Professors: S.P. Azen (*Biokinesiology and Physical Therapy, Ophthalmology, Occupational Science*); L. Bernstein; J. Casagrande; C-P Chou; M. Cousineau; S.Groshen; A. Hricko; B. Langholz; M.C. Pike; J. Richardson; R. Sposto; G. Ursin

The department is responsible for training medical, graduate and undergraduate students in the areas of biostatistics, epidemiology, health behavior research, public health and preventive medicine. Faculty from the statistical genetics and molecular epidemiology department also perform research in the areas of biostatistics, epidemiology of acute and chronic diseases, and environmental health.

The undergraduate and graduate programs offered by the department are noteworthy for the extensive opportunities offered to the students for involvement in faculty research. It is not uncommon for students to begin working closely with faculty members on research projects as early as their first or second year of study.

Undergraduate Degrees

Progressive Degree Programs in Preventive Medicine

The Master of Public Health, the Master of Science in Biostatistics, the Master of Science in Applied Biostatistics/ Epidemiology and the Master of Science in Molecular Epidemiology programs admit a limited number of undergraduate students to a progressive degree program, which allows them to pursue a master's level degree while completing the bachelor's degree. Applicants to the program must have completed 64 units of course work and must submit their applications prior to the completion of 96 units of course work. Applicants need not submit GRE scores, but are expected to have a minimum GPA of 3.0 at the time of application. The application for admission to a progressive degree program must be accompanied by an approved course plan proposal and two letters of recommendation. The requirements for both the BS and the master's degrees must be satisfied, including a minimum of 128 undergraduate units.

For further details on progressive degree programs, see the Requirements for Graduation page.

Graduate Programs

Doctor of Philosophy in Psychology (Clinical)/Master of Public Health (Health Promotion)

The PhD/MPH dual degree combines knowledge of clinical psychology research and practice with an understanding of health from a population perspective. The student enrolls primarily in the clinical psychology doctoral program and may apply to the MPH program during the first year. During the second and subsequent years, course work is taken in both programs. The dissertation is undertaken through the Department of Psychology.

PharmD/Master of Public Health

The School of Pharmacy and the Master of Public Health program, in recognition of the rapidly changing health care environment and in response to the growing demand for pharmacists who are knowledgeable in both pharmacy and population-based health care issues, have developed a dual degree program. The joint PharmD/MPH degree will enable graduates to be more responsive to today's health care needs and will provide training for pharmacists who seek to be agents of change within the profession and to assume leadership roles in the pharmacy field and in public health at the local, state and national levels.

The Doctor of Pharmacy/Master of Public Health (PharmD/MPH) program spans five years (four years of pharmacy school courses and one year of public health courses). Students begin the core MPH courses following the successful completion of the first year of pharmacy school. The last three years of the program are devoted to the clinical rotations of the School of Pharmacy and to the completion of the elective courses and practicum (field experience) of the MPH program.

MD/Master of Public Health

The joint MD/MPH program at the Keck School of Medicine is designed for individuals who envision a medical career that combines public health and medical disciplines. For further information about the joint program, refer to the program page.

Programs

The Department of Population and Public Health Sciences offers the following degree programs:

- Global Health Studies (BS)
- Health Promotion and Disease Prevention Studies (BS)
- Applied Biostatistics/Epidemiology (MS)
- Biostatistics (MS)
- Clinical, Biomedical and Translational Investigations (MS)
- Molecular Epidemiology (MS)
- Public Health (MPH)
- Public Health (MPH) (Online)
- Public Health Data Science (MS)
- Master of Public Health/Doctor of Pharmacy (MPH/PharmD)
- Doctor of Medicine/Master of Public Health (MD/MPH)
- Master of Public Health/Master of Urban Planning (MPH/MUP)
- Master of Public Health/Master of Social Work (MPH/MSW)
- Master of Public Health/Master of Science, Social Entrepreneurship (MPH/MS)
- Biostatistics (PhD)
- Epidemiology (PhD)
- Preventive Medicine (Health Behavior Research) (PhD)

The Department of Population and Public Health Sciences also offers the following undergraduate minor programs:

- Addiction Science Minor
- Cinema-Television for the Health Professions Minor
- Cultural Competence in Medicine Minor
- Environmental Health Minor
- Global Health Minor
- Health Communication Minor
- Nutrition and Health Promotion Minor
- Public Health Minor
- Substance Abuse Prevention Minor

Department of Stem Cell Biology and Regenerative Medicine

Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC
1425 San Pablo St.
Los Angeles, CA 90033
(323) 865-1266
FAX: (323) 442-8067
Email: scrm@usc.edu
scrm.usc.edu
Chair: Andrew P. McMahon, PhD
Program Director: Francesca Mariani, PhD

Master of Science in Stem Cell Biology and Regenerative Medicine

The one-year program offers courses in cutting-edge biomedical science, including developmental biology, human embryology, regenerative medicine, and the translational and therapeutic aspects of stem cell technology. The program also provides practical hands-on laboratory experience with the growth and differentiation of stem cells. Although not required, students are encouraged to engage in laboratory research during the year, with one of the 80+ lab groups that constitute USC Stem Cell. At the completion of the MS program, students may informally continue to conduct research in their labs, or may continue research with a guided and structured optional second research year.

After completing this program, students will be poised to apply to medical or PhD programs, enter the growing stem cell pharmaceutical domain, or engage in other academic, clinical or business efforts. Students will possess a unique understanding of how the body's own developmental and repair mechanisms can restore damaged cells, tissues and organs — providing new opportunities to treat conditions ranging from blindness to cancer, from organ failure to HIV/AIDS.

Admissions Requirements

Applicants must supply a completed application for graduate studies including: transcripts from all institutions previously attended, a personal statement describing scientific and career interests, and two letters of recommendation. Applicants to the program must apply to the USC Graduate School and must meet the minimum requirements for admission to the Graduate School. Students are required to have a 3.0 or better overall GPA (or equivalent) and have achieved graduation with a BS or BA degree (or equivalent) before matriculation. Please note that students who have GRE, MCAT, or DAT scores that are no more than five years old may submit them to supplement their application. Applicants not meeting Graduate School requirements for regular standing may be admitted, with the approval of the Graduate School, with continuing registration requirements. International students from non-English speaking home countries are expected to demonstrate English language proficiency or take remedial English language courses, according to Graduate School policy. Specific recommended preparation for this program include completed course work with a B or better grade (or equivalent) in Cell Biology and in Molecular Biology.

Advisement

The program recommends that students meet with the student services adviser each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be given written notification that they have been placed on academic probation. Students who do not raise their GPA to 3.0 after two semesters on academic probation will be academically disqualified.

Programs

Stem Cell Biology and Regenerative Medicine (MS)
Stem Cell Biology and Regenerative Medicine with Research Year (MS)
Stem Cell Biology and Regenerative Medicine Certificate

Department of Translational Genomics

Harlyne J. Norris Cancer Research Tower
1450 Biggy Street, NRT 2508
Los Angeles, CA 90089-9601
(323) 865-1591
Fax: (323) 442-2490
Email: dtg@usc.edu
dtg.usc.edu

Faculty

John D. Carpten, PhD, *Professor and Chair, Royce and Mary Trotter Chair in Cancer Research, Director, Institute of Translational Genomics*
Llewellyn James Cox, PhD, *Adjunct Lecturer*
David Wesley Craig, PhD, *Professor and Vice Chair, Co-Director, Institute of Translational Genomics*
Brooke Erika Hjelm, PhD, *Assistant Professor of Clinical Translational Genomics*
Ron King, PhD, MBA, *Adjunct Lecturer*
Carol S. Lin, PhD, MAE, *Associate Professor*
Bodour Salhia, PhD, *Associate Professor*
Zarko Manojlovic, PhD, *Assistant Professor of Research*
Arman Nadershahi, JD, *Adjunct Lecturer*
Enrique Israel Velazquez Villarreal, MD, PhD, MS, MPH, *Assistant Professor of Research*

The Department of Translational Genomics represents an academic department within the Keck School of Medicine of USC with a core mission of developing and driving genetic methodologies toward improvements in patient management and outcomes through translational research and training.

Over the past decade, genomics has led to massive changes in biomedical research in which top medical schools lead in research and clinical trials by leveraging investments in genomics infrastructure coupled to strong bioinformatics. In particular, the emergence next-generation sequencing (NGS) technology has changed how systems are being studied at the molecular, cellular and systems level through hundreds of novel assays. Even further, these assays on NGS platforms have been translated to the clinic, changing how clinical researchers approach patient-driven trials. This may never be more evident than through the recent signing of bi-partisan legislation, the 21st Century Cures Act, the Precision Medicine Initiative, the Cancer Moonshot and the BRAIN Initiative. Genomics represents a central and foundational discipline underpinning these programs; it represents the emerging standard for molecular research. To be competitive small and large universities are making massive investments to build NGS infrastructure, expertise and informatics.

The department is committed to excellence in translational genomics education and research, bringing to bear vast experience and expertise in molecular genetics, genome science, biomedical informatics, translational science, and molecular medicine. The ultimate goal is to serve the Keck community by bridging basic and clinical research through discovery and validation of novel diagnostics and therapeutics for earlier diagnosis and smarter treatments.

Programs

Translational Biomedical Informatics (MS)
Translational Biotechnology (MS)
Translational Biotechnology Certificate
Translation and Entrepreneurship in Biomedical Sciences Certificate

USC Thornton School of Music

Since its founding in 1884, the USC Thornton School of Music has become the center of higher education in music in the western United States and is among the top schools of music in the nation. Situated in the heart of the vital musical life of Los Angeles, USC Thornton brings together a distinguished faculty and gifted students from around the world. It is in this wonderfully diverse cultural milieu that students are offered instruction in virtually all professional and scholarly branches of music, including instrumental and vocal performance, jazz, popular music performance, music production, early music, composition, screen scoring, music industry, musicology, music teaching and learning, arts leadership, pedagogy, choral and sacred music, conducting and opera. In addition to its major programs, USC Thornton also offers a wide array of music minors and general interest courses for students majoring in other disciplines.

The USC Thornton Symphony, Chamber Choir, Concert Choir, Opera, Wind Ensemble, Popular Music Ensembles, Songwriter Showcases, Jazz Orchestra, Contemporary Music Ensemble, Early Music Ensemble and a wide variety of large and small choral and instrumental ensembles offer students a broad performing experience. More than 500 formal and informal concerts and recitals are presented on campus each year and the school regularly presents eminent visiting artists and scholars in master classes, workshops, lectures, seminars and in performance.

Los Angeles is the home of numerous musical organizations whose performances contribute immeasurably to the cultural life of the region, and is also the home of the nation's major recording, radio, film and television industries. All offer abundant opportunities to the serious young music professional.

Music Student Affairs
The Music Complex 200
(213) 740-4721
Email: thornton.studentaffairs@usc.edu
Associate Dean: Phillip Placenti

Music Admission
The Music Complex 200
(213) 740-8986
Email: uscmusic@usc.edu
Associate Dean: Phillip Placenti

Arts Leadership
Music Faculty Building 402
(213) 740-1895
Director: Kenneth Foster

Choral Music
Music Faculty Building 416
(213) 821-5756
Chair: Cristian Grases

Classical Guitar
Ramo Hall of Music 112
(213) 740-7702
Chair: Scott Tennant

Composition
Music Faculty Building 308
(213) 740-7416
Chair: Donald Crockett

Conducting
Music Faculty Building 308
(213) 740-7416
Chair: Larry Livingston

Jazz Studies
The Music Complex 118
(213) 740-3119
Chair: Jason Goldman

Keyboard Collaborative Arts
Ramo Hall of Music 112
(213) 740-7703
Director: Alan Smith

Keyboard Studies
Ramo Hall of Music 112
(213) 740-7703
Chair: Alan Smith

Musicology
Music Faculty Building 308
(213) 740-7416
Chair: Bruce Brown

Music Teaching and Learning
Music Faculty Building 402
(213) 740-6935
Chair: Beatriz Ilari

Music Industry
The Music Complex 118
(213) 740-3224
Email: contemporary.music@usc.edu
Chair: Michael Garcia

Music Technology
The Music Complex 118
(213) 740-3224
Chair: Richard Schmunk

Organ
Ramo Hall of Music 112
(213) 740-7703
Director: Ladd Thomas

Popular Music Performance
The Music Complex 118
(213) 740-3244
Chair: Patrice Rushen

Screen Scoring
The Music Complex 118
(213) 821-4192
Email: contemporary.music@usc.edu
Director: Daniel Carlin

Strings
Ramo Hall of Music 112
(213) 740-7702
Chair: Ralph Kirshbaum

Studio Guitar
The Music Complex 118
(213) 740-3224
Chair: Nick Stoubis

Vocal Arts
Ramo Hall of Music 112
(213) 740-7704
Chair: Lisa Sylvester

Winds and Percussion
Music Faculty Building 308
(213) 740-7416
Chair: Sharon Lavery

All departments may be reached by writing to:
USC Thornton School of Music
Music Faculty Building
Los Angeles, CA 90089-0851
FAX: (213) 740-3217
email: uscmusic@usc.edu
music.usc.edu

Administration

Robert A. Cutietta, DEd, *Dean*
Lucinda Carver, DMA, *Vice Dean, Division of Classical Performance Studies*
Joanna Demers, PhD*, *Vice Dean, Division of Scholarly and Professional Studies*
Sean Holt, MA, *Vice Dean, Division of Contemporary Music*
Jeffrey de Caen, MBA, *Associate Dean for Operations*
Donald Crockett, PhD, *Associate Dean for Faculty Affairs*
A. Phoenix Delgado, DMA, *Associate Dean for Advancement*
Brian Head, MM, *Associate Dean for Academic Affairs*
Susan Miltner Lopez, MBA, *Associate Dean for Administration and Finance*
Phillip Placenti, EdD, *Associate Dean for Admission and Student Affairs*

Faculty

Robert Mann Chair in Strings and Chamber Music: Glenn Dicterow, BA
Bowen H. "Buzz" McCoy and Barbara M. McCoy Endowed Chair in Jazz at the Flora L. Thornton School of Music, Honoring President Steven B. Sample, 10th President of the University of Southern California: Bob Mintzer, BA*
Gregor Piatigorsky Chair in Violoncello: Ralph Kirshbaum, BA
Judge Widney Professor of Music: Midori Goto, MA*
Judge Widney Professor of Music: Michael Tilson Thomas
Professors: Bruce Brown, PhD*; Ken Cazan, BFA*; Terry Cravens, DMA*; Donald Crockett, PhD*; Robert A. Cutietta, DEd; Joanna Demers, PhD*; Glenn Dicterow, BA; Kevin Fitz-Gerald, Art. Dipl; Stewart Gordon, DMA*; Jeffrey Kahane, MA; Ralph Kirshbaum, BA; Larry Livingston, MM; Ronald McCurdy, PhD; Richard McIlvery, MM; Bob Mintzer, BA*; Alan Pasqua, BM*; Daniel Pollack, MS*; Frank Potenza, MM*; Jo-Michael Scheibe, DMA*; Alan Smith, DMA*; Richard Smith, MM; John Thomas, MM; Frank Ticheli, DMA*
Associate Professors: Yehuda Gilad, Dipl*; Adam Gilbert, PhD; Rod Gilfry, MM; Cristian Grases, DMA; Ted Hearne, MM; Elizabeth Hynes, BM; Beatriz Ilari, PhD; David Moore, BM
Assistant Professors: Nate Sloan, PhD; Scott Spencer, PhD; Lisa Vest, PhD*; Nina Young, DMA
Professors of Practice: Bernadene Blaha, MM; Daniel Carlin, MM; Lucinda Carver, DMA*; Peter Erskine; Kenneth Foster, MA; Rotem Gilbert, DMA*; Mark Goldstein, JD; Brian Head, MM*; Lynn Helding, MM; Veronika Krausas, DMA; Richard Schmunk, DMA*; Carl St. Clair, MM; Nick Strimple, DMA; Scott Tennant, MM; Joel Timm, DMA; James Walker, BME*
Associate Professors of Practice: Jeffrey Allen, BA; Lina Bahn, DM*; Susan Helfter, DMA*; Lyndia Johnson, MMA; William Kanengiser, MM*; Sharon Lavery, MM; Yura Lee, Art Dipl; Kevin Lyman, BS; Brent McMunn, MM; Karen Parks, MM; Antoinette Perry, MM; Stephen Pierce, DMA; Christopher Sampson, MM; Tram Sparks, DMA; Nick Stoubis, MM; Lisa Sylvester, DMA; Jacob Vogel, DMA
Assistant Professors of Practice: Thomas Michael Allen, MM; Russell Ferrante, Dipl; Michael Garcia, BA; Jason Goldman, MM; Sean Holt, MA*; William Kennedy; Timothy Kobza, MM; Andrew Leff, JD; Brian Malouf, BA; Sean Nye, PhD; Christopher Rozé, DMA; Patrice Rushen, BA; Michael Smith, BA; Mark Weiser, MM
Lecturers and Senior Lecturers (Full-time): Andrae Alexander, MA; David Arnay, MM; William Biersach, BA; Charles Gutierrez, AA; Timo Preece, MS/MA; Aaron Serfaty, BFA; Stephen Trovato, BS
Adjunct Professors: Jeff Brabec; Todd Brabec; Martin Chalifour; Pam Frank; Julie Landsman; Vincent Mendoza; Howard Nelson; Cherry Rhodes; Pepe Romero; James Self; Jo Ann Turovsky; Allan Vogel; Peter Webster; Richard Wolf
Adjunct Associate Professors: James Babor; Margaret Batjer; Karen Dreyfus; Judith Farmer; David Howard; Joseph Pereira; Andrew Shulman; Bing Wang
Adjunct Assistant Professors: Adriana Balic; Jon Burlingame; Neal Desby; Bruce Forman; Parmer Fuller; Thomas Hooten; Paul Jackson Jr.; Adam Kofler; Jennifer Marotta; Leah Morrison; Darek Oleszkiewicz; Robert Sheppard; Andrea Stolpe; Robert Young
Adjunct Instructors: Andy Abad; Helane Anderson; Pete Anthony; Michael Arrom; Jonathan Azu; Steve Becknell; Bobby Borg; Jae Deal; Snehal Desai; Siobhán Dougall; Maxine Eilander; Sara Gazarek; Peter Golub; Kathleen Grace; Tim Greiving; Jeremy Gruber; David Herrin; Joel High; Ben Hong; Alphonso Johnson; Michael Kaminsky; Jennifer Kampani; Laura Karpman; Patrick Kirst; Marion Kuszyk; Edwin Livingston; Ginny Luke; Andrew Martin; Mary Mattei; Jessica Maxfield; Roy McCurdy; Loren Medina; Jazmin Morales; Shawn Mouser; Sung-Hwa Park; David Poe; John Schmidt; Garry Schyman; Lawrence Shragge; Michael Stever; Douglas Tornquist; Vivian Wang; Lindsay Wolfington; Vincent Womack
Lecturers (Part-time): Lot Demeyer; Jeremy Frank; Paul Hodgins; Charles Koster; Eric Pham; Troy Quinn; Jason Yoshida
Distinguished Professor Emeritus of Composition: Stephen Hartke, PhD*; Morten Lauridsen, DMA*
Emeritus Professors: Arthur C. Bartner, EdD*; William Dehning, DMA*; Gary Glaze, MM*; James Hopkins, PhD*; Frederick Lesemann, DMA*; Thom Mason, DMA*; Donald McInnes, MM; Cynthia Munzer, BM*; John Perry, MM; William A. Schaefer, MA; Margaret Schaper, MM*; Alice Schoenfeld*; Bryan Simms, PhD*; Ladd Thomas, DMA; William Thomson, PhD; Nancy Woods, MM
Emeritus Associate Professor of Practice: Kenneth Lopez, BA
Emeritus Senior Lecturer: Patrick Kelley, BM
**Recipient of university-wide or school teaching award.*

Degree Programs

The Thornton School of Music offers professional and academic degrees at the bachelor's, master's and doctoral levels. These degrees are summarized below.

Bachelor of Music: Students working toward this professional degree have a wide choice of specializations: choral music, composition, music industry, instrumental performance, jazz studies, popular music performance, music production and vocal arts. Students can take either a single major program or double majors in several combinations such as piano and composition, string, or percussion instrument. The two majors must be offered by different departments but lead to the same degree (for example, Bachelor of Music). Double majors consisting of two majors in the same department are not permitted. The degree is granted by the Thornton School of Music.

Bachelor of Arts: These degrees are designed for students with a strong music background who wish to combine professional music training with substantial study in other disciplines.

Bachelor of Science: Offered by the Thornton School of Music in the specialized area of music industry.

Minors in Music: Eight different minors in music are offered, each approaching the discipline from a unique perspective and with a distinct curriculum: Jazz Studies, Musical Studies (Performance), Musical Theatre, Music Industry, Music Production, Music Recording, Popular Music Studies and Songwriting.

Master of Music: This is a professional degree that represents proficiency in one area of musical practice and relevant knowledge in musical literature, performance and technique. It requires a minimum of 30 graduate units, of which 15 must be at the 500 level or higher. Students complete a thesis, recital(s) or other capstone project as part of the degree requirements. The degree can be earned in choral music, composition, jazz studies, keyboard collaborative arts, guitar, organ, piano, voice or instrumental performance, teaching and learning, or sacred music. The degree is granted by the Thornton School of Music.

Master of Arts: This degree, offered through the Graduate School in conjunction with the Thornton School of Music, stresses music history or early music performance, with emphasis on scholarly research.

Master of Science: Two degrees are offered in Arts Leadership and Music Industry.

Doctor of Musical Arts: This is a professional degree that represents the highest level of expertise in a major field of musical practice and competence in several additional areas. Students may specialize in choral music, composition, jazz studies, vocal or instrumental performance, sacred music, or teaching and learning.

Doctor of Philosophy: Conferred by the Graduate School, this is an academic degree in the field of historical musicology. A substantial background in music, research and languages is required.

Entrance to the Degree Programs

Admission to a degree program is granted through USC's admission process, described in the Admission section of this catalogue. Supplementary materials are also required for students seeking admission to the Thornton School of Music, which are described online at music.usc.edu.

Applicants to a program within the school are screened by appropriate faculty selection committees that hold auditions, interviews and examine supporting materials. Letters of acceptance are issued by the USC Office of Admission.

Audition

A performance audition is required of applicants to most degree and certificate programs in the Thornton School of Music. Detailed information regarding audition requirements for specific Thornton programs is available online at music.usc.edu.

Graduate Academic Admission Examination

All DMA and PhD applicants as well as Master's applicants in Music Teaching and Learning, Community Music, and Early Music must, as part of the admission process, take the Graduate Academic Admission Examination administered by the Thornton School. Detailed information is posted annually at the USC Thornton School of Music website *(music.usc.edu)*.

Placement Tests

Undergraduate transfer students who have had formal study in any of the following areas must take the appropriate placement examination prior to their first registration: aural skills, theory, music history, conducting, analysis, orchestration and performance. The results of these examinations determine placement in appropriate sequential courses.

Admission to Graduate Standing

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available at the USC Thornton School of Music website (*music.usc.edu*).

MGEEs are administered during a prescribed time period prior to the first week of classes each fall and spring semester. Entering students must take all required exams at the scheduled exam time prior to the beginning of their first semester in the program. If any given exam is not passed on the first attempt, that exam can be retaken at the scheduled exam time prior to the beginning of the second semester in the program. If the exam is not passed on the second attempt, the corresponding review course must be successfully completed with a grade of B minus or better before the beginning of the third semester in the program. No MGEE can be attempted after the second semester in the program, regardless of whether the exam has previously been attempted. If students complete any MGEE after their second semester in the program, the score earned on said exam will be invalid. Failure to fulfill all MGEE requirements by the beginning of the third semester – either through exams or review courses – may delay permission to fulfill degree requirements such as recitals, comprehensive or qualifying examinations, thesis projects, and dissertations, and may also have a negative impact on financial aid eligibility.

If a student is not able to take an exam at the scheduled exam time, the exam administrator may choose to administer a similar exam at another scheduled time during the first week of the semester. This alternate exam time will be arranged in rare cases and at the sole discretion of the exam administrator.

Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS)

The Thornton School of Music adheres to the USC Admission policies regarding TOEFL and IELTS scores. With some exceptions, international applicants from non-English-speaking countries are required to submit these scores by the application deadline. Test scores that are more than two years old at the time of application are not accepted. For any applicant whose first language is not English, regardless of educational background or immigration status, the Thornton School may require as a condition of admission that they take the International Student English (ISE) exam, administered by the USC American Language Institute, as well as complete any English language course work that may be prescribed from the results of that exam.

Advanced Standing Credit for Music Courses Taken at Accredited Institutions

Music courses completed with satisfactory grades at a regionally accredited institution of higher education may be acceptable for transfer. A review of transcripts and course syllabi will be required in order to determine transferability of course work. The Thornton School may also require a student to take a placement test (at no cost) to determine the extent of their knowledge in a given area of musical study before a final determination is made regarding transferability of course work.

Advanced Standing Credit for Music Courses Not Taken at Accredited Institutions

Music courses completed at an institution that is not regionally accredited will generally not be transferable. In exceptional cases, the Thornton School may consider petitions for transfer credit for these courses. The petition review process will include evaluation of transcripts with letter grades, course syllabi for each course for which transfer credit is being requested, and examples of work completed for a grade in those courses. Additional information may also be required in order for the Thornton School to complete a full transfer credit evaluation.

Curriculum Requirements

The curriculum requirements for each major are listed under each degree. The USC course classification and numbering system is explained in the Registration section of this catalogue. In addition, music courses sometimes carry the following abbreviations: CD = Conducting; CG = Classical Guitar; HC = Harpsichord; OR = Organ; P = Piano; SG = Studio Guitar; VA = Viola; VC = Voice Coaching; VO = Voice.

Change of Curriculum

To change from one curriculum to another, a student must apply and be approved for the new curriculum by the appropriate department chair and declare the intent to change curriculum through his or her academic adviser in the Thornton School.

Non-Degree Programs

Students who have highly specialized interests that may not be met through degree programs may apply for admission to one of the following non-degree programs.

Artist Diploma Program

This program is designed for young artists of exceptional ability and musical sensitivity who plan careers as solo performers. The Artist Diploma Program provides young artists the opportunity to devote their full time to concentrated study and practice for the duration of their assigned programs. This program typically requires two to three consecutive years of study for completion.

Graduate Certificate in Arts Leadership

The Graduate Certificate program in arts leadership is a two-semester program for artists, arts administrators and cultural workers of all types to develop the skills necessary to become successful leaders in the arts and arts organizations in a rapidly changing and radically altered contemporary world.

Graduate Certificate Program in Performance

This two-year graduate-level program is designed for students who have completed their undergraduate education in music, or its equivalent, and intend to concentrate their energies on the full-time development of their discipline.

Honor Society

Pi Kappa Lambda

Pi Kappa Lambda is a national honor society established in 1918 for the promotion and recognition of scholarship and performance in music. Students of the Thornton School of Music are eligible for election to Eta chapter at the University of Southern California, established in 1923, according to guidelines established by the board of the Eta chapter.

Undergraduate Degrees

Minors in Music

Minor in Performing Arts Studies

The minor in performing arts provides an interdisciplinary inquiry into the nature and aesthetics of the performing arts. It combines the disciplines of cinematic arts, dance, music and theatre. The minor is a unique course of study that looks at how the performing arts contribute to a culturally literate society. See the USC School of Dramatic Arts section of this catalogue.

Graduate Degrees

Admission-Audition Requirements

Applicants to graduate programs in the Thornton School of Music must fulfill all music admission requirements described at usc.edu/music, in addition to fulfilling all USC graduate admission requirements. See Thornton School of Music Degree Programs and Entrance to the Degree Programs sections of this catalogue for further information.

Bachelor's Degree

Choral Music (BA)*

Overview

The Bachelor of Arts in Choral Music combines the flexibility of a Bachelor of Arts program with an in-depth education in choral music that includes an introduction to choral music and course work in choral conducting, choral development, choral arranging, diction and choral ensemble.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Lessons (6 units)

- MPVA 301 Individual Instruction Units: 1, 2
  6 units total of MPVA 301 (Choral)

Music Ensembles (8 units)

- Choral Music Ensemble at the 300-level: eight 1-unit courses

Program Intensive Courses (12 units)

- MPVA 442 Introduction to the International Phonetic Alphabet Units: 2
- MUCD 340 Choral Conducting I Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCM 320 Introduction to Choral Music Units: 2
- MUCM 440 Choral Development Units: 2
- MUCO 441 Choral Arranging Units: 1, 2 (2 units total of MUCO 441)

Core Thornton Academic Courses (38 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Foreign Language (12 units)

Three 4-unit courses in the same language

Electives (20 units)

Total required for degree: 128

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Choral Music (BM)

Overview

All USC Thornton undergraduate programs in classical performance and composition combine a rigorous foundation of the finest conservatory training with curricular flexibility for students to chart their own artistic pathways. All curricular components are designed to support students in creating a distinctive musical voice and preparing for a fulfilling musical career.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Project

Young Artist Project

During the junior and senior years of the program, students develop and fully realize unique individualized, mentored projects related to their work as classical musicians. This could involve developing a hybrid performance, conducting original research, exploring new creative technologies or applying creative expression to a pressing social issue.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (6 units)

- MPVA 301 Individual Instruction Units: 1, 2
  6 units total of MPVA 301 (Choral)

Ensembles (8 units)

- MUEN Choral Ensemble at the 300-level: eight 1-unit courses

Program Intensive (26 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MPVA 260 Italian Language and Diction Units: 4
- MPVA 261 French Language and Diction Units: 4
- MPVA 262 German Language and Diction Units: 4
- MUCD 340 Choral Conducting I Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCM 320 Introduction to Choral Music Units: 2
- MUCM 440 Choral Development Units: 2
- MUCO 441 Choral Arranging Units: 1, 2
  2 units total of MUCO 441

Electives (20 units)

Contemporary Division Electives (4 units)

Select 4 units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Project (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Composition (BM)

Overview

All USC Thornton undergraduate programs in classical performance and composition combine a rigorous foundation of the finest conservatory training with curricular flexibility for students to chart their own artistic pathways. All curricular components are designed to support students in creating a distinctive musical voice and preparing for a fulfilling musical career.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses

in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Projects

Young Artist Project

During the junior and senior years of the program, students develop and fully realize unique individualized, mentored projects related to their work as classical musicians. This could involve developing a hybrid performance, conducting original research, exploring new creative technologies, or applying creative expression to a pressing social issue.

Recital

A senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (24 units)

- MUCO 137a Composition I Units: 4
- MUCO 137b Composition I Units: 4
- MUCO 237a Composition II Units: 4
- MUCO 237b Composition II Units: 4
- MUCO 337a Composition III Units: 2
- MUCO 337b Composition III Units: 2
- MUCO 437a Composition IV Units: 2
- MUCO 437b Composition IV Units: 2

Ensembles (2 units)

MUEN Ensemble Electives at the 300-level: two 1-unit courses

Program Intensive (14 units)

- MUCO 135 Counterpoint I Units: 2
- MUCO 235 Counterpoint II Units: 2
- MUCO 336a Orchestration II Units: 2
- MUCO 336b Orchestration II Units: 2
- MUCO 434 Analytical Techniques Units: 2

Select 2 units from the following:

- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 474b Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 301 Individual Instruction Units: 1, 2

Select 2 units from the following:**

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2

Electives (20 units)

Contemporary Division Electives (4 units)

Select 4 units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2

Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

***Requirement may be fulfilled with MPKS 301 Piano if proficiency level equivalent to MPKS 250b is demonstrated by examination.*

Jazz Studies (BM)

Overview

The Bachelor of Music in Jazz Studies consists of course work in the major, core music studies (theory, aural skills, music history, ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies,

in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Project

A senior recital or senior project must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital or project, including content, length, format and/or other specifications. Note that senior projects must first be approved by the Jazz faculty. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements for Non-Guitar

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (24 units)

- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUSC 496 Careers in Music Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUJZ 350g A History of Jazz Music Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4

Program Specific Courses (58 units)

Individual Instruction (16 units)

- MUJZ 153 Individual Instruction Units: 1, 2
  4 units total of MUJZ 153 in your primary instrument
- MUJZ 253 Individual Instruction Units: 1, 2
  4 units total of MUJZ 253 in your primary instrument
- MUJZ 353 Individual Instruction Units: 1, 2
  4 units total of MUJZ 353 in your primary instrument
- MUJZ 453 Individual Instruction Units: 1, 2
  4 units total of MUJZ 453 in your primary instrument

Ensembles (14 units)**

Select 14 units from the following as directed by the department:

- MUEN 305 Vocal Jazz Ensemble Units: 1
- MUEN 326 Guitar Ensemble Units: 1
- MUEN 329 Jazz Ensemble Units: 1
- MUEN 332 Jazz Chamber Music Units: 1
- MUJZ 311 Vocal Jazz Techniques Units: 2 **
  *** Vocal Jazz students will only be required to completed 12-units of ensemble and will be required to take MUJZ 311 Vocal Jazz Techniques as the remaining 2-units. All other jazz instrumentalists must complete 14-units of ensemble to complete the ensemble requirement.*

Program Intensive Courses (28 units)

Complete 4 units of MUJZ 195 or MUJZ 197ab, as listed for your primary instrument:

- MUJZ 195L Jazz Elements I Units: 2
  4 units total of MUJZ 195 required for all jazz instrumentalists (non-vocal jazz)
  or
- MUJZ 197a Vocal Jazz Elements I Units: 2
- MUJZ 197b Vocal Jazz Elements I Units: 2
  4 units total of MUJZ 197ab required for all vocal jazz (non-jazz instrumentalists)
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MUIN 270 Introduction to the Music Industry Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 305a Advanced Jazz Theory Units: 2
- MUJZ 305b Advanced Jazz Theory Units: 2
- MUJZ 395 Jazz Elements II Units: 2
  4 units total of MUJZ 395
- MUJZ 400 Arranging for Jazz Ensemble Units: 2

Select 2 units from the following as directed by the department:

- MPGU 415 Studio Guitar Pedagogy Units: 2
- MUJZ 443 Jazz Pedagogy Units: 2

Select 4 units from the following:

- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 443 Desktop Music Production Units: 2
- MTEC 444 Non-Linear MIDI Sequencing Units: 2
- MTEC 445 Advanced Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4

Electives (18 units)

Capstone Project

Senior Recital or Senior Project: 0 units

Total required for degree: 132

*** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Curriculum Requirements for Guitar

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (24 units)

- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUSC 496 Careers in Music Units: 2
- MUHL 250g Music and Ideas Units: 4

- MUJZ 350g A History of Jazz Music Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4

Program Specific Courses (58 units)

Individual Instruction (16 units)

- MUJZ 153 Individual Instruction Units: 1, 2
  4 units total of MUJZ 153 (Guitar)
- MUJZ 253 Individual Instruction Units: 1, 2
  4 units total of MUJZ 253 (Guitar)
- MUJZ 353 Individual Instruction Units: 1, 2
  4 units total of MUJZ 353 (Guitar)
- MUJZ 453 Individual Instruction Units: 1, 2
  4 units total of MUJZ 453 (Guitar)

Ensembles (6 units)

- MUEN 326 Guitar Ensemble Units: 1
  2 units total of MUEN 326
  Select 4 units from the following as directed by the department:
- MUEN 305 Vocal Jazz Ensemble Units: 1
- MUEN 326 Guitar Ensemble
- MUEN 329 Jazz Ensemble Units: 1
- MUEN 332 Jazz Chamber Music Units: 1

Program Intensive Courses (26 units)

- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MUIN 270 Introduction to the Music Industry Units: 4
- MUJZ 195L Jazz Elements I Units: 2
  4 units total of MUJZ 195
- MUJZ 305a Advanced Jazz Theory Units: 2
- MUJZ 305b Advanced Jazz Theory Units: 2
- MUJZ 395 Jazz Elements II Units: 2
  4 units total of MUJZ 395
- MUJZ 400 Arranging for Jazz Ensemble Units: 2
  Select 2 units from the following as directed by the department:
- MPGU 415 Studio Guitar Pedagogy Units: 2
- MUJZ 443 Jazz Pedagogy Units: 2
  Select 4 units from the following:
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 443 Desktop Music Production Units: 2
- MTEC 444 Non-Linear MIDI Sequencing Units: 2
- MTEC 445 Advanced Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4

Guitar Intensive Courses (10 units)

- MPGU 160a Functional Skills for the Jazz Guitarist Units: 2
- MPGU 160b Functional Skills for the Jazz Guitarist Units: 2
- MPGU 260 Improvising and Arranging for Jazz Guitar Units: 2
  Select 4 units from the following as directed by the department:
- MPGU 420 Guitar Styles Units: 2
- MPGU 460 Advanced Improvising and Arranging for Jazz Guitar Units: 2
- MPGU 462 Recording and Producing Techniques for the Guitarist Units: 2

Electives (18 units)

Capstone Project

Senior Recital or Senior Project: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Music (BA)*

Overview

The Bachelor of Arts in Music combines a rigorous foundation in music consisting of theory, aural skills, and music history, with the USC general education program, foreign language study, and the flexibility of a Bachelor of Arts curriculum. Within the core Thornton academic courses, students will have the opportunity to choose course groupings that reflect their interests within classical, popular music, and jazz disciplines. At the end of the program, students will complete a senior thesis as a capstone project.

Entrance Requirements

Admission to the Bachelor of Arts in Music is available to current USC undergraduates who wish to change their major program of study to the BA Music. Students will be required to apply for and be approved for admission. Specific entrance requirements are available at the Thornton School of Music website (*music.usc.edu*).

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Project

Senior Thesis

The capstone will consist of one or two substantial papers on a topic that is either a focus of traditional music research (e.g., musicology, ethnomusicology, music teaching and learning, music theory and analysis, the music industry), or an interdisciplinary topic that explores music's relationship to other fields of study. The expected total length is a minimum of 50 double-spaced pages, exclusive of bibliography. This can be one 50-page paper or two papers of roughly 25 pages each. Students will enroll in 4 units of Directed Research 490 in the appropriate department in order to facilitate the Senior Thesis requirement. Students will be required to secure a Senior Thesis adviser who will also serve as the supervising faculty member on the Directed Research contract.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (38 units)

Thornton Academic Courses (16 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2

- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUHL 250g Music and Ideas Units: 4

Musicianship (10 units)

Select one concentration from the following:

Classical Concentration

- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3

Popular Music Concentration

- MUCO 131a Harmony in Popular Music Units: 2
- MUCO 131b Harmony in Popular Music Units: 2
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUSC 255 Songwriting I Units: 2

Jazz Concentration

- MUJZ 195L Jazz Elements I Units: 2
  4 units total of MUJZ 195
- MUJZ 305a Advanced Jazz Theory Units: 2
- MUJZ 305b Advanced Jazz Theory Units: 2
- MUJZ 400 Arranging for Jazz Ensemble Units: 2

Music History (8 units)

Select two courses from the following:

- MPPM 350g A History of Popular Music Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUJZ 350g A History of Jazz Music Units: 4

Keyboard/Drumming (4 units)

Select two courses from the following:

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2

Program Specific Courses (12 units)

Individual Instruction (8 units)

- 4 units total of Individual Instruction at the 153 level in primary instrument/voice
- 4 units total of Individual Instruction at the 353 level in primary instrument/voice

Ensembles (4 units)

- MUEN Ensemble Electives at the 300-level: four 1-unit courses

Foreign Language (12 units)

- Three 4-unit courses in the same language

Music Electives at the 300 or 400 Level (10 units)

Electives (20 units)

Capstone Project (4 units)

- Enroll in 4 units total of Directed Research 490 in order to facilitate the Senior Thesis requirement
- Senior Thesis: 0 units

Total required for degree: 128

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Music Industry (BM)

Bachelor of Music

The Bachelor of Music (BM) is a professional degree granted by the Thornton School of Music. The various majors for the degree are listed below, along with specified requirements for each.

Senior Recital/Culminative Project

All performance majors are required, as indicated in the specific curriculum listings below, to either present a senior recital or complete a culminative project. Both must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determine the detailed requirements of these recitals and projects, including content, length, format, and other specifications. In cases in which a performance venue is required in order to present the recital or complete the project, reservations must be made according to the current guidelines of the Music Operations office.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing.

The provost has allowed an exception to the rules governing the new general education requirements for certain groups of students pursuing performance degrees in music. Students pursuing the Bachelor of Music in Jazz Studies or the Bachelor of Music in Performance (in all tracks except organ) may satisfy their social issues and first writing requirement separately by taking WRIT 130 (instead of WRIT 150) in the spring of their freshman year. In addition those pursuing the Bachelor of Music in Performance (vocal arts) may satisfy Category I of the new program with MUHL 331 and MUHL 332.

In all other respects, students in the Thornton School of Music must satisfy the general education requirements as described on the General Education Program page.

Individual Instruction Limitations

Music majors may accumulate a maximum of 16 units of individual instruction at the 300 level toward an undergraduate degree program.

Entrance Requirements

Applicants must submit the Thornton School of Music Supplementary Application, a statement of objectives, resume and repertoire list. A performance audition according to the requirements of the department of the applicant's primary instrument or voice is also required.

Curriculum Requirements

- General education 6 courses
- Writing 2 courses
- MPxx 153 Units: 4 units total of individual instruction in primary instrument/voice
- MPxx 253 Units: 4 units total of individual instruction in primary instrument/voice
- MPxx 353 Units: 4 units total individual instruction in primary instrument/voice*
- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2

- MUCD 340 Choral Conducting I Units: 2 or
- MUCD 343 Instrumental Conducting I Units: 2

- Ensemble electives Units: 2 units total
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3

- MUHL 231 Music History Units: 3
- MUHL 232 Music History II Units: 3
- MUHL 331 Music History III Units: 3
- MUHL 332 Studies in Musical Culture Units: 3
- MUIN 270 Introduction to the Music Industry Units: 4
- MUIN 280 Communications in the Music Industry Units: 4
- MUIN 360 Introduction to Music Law Units: 4
- MUIN 450 Practicum in Music Industry Issues (Internship) Units: 2, 3, 4 (8 units total)

Two courses from the following:

- MUIN 370 Music Publishing and Licensing Units: 2
- MUIN 385 Radio in the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUIN 430 Artist Management and Development Units: 4
- MUIN 435 Manufacture and Distribution of Musical Products Units: 4
- MUIN 440 Arts Management Units: 4
- MUIN 443 The Business of Music for Visual Media Units: 4
- MUIN 445 International Music Industry Units: 4
- MUIN 495 Web Design for the Music Industry Units: 4

Music Technology requirements:

- MTEC 175 Fundamentals of Audio Recording Units: 2
- MTEC 176 Critical Listening Units: 2
- MTEC 275 Fundamentals of Audio Engineering Units: 4

6 units from the following:

- MUIN 287 The Business and Economics of the Recording Industry Units: 2
- MUIN 340 Introduction to Sound Reinforcement Units: 4
- MTEC 389 Digital Equipment and Recording Units: 2
- MTEC 392a Acoustics and Speaker Design Units: 2
- MTEC 392b Acoustics and Speaker Design Units: 2
- MTEC 442 Operation of the Radio Studio Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MUIN 476a Advanced Sound Reinforcement Units: 2
- MUIN 476b Advanced Sound Reinforcement Units: 2
- MTEC 477 Remote Recording Techniques Units: 2
- MTEC 478 Advanced Multichannel Remix Units: 2
- MTEC 479 Audio Mastering Units: 2
- MTEC 494 Classical Music Recording Units: 4
- MUIN 496 Music Media Solutions Units: 4

Electives: 6 units

Junior Recital: 0 units

Total required for degree: 132

**All individual instruction units must be taken in the same area in which the students auditioned.*

Music Industry (BS)

Overview

The Bachelor of Science in the Music Industry is a professional degree that prepares students to enter a variety of careers in the music industry of today. Students must fulfill a series of core requirements for the degree.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Business-related Requirements

In addition to the above general education requirements, the following courses offered through the USC Marshall School of Business, the USC Leventhal School of Accounting and the USC Dornsife College of Letters, Arts and Sciences are required.

Capstone Project

A capstone project must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the project, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the project, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Business Related Courses (12 units)

- ACCT 410x Foundations of Accounting Units: 4

Any 4 unit ECON course

One course from the following:

- BAEP 450 Fundamentals of Entrepreneurship Units: 4
- BAEP 451 The Management of New Enterprises Units: 4

Program Intensive Courses (28 units)

- MPPM 100 Popular Music Forum Units: 1 (2 units total of MPPM 100)
- MTEC 175 Fundamentals of Audio Recording Units: 2
- MTEC 176 Critical Listening Units: 2
- MUIN 270 Introduction to the Music Industry Units: 4
- MUIN 360 Introduction to Music Law Units: 4
- MUIN 370 Music Publishing and Licensing Units: 2
- MUIN 425 Live Music Production and Promotion Units: 4
- MUIN 450 Practicum in Music Industry Issues (Internship) Units: 2, 3, 4 (4 units total of MUIN 450)
- MUIN 497 Current Topics, Case Studies, and Analysis Units: 2 (4 units total of MUIN 497)

Select 12 units from the following:

- MUIN 280 Communications in the Music Industry Units: 4
- MUIN 340 Introduction to Sound Reinforcement Units: 4
- MUIN 372 Business and Legal Aspects of the Music Industry Units: 4
- MUIN 430 Artist Management and Development Units: 4
- MUIN 435 Manufacture and Distribution of Musical Products Units: 4

- MUIN 443 The Business of Music for Visual Media Units: 4
- MUIN 444 Music Supervision Units: 4
- MUIN 445 International Music Industry Units: 4
- MUIN 450 Practicum in Music Industry Issues (Internship) Units: 2, 3, 4
- MUIN 475 Advanced Concert Management Units: 4
- MUIN 476a Advanced Sound Reinforcement Units: 2
- MUIN 476b Advanced Sound Reinforcement Units: 2
- MUIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- MUIN 495 Web Design for the Music Industry Units: 4
- MUIN 496 Music Media Solutions Units: 4

Select 8 units from the following:

- MUIN 340 Introduction to Sound Reinforcement Units: 4
- MUIN 476a Advanced Sound Reinforcement Units: 2
- MUIN 476b Advanced Sound Reinforcement Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 275 Fundamentals of Audio Engineering Units: 4
- MTEC 389 Digital Equipment and Recording Units: 2
- MTEC 392a Acoustics and Speaker Design Units: 2
- MTEC 442 Operation of the Radio Studio Units: 2
- MTEC 443 Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 474b Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 477 Remote Recording Techniques Units: 2
- MTEC 478 Advanced Multichannel Remix Units: 2
- MTEC 479 Audio Mastering Units: 2
- MTEC 486 Computer-Assisted Music Editing for Picture Units: 2
- MTEC 493 Audio Signal Processing Equipment Units: 2

Select 4 units from the following:

- BUAD 307 Marketing Fundamentals Units: 4
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4
- MUIN 410 Marketing, Branding and Strategic Alliances in Music Units: 2
- MUIN 420 DIY Music Marketing Units: 2

Select 4 units from the following:

- MPPM 350g A History of Popular Music Units: 4
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUJZ 350g A History of Jazz Music Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies Units: 2
- MUSC 424 Iconic Figures of Popular Music Units: 2
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Select 6 units from the following:

- MPGU 120a Beginning Pop/Rock Guitar Units: 2
- MPGU 120b Beginning Pop/Rock Guitar Units: 2
- MPGU 120c Beginning Pop/Rock Guitar Units: 2
- MPGU 121 Intensive Beginning Pop/Rock Guitar Units: 4
- MPKS 150a Beginning Piano Units: 2
- MPKS 150b Beginning Piano Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 340 Intermediate Drum Set Proficiency Units: 2
- MPVA 141 Class Voice Units: 2
- MPVA 241 Intermediate Class Voice Units: 2
- MUCO 101x Fundamentals of Music Theory Units: 2
- MUCO 130ax Basics of Music Theory Units: 3
- MUCO 130bx Basics of Music Theory Units: 3
- MUSC 255 Songwriting I Units: 2
- MUSC 355 Songwriting II Units: 2
- MUSC 455 Songwriting III: The Performing Songwriter Units: 2

Electives (20 units)

Capstone Projects (2 units)

- MUIN 498a Final Capstone Project Units: 1
- MUIN 498b Final Capstone Project Units: 1

Total units: 128

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Music Production (BM)

Overview

The Bachelor of Music in Music Production consists of course work in the major area, core music classes, USC's general education and writing, as well as electives to take advantage of the offerings of the Thornton School and of the entire university.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Project

A capstone project must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the project, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the project, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)

GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (34 units)

- MUCO 131a Harmony in Popular Music Units: 2
- MUCO 131b Harmony in Popular Music Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUHL 250g Music and Ideas Units: 4

One course from the following:

- MPPM 350g A History of Popular Music Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUJZ 350g A History of Jazz Music Units: 4

One course from the following:

- MUHL 351 Western Art Music History II Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

4-units from the following:**

- MPPM 325a Arranging in Popular Music Units: 2 ***
- MPPM 325b Arranging in Popular Music Units: 2 ***
- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUJZ 400 Arranging for Jazz Ensemble Units: 2
- MUSC 455 Songwriting III: The Performing Songwriter Units: 2
- SCOR 403 Introduction to Scoring Movies and Television Units: 2
- SCOR 405 Introduction to Scoring Video Games Units: 2

Program Specific Courses (50 units)

Individual Instruction and Forum (6 units)

- MPPM 100 Popular Music Forum Units: 1
  2 units total of MPPM 100
- Individual Instruction at the 301 level in primary instrument/voice (4 units total)

Ensembles (2 units)

MUEN Ensemble Electives at the 300-level: two 1-unit courses

Program Intensive (42 units)

- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2 ****
- MTEC 137a Music Production I Units: 2
- MTEC 137b Music Production I Units: 2
- MTEC 176 Critical Listening Units: 2
- MTEC 237a Music Production II Units: 2
- MTEC 237b Music Production II Units: 2
- MTEC 275 Fundamentals of Audio Engineering Units: 4
- MTEC 337a Music Production III Units: 2
- MTEC 337b Music Production III Units: 2
- MTEC 445 Advanced Desktop Music Production Units: 2
- MTEC 478 Advanced Multichannel Remix Units: 2
- MUIN 270 Introduction to the Music Industry Units: 4
- MUSC 255 Songwriting I Units: 2
- MUSC 355 Songwriting II Units: 2

One course from the following:

- MTEC 443 Desktop Music Production Units: 2
- MTEC 444 Non-Linear MIDI Sequencing Units: 2

Take 8-units from MTEC or MUIN 200-499 courses

Electives (14 units)

Capstone Projects (2 units)

- MTEC 498a Senior Project Units: 1
- MTEC 498b Senior Project Units: 1

Total Required For Degree: 132

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Courses may be chosen from the list or in consultation with the chair of Music Technology.*
****Prerequisite required.*
*****Keyboardists will substitute a class in drums, guitar or voice.*

Performance (Classical Guitar) (BM)

Overview

All USC Thornton undergraduate programs in classical performance and composition combine a rigorous foundation of the finest conservatory training with curricular flexibility for students to chart their own artistic pathways. All curricular components are designed to support students in creating a distinctive musical voice and preparing for a fulfilling musical career.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Projects

Young Artist Project

During the junior and senior years of the program, students develop and fully realize unique individualized, mentored projects related to their work as classical musicians. This could involve developing a hybrid performance, conducting original research, exploring new creative technologies, or applying creative expression to a pressing social issue.

Recitals

A junior and senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recitals, including content, length, format, and other specifications. In cases in which a performance venue is required

in order to present the recitals, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (20 units)

- MPGU 153 Individual Instruction Units: 1 or 2
  4 units total of MPGU 153 (Classical Guitar)
- MPGU 253 Individual Instruction Units: 1 or 2
  4 units total of MPGU 253 (Classical Guitar)
- MPGU 353 Individual Instruction Units: 1 or 2
  4 units total of MPGU 353 (Classical Guitar)
- MPGU 453 Individual Instruction Units: 1 or 2
  4 units total of MPGU 453 (Classical Guitar)
  Select four units in the following styles, Baroque/Lute, Flamenco, Pop, or Jazz, from the list below:
- MPEM 301 Individual Instruction Units: 1, 2
- MPGU 301 Individual Instruction Units: 1, 2
- MPPM 301 Individual Instruction Units: 1, 2
- MUJZ 301 Individual Instruction Units: 1, 2

Ensembles (10 units)

- MUEN 326 Guitar Ensemble Units: 1
  8 units total of MUEN 326
- MUEN Ensemble Electives at the 300-level: two 1-unit courses

Program Intensive (10 units)

- MPGU 417 Classical Guitar Pedagogy Units: 2
- MPGU 426 Classical Guitar History and Literature Units: 2
- MPGU 427 Advanced Topics in Classical Guitar History and Literature Units: 2
- MPGU 459 Functional Skills for Classical Guitarists II Units: 2
  Select two units from the following:
- MPKS 250a Keyboard Instruction I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2

Electives (20 units)

Contemporary Division Electives (4 units)

Select four units from the Contemporary Division
Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2
  Junior Recital: 0 units
  Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion) (BM)

Overview

All USC Thornton undergraduate programs in classical performance and composition combine a rigorous foundation of the finest conservatory training with curricular flexibility for students to chart their own artistic pathways. All curricular components are designed to support students in creating a distinctive musical voice and preparing for a fulfilling musical career.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students

taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Projects

Young Artist Project

During the junior and senior years of the program, students develop and fully realize unique individualized, mentored projects related to their work as classical musicians. This could involve developing a hybrid performance, conducting original research, exploring new creative technologies, or applying creative expression to a pressing social issue.

Recital

A senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (16 units)

- MPWP 153 Individual Instruction Units: 1 or 2
  4 units total of MPWP 153 in your primary instrument
- MPWP 253 Individual Instruction Units: 1 or 2
  4 units total of MPWP 253 in your primary instrument
- MPWP 353 Individual Instruction Units: 1 or 2
  4 units total of MPWP 353 in your primary instrument
- MPWP 453 Individual Instruction Units: 1 or 2
  4 units total of MPWP 453 in your primary instrument

Ensembles (16 units)

- MUEN 323 University Wind Ensemble Units: 1 **
  8 units total of MUEN 323
- MUEN 325 Wind and Percussion Chamber Music Units: 1 **
  8 units total of MUEN 325

Program Intensive (8 units)

- MPKS 250a Keyboard Instruction I Units: 2

  Select 2 units from the following:
- MPKS 250b Keyboard Instruction I Units: 2
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2

  Select 2 units from the following:
- MUCD 340 Choral Conducting I Units: 2
- MUCD 443 Instrumental Conducting II Units: 2

  Select 2 units from the following:
- THTR 419 Alexander Technique for Performers Units: 2
- Any course from DANC 181-189

Electives (20 units)

Contemporary Division Electives (4 units)

Select 4 units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2

Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Required each semester in residence.*

Performance (Organ) (BM)

Overview

All USC Thornton undergraduate programs in classical performance and composition combine a rigorous foundation of the finest conservatory training with curricular flexibility for students to chart their own artistic pathways. All curricular components are designed to support students in creating a distinctive musical voice and preparing for a fulfilling musical career.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful

lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Projects

Young Artist Project

During the junior and senior years of the program, students develop and fully realize unique individualized, mentored projects related to their work as classical musicians. This could involve developing a hybrid performance, conducting original research, exploring new creative technologies, or applying creative expression to a pressing social issue.

Recital

A senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital, including content, length, format, and other specifications. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (20 units)

- MPKS 153 Individual Instruction Units: 1 or 2
  4 units total of MPKS 153 (Organ)
- MPKS 253 Individual Instruction Units: 1 or 2
  4 units total of MPKS 253 (Organ)
- MPKS 353 Individual Instruction Units: 1 or 2
  4 units total of MPKS 353 (Organ)
- MPKS 453 Individual Instruction Units: 1 or 2
  4 units total of MPKS 453 (Organ)
- MPKS 301 Individual Instruction Units: 1, 2
  4 units total of MPKS 301 (Organ Service Playing)

Ensembles (6 units)

MUEN Ensemble Electives at the 300-level: six 1-unit courses

Program Intensive (10 units)

- MPKS 160a Functional Skills for Keyboard Majors I Units: 2
- MPKS 160b Functional Skills for Keyboard Majors I Units: 2
- MPKS 260a Functional Skills for Keyboard Majors II Units: 2
- MPKS 260b Functional Skills for Keyboard Majors II Units: 2
- MUCD 340 Choral Conducting I Units: 2

Music Electives (4 units)

Electives (20 units)

Contemporary Division Electives (4 units)

Select 4 units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2
  Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Performance (Piano) (BM)

Overview

All USC Thornton undergraduate programs in classical performance and composition combine a rigorous foundation of the finest conservatory training with curricular flexibility for students to chart their own artistic pathways. All curricular components are designed to support students in creating a distinctive musical voice and preparing for a fulfilling musical career.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies,

in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisors in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Projects

Young Artist Project

During the junior and senior years of the program, students develop and fully realize unique individualized, mentored projects related to their work as classical musicians. This could involve developing a hybrid performance, conducting original research, exploring new creative technologies, or applying creative expression to a pressing social issue.

Recital

A senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (16 units)

- MPKS 153 Individual Instruction Units: 1 or 2
  4 units total of MPKS 153 (Piano)
- MPKS 253 Individual Instruction Units: 1 or 2
  4 units total of MPKS 253 (Piano)
- MPKS 353 Individual Instruction Units: 1 or 2
  4 units total of MPKS 353 (Piano)
- MPKS 453 Individual Instruction Units: 1 or 2
  4 units total of MPKS 453 (Piano)

Ensembles (2 units)

MUEN Ensemble Electives at the 300-level: two 1-unit courses

Program Intensive (22 units)

- MPKS 160a Functional Skills for Keyboard Majors I Units: 2
- MPKS 160b Functional Skills for Keyboard Majors I Units: 2
- MPKS 228 Four-Hand Keyboard Repertoire Units: 1
  2 units total of MPKS 228
- MPKS 260a Functional Skills for Keyboard Majors II Units: 2
- MPKS 260b Functional Skills for Keyboard Majors II Units: 2
- MPKS 360a Accompanying Units: 2
- MPKS 360b Accompanying Units: 2
- MPKS 431a Piano Pedagogy: Introduction and Practicum Units: 2
- MPKS 431b Piano Pedagogy: Introduction and Practicum Units: 2
- MPKS 472a Piano History and Literature Units: 2
- MPKS 472b Piano History and Literature Units: 2

Electives (20 units)

Contemporary Division Electives (4 units)

Select four units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2
  Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Performance (Popular Music) (BM)

Overview

The Bachelor of Music in Popular Music is designed for students interested in pursuing a career in the performance of popular music. This program consists of course work in the major performance area, core music classes, USC's general education and writing, as well as electives to take advantage of the offerings of the Thornton School and of the entire university.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Project

A capstone project must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the project, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the project, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Lessons, Forum and Performance Class (24 units)

- MPPM 100 Popular Music Forum Units: 1
  4 units total of MPPM 100
- MPPM 120 Popular Music Performance I Units: 2
  8 units total of MPPM 120
- MPPM 153 Individual Instruction Units: 1, 2
  4 units total of MPPM 153
- MPPM 253 Individual Instruction Units: 1, 2
  4 units total of MPPM 253
- MPPM 320 Popular Music Performance II Units: 2
  4 units total of MPPM 320

Music Ensembles (2 units)

Music Ensemble at the 300-level: two 1-unit courses

Program Intensive Courses (20 units)

- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2 **
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2 ***
- MPPM 325a Arranging in Popular Music Units: 2
- MPPM 325b Arranging in Popular Music Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MUIN 270 Introduction to the Music Industry Units: 4
- MUSC 255 Songwriting I Units: 2
- MUSC 496 Careers in Music Units: 2

Select one course from the following:

- MTEC 443 Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2

Core Thornton Academic Courses (30 units)

- MPPM 350g A History of Popular Music Units: 4
- MUCO 131a Harmony in Popular Music Units: 2
- MUCO 131b Harmony in Popular Music Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUHL 250g Music and Ideas Units: 4

One course from the following:

- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUJZ 350g A History of Jazz Music Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Electives (22 units)

Capstone Projects (2 units)

- MPPM 450a Final Project Units: 1
- MPPM 450b Final Project Units: 1

Total required for degree: 132

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Drummers will substitute a class in guitar or voice.*
****Keyboardists will substitute a class in guitar or voice.*

Performance (Studio Guitar) (BM)

Overview

The Bachelor of Music in Studio Guitar consists of course work in the major, core music studies (theory, aural skills, music history, conducting, large ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Projects

A junior and senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recitals, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recitals, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements for Traditional Emphasis

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Lessons (16 units)

- MPGU 153 Individual Instruction Units: 1 or 2
  4 units total of MPGU 153 (Studio Guitar)
- MPGU 253 Individual Instruction Units: 1 or 2
  4 units total of MPGU 253 (Studio Guitar)
- MPGU 353 Individual Instruction Units: 1 or 2
  4 units total of MPGU 353 (Studio Guitar)
- MPGU 453 Individual Instruction Units: 1 or 2
  4 units total of MPGU 453 (Studio Guitar)

Music Ensembles (10 units)

- MUEN 326 Guitar Ensemble Units: 1
  6 units total of MUEN 326
- Ensemble electives: four 1-unit courses

Program Intensive Courses (27 units)

- MPGU 158 Guitarists in the U.S. Units: 2
- MPGU 159 Functional Skills for Studio Guitarists I Units: 2
- MPGU 258 Functional Skills for Studio Guitarists I Units: 2
  4 units total of MPGU 258
- MPGU 358 Performance Practices for Studio Guitarists Units: 2
  4 units total of MPGU 358
- MPGU 415 Studio Guitar Pedagogy Units: 2
- MPGU 416 Evolution of the Guitar in the United States Units: 3
- MPGU 426 Classical Guitar History and Literature Units: 2
- MPGU 428a Improvisation and Arranging for Guitarists Units: 3
- MPGU 428b Improvisation and Arranging for Guitarists Units: 3
- MPGU 458 Current Electric Guitar Styles Units: 2

Core Thornton Academic Courses (40 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Electives (7 units)

Capstone Projects

Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Curriculum Requirements for Jazz Emphasis

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Lessons (18 units)

- MPGU 153 Individual Instruction Units: 1 or 2
  4 units total of MPGU 153 (Studio Guitar)
- MPGU 253 Individual Instruction Units: 1 or 2
  4 units total of MPGU 253 (Studio Guitar)
- MPGU 301 Individual Instruction Units: 1, 2
  2 units total of MPGU 301 (Classical Guitar)
- MPGU 353 Individual Instruction Units: 1 or 2
  4 units total of MPGU 353 (Studio Guitar)
- MPGU 453 Individual Instruction Units: 1 or 2
  4 units total of MPGU 453 (Studio Guitar)

Music Ensembles (10 units)

- MUEN 326 Guitar Ensemble Units: 1
  6 units total of MUEN 326
- Ensemble electives: four 1-unit courses

Program Intensive Courses (27 units)

- MPGU 158 Guitarists in the U.S. Units: 2
- MPGU 159 Functional Skills for Studio Guitarists I Units: 2
- MPGU 258 Functional Skills for Studio Guitarists I Units: 2
  4 units total of MPGU 258
- MPGU 358 Performance Practices for Studio Guitarists Units: 2
  4 units total of MPGU 358
- MPGU 415 Studio Guitar Pedagogy Units: 2
- MPGU 416 Evolution of the Guitar in the United States Units: 3
- MPGU 426 Classical Guitar History and Literature Units: 2
- MPGU 428a Improvisation and Arranging for Guitarists Units: 3
- MPGU 428b Improvisation and Arranging for Guitarists Units: 3
- MPGU 458 Current Electric Guitar Styles Units: 2

Core Thornton Academic Courses (34 units)

- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3

- MUCO 133b Theory I Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 141b Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 305a Advanced Jazz Theory Units: 2
- MUJZ 305b Advanced Jazz Theory Units: 2
- MUJZ 350g A History of Jazz Music Units: 4

One course from the following:

- MPPM 350g A History of Popular Music Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Select 2 units from the following:

- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MUCO 338x Elementary Orchestration Units: 2

Electives (11 units)

Capstone Projects

Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp) (BM)

Overview

All USC Thornton undergraduate programs in classical performance and composition combine a rigorous foundation of the finest conservatory training with curricular flexibility for students to chart their own artistic pathways. All curricular components are designed to support students in creating a distinctive musical voice and preparing for a fulfilling musical career.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Projects

Young Artist Project

During the junior and senior years of the program, students develop and fully realize unique individualized, mentored projects related to their work as classical musicians. This could involve developing a hybrid performance, conducting original research, exploring new creative technologies, or applying creative expression to a pressing social issue.

Recitals

A junior and senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recitals, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recitals, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements For Violin, Viola and Violoncello Majors

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (16 units)

- MPST 153 Individual Instruction Units: 1 or 2
  4 units total of MPST 153 in your primary instrument
- MPST 253 Individual Instruction Units: 1 or 2
  4 units total of MPST 253 in your primary instrument
- MPST 353 Individual Instruction Units: 1 or 2
  4 units total of MPST 353 in your primary instrument
- MPST 453 Individual Instruction Units: 1 or 2
  4 units total of MPST 453 in your primary instrument

Ensembles (16 units)

- MUEN 320 USC Symphony Units: 1 **
  8 units total of MUEN 320
- MUEN 327 String Chamber Music Units: 1
  8 units total of MUEN 327

Program Intensive (8 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2

- MPST 472 Orchestra Repertoire--Strings Units: 2
  4 units total of MPST 472

Electives (20 units)

Contemporary Division Electives (4 units)

Select 4 units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2
  Junior Recital: 0 units
  Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Required each semester in residence*

Curriculum Requirements For Double Bass Majors

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (20 units)

- MPST 153 Individual Instruction Units: 1 or 2
  4 units total of MPST 153 (Double Bass)
- MPST 253 Individual Instruction Units: 1 or 2
  4 units total of MPST 253 (Double Bass)
- MPST 353 Individual Instruction Units: 1 or 2
  4 units total of MPST 353 (Double Bass)
- MPST 453 Individual Instruction Units: 1 or 2
  4 units total of MPST 453 (Double Bass)
  Select 4 units from the following:
- MPEM 301 Individual Instruction Units: 1, 2
- MPPM 301 Individual Instruction Units: 1, 2
- MUJZ 301 Individual Instruction Units: 1, 2

Ensembles (12 units)

- MUEN 320 USC Symphony Units: 1 **
  8 units total of MUEN 320
- MUEN 327 String Chamber Music Units: 1
  4 units total of MUEN 327

Program Intensive (8 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2
- MPST 472 Orchestra Repertoire--Strings Units: 2
  Select 2 units from the following:
- THTR 419 Alexander Technique for Performers Units: 2
- Any course from DANC 181 - 189

Electives (20 units)

Contemporary Division Electives (4 units)

Select 4 units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2
  Junior Recital: 0 units
  Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Required each semester in residence*

Curriculum Requirements For Harp Majors

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (40 units)

Individual Instruction (16 units)

- MPST 153 Individual Instruction Units: 1 or 2
  4 units total of MPST 153 (Harp)
- MPST 253 Individual Instruction Units: 1 or 2
  4 units total of MPST 253 (Harp)
- MPST 353 Individual Instruction Units: 1 or 2
  4 units total of MPST 353 (Harp)
- MPST 453 Individual Instruction Units: 1 or 2
  4 units total of MPST 453 (Harp)

Ensembles (12 units)

- MUEN 320 USC Symphony Units: 1 **
  8 units total of MUEN 320
- MUEN 327 String Chamber Music Units: 1
  4 units total of MUEN 327

Program Intensive (6 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2

Select 2 units from the following:

- THTR 419 Alexander Technique for Performers Units: 2
  Any course from DANC 181 - 189

Music Electives (6 units)

Electives (20 units)

Contemporary Division Electives (4 units)

Select 4 units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (16 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2
  Junior Recital: 0 units
  Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Required each semester in residence*

Performance (Vocal Arts) (BM)

Overview

All USC Thornton undergraduate programs in classical performance and composition combine a rigorous foundation of the finest conservatory training with curricular flexibility for students to chart their own artistic pathways. All curricular components are designed to support students in creating a distinctive musical voice and preparing for a fulfilling musical career.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

USC's General Education program, revised in fall 2015, provides a coherent, integrated approach to the study of the liberal arts, with the goal of nurturing habits of thought that are essential for professional success, personal development, and meaningful lifelong learning. Eight courses are required in six Core Literacies, in addition to two courses in Global Perspectives, two courses in Writing, and one General Education Seminar taken during the first year at USC. With careful planning, certain courses (including courses required for the music major) can fulfill more than one of these general education requirements. Academic advisers in the Thornton School carefully guide Thornton students in making their course choices. This typically will result in Thornton students taking a total of eight courses (including two writing courses) in order to fulfill all of the USC general education requirements.

Capstone Projects

Young Artist Project

During the junior and senior years of the program, students develop and fully realize unique individualized, mentored projects related to their work as classical musicians. This could involve developing a hybrid performance, conducting original research, exploring new creative technologies, or applying creative expression to a pressing social issue.

Recitals

A junior and senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recitals, including content, length, format, and other specifications. In cases in which a performance venue is required

in order to present the recitals, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Core Thornton Academic Courses (36 units)

- MUCD 348 Instrumental Conducting and Orchestration Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 496 Careers in Music Units: 2

Program Specific Courses (44 units)

Individual Instruction (18 units)

- MPVA 153 Individual Instruction Units: 1 or 2
  4 units total of MPVA 153 (Voice)
- MPVA 253 Individual Instruction Units: 1 or 2
  4 units total of MPVA 253 (Voice)
- MPVA 353 Individual Instruction Units: 1 or 2
  4 units total of MPVA 353 (Voice)
- MPVA 453 Individual Instruction Units: 1 or 2
  4 units total of MPVA 453 (Voice)
- MPVA 301 Individual Instruction Units: 1, 2
  2 units total of MPVA 301 (Vocal Coaching)

Ensembles (4 units)

MUEN Choral Ensemble at the 300-level: four 1-unit courses

Program Intensive (22 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPVA 203a Acting for Singers I Units: 2
- MPVA 260 Italian Language and Diction Units: 4
- MPVA 261 French Language and Diction Units: 4
- MPVA 262 German Language and Diction Units: 4
- MPVA 404 Word and Music in Opera Units: 2
- MPVA 438 Foundations of Vocology Units: 2
- MPVA 479 Song Literature Units: 2

Electives (16 units)

Contemporary Division Electives (4 units)

Select 4 units from the Contemporary Division

Courses include those listed below or others, in consultation with your chair and the Contemporary Division:

- MPGU 145 Guitar Proficiency for the Pop Guitarist Units: 2
- MPGU 150 Functional Skills for the Popular Guitarist Units: 2
- MPPM 120 Popular Music Performance I Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MUIN 272x Basics of the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 255 Songwriting I Units: 2

General Electives (12 units)

Capstone Projects (4 units)

- MUSC 480 Young Artist Project I Units: 2
- MUSC 481 Young Artist Project II Units: 2
  Junior Recital: 0 units
  Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Minor

Jazz Studies Minor

This 21-unit minor program in jazz studies incorporates course work in individual instruction, the history of jazz masters, techniques of jazz improvisation and jazz theory for improvisers. The minor is not available to BM jazz studies majors.

Requirements for admission are: GPA per university regulations and an audition.

Required Courses (19 units)

- MUCO 130ax Basics of Music Theory Units: 3
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 301 Individual Instruction Units: 1, 2
  4 units total of MUJZ 301 in your primary instrument
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 250gmw The Music of Black Americans Units: 4

Select 4 units from the following:

- MUEN 305 Vocal Jazz Ensemble Units: 1
- MUEN 326 Guitar Ensemble Units: 1
- MUEN 329 Jazz Ensemble Units: 1
- MUEN 332 Jazz Chamber Music Units: 1

Music Electives (2 units)

Music courses numbered 300–499 (2 units total)

Total units: 21

Music Industry Minor

A minor in the music industry is offered for undergraduate students to provide them with the background necessary to enter varied fields in the music business and to familiarize them with standard practices and procedures. A minimum of 20 units is required for completion of this minor. The minor is not available to music industry majors.

Prerequisite

Acceptance into the program might require a personal interview by the Thornton School of Music.

Students admitted to this minor will be expected to have a minimum GPA of 2.0 and to maintain that average with no grade lower than a "C" for all courses taken in the minor.

Required Courses

- MUIN 272x Basics of the Music Industry Units: 4

Select 4 units from the following:

- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4
- MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies Units: 2
- MUSC 424 Iconic Figures of Popular Music Units: 2
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Select 12 units from the following:

- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MUIN 280 Communications in the Music Industry Units: 4
- MUIN 370 Music Publishing and Licensing Units: 2
- MUIN 372 Business and Legal Aspects of the Music Industry Units: 4
- MUIN 410 Marketing, Branding and Strategic Alliances in Music Units: 2
- MUIN 420 DIY Music Marketing Units: 2
- MUIN 425 Live Music Production and Promotion Units: 4
- MUIN 430 Artist Management and Development Units: 4
- MUIN 443 The Business of Music for Visual Media Units: 4
- MUIN 444 Music Supervision Units: 4
- MUIN 495 Web Design for the Music Industry Units: 4
- MUIN 497 Current Topics, Case Studies, and Analysis Units: 2

Total units: 20

Music Production Minor

A successful career in the 21st century music industry often requires that musicians be the songwriter, performer, producer and/or audio engineer on any given project. The minor in Music Production allows students to develop the creative, collaborative and technical skills required to compose, arrange and produce for contemporary music projects.

Prerequisite

Acceptance into the program might require a personal interview by the Thornton School of Music to assure that the student has sufficient musical background and skill.

Students admitted to this minor will be expected to have a minimum GPA of 2.0 and to maintain that average with no grade lower than a "C" for all courses taken in the minor.

Required Courses

- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 277x Introduction to Music Technology Units: 4 *
- MUCO 130ax Basics of Music Theory Units: 3
- MUSC 255 Songwriting I Units: 2

Select 8 units from the following:

- MTEC 378 Introduction to Mixing and Mastering Units: 2
- MTEC 443 Desktop Music Production Units: 2
- MTEC 444 Non-Linear MIDI Sequencing Units: 2
- MTEC 445 Advanced Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4 (2 units total)
- MTEC 474b Electronic Synthesizer Techniques Units: 2, 3, 4 (2 units total)
- MTEC 478 Advanced Multichannel Remix Units: 2
- MUSC 355 Songwriting II Units: 2
- MUCO 338x Elementary Orchestration Units: 2
- SCOR 403 Introduction to Scoring Movies and Television Units: 2 **
- SCOR 405 Introduction to Scoring Video Games Units: 2 **

Note:

**Music Industry majors can substitute MTEC 175 and MTEC 176 for MTEC 277.*

***Courses have prerequisites*

Total Units: 19

Music Recording Minor

A minor in music recording is offered for undergraduate students to provide them with the background necessary to enter the field of audio engineering and to familiarize them with the standards and techniques used in audio recording, editing, mixing and mastering.

Prerequisite

Acceptance into the program might require a personal interview by the Thornton School of Music to assure that the student has sufficient musical background and skill.

Students admitted to this minor will be expected to have a minimum GPA of 2.0 and to maintain that average with no grade lower than a "C" for all courses taken in the minor.

Students must apply for this minor, and admission is based on successful completion of MTEC 277x. Generally, students who earn a B or better in this course and have a GPA of 2.0 or higher are admitted. Declared engineering (ENGR) majors with a GPA of 3.0 or higher may be admitted before completing MTEC 277x .

Required Courses

- MTEC 275 Fundamentals of Audio Engineering Units: 4
- MTEC 277x Introduction to Music Technology Units: 4 *
- MTEC 446a Computer Assisted Recording and Editing Units: 2

8 units from the following:

- MTEC 378 Introduction to Mixing and Mastering Units: 2
- MTEC 389 Digital Equipment and Recording Units: 2
- MTEC 392a Acoustics and Speaker Design Units: 2
- MTEC 430 Advanced Instrumental Recording Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 477 Remote Recording Techniques Units: 2
- MTEC 478 Advanced Multichannel Remix Units: 2
- MTEC 479 Audio Mastering Units: 2
- MTEC 491 The Recording Console Units: 4
- MTEC 493 Audio Signal Processing Equipment Units: 2
- MUIN 340 Introduction to Sound Reinforcement Units: 4

Total units: 18

** Music Industry majors can substitute MTEC 175 and MTEC 176 for MTEC 277x.*

Musical Studies Minor

This 18-unit program in musical studies, with an emphasis in performance, incorporates the study of music theory, music history, performance, and ensembles. Students may enter the program in their freshman year. An audition is required for this minor, which is not available to music majors.

Required Courses

- MUCO 130ax Basics of Music Theory Units: 3
- MUCO 130bx Basics of Music Theory Units: 3
- MUEN 300–499

- MUSC 115gp Western Music as Sounding History Units: 4
- Individual Instruction at the 301 level

Total Units: 18

Musical Theatre Minor

The minor in musical theatre, interdisciplinary in nature, is a 21-unit program incorporating the study of acting, dance or movement, vocal arts and related musical subjects. Admission to the minor requires an audition for music but not for theatre.

Required Courses (13 units)

- MPVA 402 Musical Theatre Workshop I Units: 3
- MPVA 412 Musical Theatre Workshop II Units: 3
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- THTR 343 Musical Theatre Audition Units: 3

Select 8 units from the following: *

- DANC 175 Choreography for the Screen Units: 2
- DANC 181–189
- MPVA 301 Individual Instruction Units: 1, 2
- THTR 101 Introduction to Acting Units: 4
- THTR 216 Movement for Actors Units: 2
- THTR 252a Intermediate Acting I: Drama/Comedy Units: 2
- THTR 252b Intermediate Acting I: Drama/Comedy Units: 2
- THTR 316 Advanced Movement for Actors Units: 2
- THTR 352a Intermediate Acting II Units: 2
- THTR 352b Intermediate Acting II Units: 2

Total units: 21

**Note for dance, music and theatre majors: dance majors must select 8 units in music and/or theatre, music majors must select 8 units in dance and/or theatre, and theatre majors must select 8 units in dance and/or music. Exception: Theatre majors may select THTR 216 and/or THTR 316 as part of the 8-unit requirement.*

Popular Music Studies Minor

This minor consists of courses that examine different aspects of popular music. The minor focuses on the study of the repertories and their cultural and social context. Students must be in good academic standing to be admitted. No previous musical experience is required.

Course Requirements (16 units total)

Choose 16 units from the following:

- MUSC 102gw World Music Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4
- MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies Units: 2
- MUSC 424 Iconic Figures of Popular Music Units: 2
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Songwriting Minor

The minor in songwriting incorporates practical instruction in the craft of songwriting and in performance skills, instruction in the technology relevant to songwriting, and critical studies in the relevant repertories.

Requirements for admission: Those who are considering this program should enroll in MUSC 255 Songwriting I. Admission will be based on songwriting ability and potential as determined by the songwriting faculty.

Required Courses (16 units)

- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MUCO 130ax Basics of Music Theory Units: 3
- MUCO 130bx Basics of Music Theory Units: 3
- MUSC 255 Songwriting I Units: 2
- MUSC 355 Songwriting II Units: 2
- MUSC 455 Songwriting III: The Performing Songwriter Units: 2

Choose one course from the following:

- MTEC 443 Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2

Choose 4 units from the following:

- COMM 306 Innovation, Entertainment, and the Arts Units: 4
- COMM 307 Sound Clash: Popular Music and American Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 440 Music as Communication Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4
- MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies Units: 2
- MUSC 424 Iconic Figures of Popular Music Units: 2
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Total units: 20

Diploma

Artist Diploma Program

This program is designed for young artists of exceptional ability and musical sensitivity who plan careers as solo performers. The Artist Diploma Program provides young artists with the opportunity to devote their full time to concentrated study and practice for the duration of their assigned programs.

Entrance Requirements

Following the recommendation of the student's major department, a performance audition, consisting of a full-length recital before the Artist Diploma Committee, is required.

Curriculum Requirements

A minimum of 16 units at the 754 level (from MPEM, MPGU, MPKS, MPST, MPVA or MPWP) and four full-length recitals are required. This program requires four consecutive semesters of study for completion.

Master's Degree

Arts Leadership (MS)

Overview

USC's Arts Leadership program (ARTL) is a flexible, multi-disciplinary graduate program for artists, arts administrators and cultural entrepreneurs who want to expand their personal vision and develop the ability to create a life and a career in the

nonprofit arts. The curriculum is appropriate for both early and mid-career individuals engaged in any or multiple arts disciplines, who recognize that the rapidly changing world of the 21st century requires an innovative approach to arts leadership. The program is highly individualized, allowing students to design the course of study that is most appropriate for them and their career aspirations.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the Practicum. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Science degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Capstone

A practicum project is required as the capstone for the Master of Science in Arts Leadership. Students will conceptualize, develop and complete an arts project of his or her own choosing to pursue in conjunction with the course work. The practicum project will be centered around a complex leadership challenge that resonates both for the student's particular artistic circumstances and for the field of arts leadership.

Curriculum Requirements

Program Intensive Courses (11 units)

- ARTL 500 Arts Leadership and Arts Entrepreneurship Units: 2
- ARTL 501 Executive Leadership in the Arts Units: 2
- ARTL 502 Issues in the Arts and the Contemporary World Units: 2
- ARTL 503 Arts Organizations: Innovation and New Models Units: 2
- ARTL 504 Arts and the Community: Current Practice and New Visions Units: 2
- ARTL 520 Arts Leadership Intensive Units: 1

Field Experience Courses (4 units)

Select 4 units from the following:

- ARTL 512 Essentials of Orchestra Management Units: 2
- ARTL 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- ARTL 598 Internship for Arts Leadership Units: 1, 2, 3, 4

Elective Concentration Courses (12 units)

Students will select a topic area of concentration related to their interests. Relevant courses will be chosen from around the University in consultation with and approved by the Arts Leadership Program Director in conjunction with appropriate department chairs and directors.

Suggested topic areas include but are not limited to:

- Curatorial
- Organizational Communication
- Globalization and the Arts
- Diversity, Equity and Inclusion in the Arts
- Art and Technology
- Organizational Management
- Cultural Entrepreneurship
- Art and Social Change

Capstone Project (4 units)

- ARTL 510 Arts Leadership Practicum Units: 2
  4 units total of ARTL 510

Total Units: 31

Choral Music (MM)

Overview

The MM in choral music consists of course work in choral conducting, choral music seminars, choral literature, choral development, music history, and vocal arts. The program culminates with a graduate recital.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Master's Recital

One public recital is required of all candidates for the Master of Music degree (Choral Music), as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique. A final oral examination in choral literature, conducting and rehearsal techniques will be administered by the choral music faculty.

Curriculum Requirements

Keyboard Proficiency

A keyboard proficiency test will be given by the choral faculty during the student's first semester in residence to determine if additional study in keyboard is required.

Lessons (2 units)

- MPVA 501 Individual Instruction Units: 1 or 2
  VO (2 units total)

Music Ensembles (2 units)

- Ensemble Units: 2 units total*

Program Intensive Courses (16 units)

- MUCD 541 Choral Conducting III Units: 2
  (6 units total)
- MUCM 440 Choral Development Units: 2
- MUCM 541 Choral Literature I Units: 2
- MUCM 542 Choral Literature II Units: 2
- MUCM 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
  (2 units total)
- MUCM 641 Choral Literature III Units: 2

Core Thornton Academic Courses (10 units)

- MUCD 443 Instrumental Conducting II Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL Electives at 500 level Units: 4 units total
  Choose one course from the following:
- MPVA 541 Advanced Vocology Units: 2 **
- MPVA 542 Vocal Pedagogy Teaching Practicum Units: 2

Capstone Projects (0 units)

- Graduate recital Units: 0
- Comprehensive review Units: 0

Total units: 30

**Choral music majors must participate in a choral ensemble chosen from* MUEN 510 *or* MUEN 512 *each semester if enrolled for 4 or more units.*

***Courses with similar content in MPVA 541 taken at another institution may be substituted, subject to Vocal Arts departmental approval. Consult with the Vocal Arts and Sacred Music departments to finalize substitution approval and/or course placement.*

Community Music (MM)

Overview

The Master of Music in Community Music is for musicians with a commitment to developing the necessary skills and best understandings of music teaching and learning in community settings. The program will build upon music preparation from the undergraduate level with course work designed to nurture skills in community music teaching, program development, professional practice, scholarship and research. With the wide range of courses available, the program can be tailored for a variety of student goals. This degree provides an academic link to the rich music learning opportunities available through community programs in urban Los Angeles and, in particular, to the Thornton Community Engagement Programs.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including a capstone and comprehensive review. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering this graduate-level degree program at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the USC Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Capstone and Comprehensive Review

A final project is required for candidates as a capstone for the Master of Music in Community Music. The project will consist of a scholarly document written on a topic approved by the Music Teaching and Learning department. Candidates must also submit a comprehensive portfolio of representative work product consistent with their work in classes and in the field.

Guidance Committee

Before registering for MTAL 592, a student must establish a guidance committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the guidance committee directly supervises the preparation of the project. The final acceptance of the project and portfolio is based upon the unanimous recommendation of all three members of the committee.

Curriculum Requirements

Program Intensive Courses (minimum of 22 units)*

- MTAL 500 Research Foundations in Music Teaching and Learning Units: 3
- MTAL 535 Community Engagement Through Music Units: 2
- MTAL 537 Community Engagement Models and Frameworks in Music Units: 1
- MTAL 538 Music in the Community, Program Development and Evaluation Units: 2
- MTAL 607 Alternative Models in Music Teaching and Learning Units: 2

Select two courses from the following:

- ARTL 503 Arts Organizations: Innovation and New Models Units: 2
- MTAL 502 Sociological Foundations of Music Teaching and Learning Units: 3

- MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning Units: 3
- MTAL 721 Qualitative Research in Music Teaching and Learning Units: 3

Select a minimum of three courses from the following:**

- MTAL 470 Improvisation and Composition for Teaching and Learning Units: 2
- MTAL 475 Teaching and Learning: Children Units: 2
- MTAL 476 Teaching and Learning: Youth Units: 2
- MTAL 480 Contemporary Pedagogy, Small Instrumental Ensembles Units: 3 ***
- MTAL 481 Contemporary Pedagogy, Larger Instrumental Ensembles Units: 3 ***
- MTAL 482 Contemporary Pedagogy, Vocal and General Music Units: 2 ***
- MTAL 615 Assessment and Reflective Practice Units: 2

Applied Music (4 units)

Select four units from the following areas of musical study: Courses in songwriting, arranging, composition, improvisation, conducting; individual instruction (lessons); or ensemble. Courses must be at the 500-level.

Capstone and Comprehensive Review (4 units)

- MTAL 589 Community Music Practicum Units: 2
- MTAL 592 Final Project Units: 2
- Comprehensive Review Units: 0

Total Units: Minimum of 30****

**Students must select courses accordingly to complete a minimum of 22 units from the Program Intensive Courses.*
***Courses may be chosen from this list or in consultation with faculty in the Music Teaching and Learning department.*
****A maximum of two of these courses may be selected.*
*****A minimum of 30 units are needed to complete the degree*

Composition (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Composition

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in composition or theory.

Curriculum Requirements

- Ensemble Units: 2 units total
- MUHL 570 Research Materials and Techniques Units: 2
- Electives at the 500 level in MUHL or MUCO
- Individual instruction 501 in any performance medium (MPxx 501) or applicable MTEC or MUCD instruction Units: 4 units total
- MUCO 537 Advanced Composition I Units: 1 or 2 (8 units total)
- MUCO 592 Selected Topics in Graduate Composition Units: 2
- MUCO 536 Advanced Orchestration I Units: 1, 2, 3, 4 (2 units total)
- Electives Units: 4 units total
- Graduate recital Units: 0
- Comprehensive review Units: 0
- MM composition portfolio Units: 0

Total units: 30

Conducting (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution

that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Conducting

Prerequisite

The applicant must hold a bachelor's degree with a music major and have at least one year of experience conducting an orchestra.

Curriculum Requirements

- MUCD 550 Orchestral Conducting Seminar Units: 2 (8 units total)
- Ensemble (preferably chamber music) Units: 4 units total
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 575 Music of the Baroque Era Units: 2
- MUHL 591 Seminar in Baroque Repertories and Performance Practice Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

One course from

- MUHL 573 Music of the Middle Ages Units: 2, 2 years
- MUHL 574 Music of the Renaissance Units: 2
- MUHL 576 Music of the Classical Period Units: 2, 2 years
- MUHL 577 Music of the 19th Century Units: 2, 2 years or
- MUHL 578 Music since 1900 Units: 2

Total units: 30

Contemporary Teaching Practice (MM)

Overview

The Master of Music in Contemporary Teaching Practice is designed as an intensive program and places special emphasis on urban settings. The overall goal of this degree is to provide a credential path for graduate music students who wish to teach in public and private schools in California and other states. The program will build on the students' undergraduate preparation in music (including music theory, aural skills, keyboard skills, music history and performance education including playing, singing, conducting and ensemble work) by adding courses in music teaching and learning and general education. Special course work in music in the lives of children and youth, contemporary teaching methods, music composition/improvisation, research and assessment, and community and entrepreneurial engagement will highlight the degree. Certain courses will include extensive field experiences in the schools. Attention will be paid to children with special needs and English Language Learners (ELL), as mandated by the state of California. Finally, as a special opportunity, newly conferred students in this degree will have the ability to access monthly online mentoring sessions with USC faculty. This opportunity will be available in the first year of teaching, after the degree has been conferred.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Unit and Grade Requirements

Students must complete at least 30 semester units at USC, including the comprehensive review. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exam

All students entering this graduate-level degree program at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Comprehensive Review

Candidates for the Master of Music in Contemporary Teaching Practice must submit a comprehensive portfolio of music teaching experiences consistent with their work in class and in the field. This portfolio is reviewed by faculty in the department.

Curriculum Requirements

Program Intensive Courses (24 units)

- MTAL 470 Improvisation and Composition for Teaching and Learning Units: 2
- MTAL 475 Teaching and Learning: Children Units: 2
- MTAL 476 Teaching and Learning: Youth Units: 2
- MTAL 480 Contemporary Pedagogy, Small Instrumental Ensembles Units: 3
- MTAL 481 Contemporary Pedagogy, Larger Instrumental Ensembles Units: 3
- MTAL 482 Contemporary Pedagogy, Vocal and General Music Units: 2
- MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning Units: 3
- MTAL 535 Community Engagement Through Music Units: 2
- MTAL 588 Guided Practice Units: 3
- MTAL 615 Assessment and Reflective Practice Units: 2

Courses from USC Rossier School of Education (10 units)

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3

Comprehensive Review (0 units)

Proficiencies (0 units)

- Certification in music for children with special needs
- Competency playing test in snare drum, drum set, acoustic and electric guitar, and electronic keyboard
- Competency playing test in flute, clarinet, trumpet, trombone, violin, and cello
- Competency singing test in vocal technique

Total Units: 34

Additional Note:

Information for Certification:

California has a two-tier credential structure. A five-year preliminary credential is the first credential issued after an individual meets basic credential requirements. A clear credential is issued when all credential requirements have been completed. Upon successful completion of the MM, CTP degree candidates are recommended for a Preliminary credential. Internships and Induction programs that lead to clear credentials are currently satisfied under the purview of your district of employment.

All Preliminary Credential teacher candidates must meet the following requirements in order to be recommended/endorsed for a teaching credential: Basic Skills Competency, successful completion of all MM, CTP course work, evidence of successful completion and passing of the edTPA (Teaching Performance Assessment) and verification of training in cardiopulmonary resuscitation (CPR) that covers infant, child and adult CPR skills.

Early Music Performance Emphasis (MA)

Overview

This degree is under the jurisdiction of the Graduate School. Students should also refer to The Graduate School section of this catalogue for general regulations.

Departmental Requirements

Applicants will be evaluated on the basis of transcripts of previous college courses, a research paper and letters of reference.

Regular (classified) standing is achieved when the Music Graduate Entrance Examinations have been completed satisfactorily. Remedial course work, if recommended, may be substituted for repetition of examinations.

Language Requirement

Students are required to demonstrate a reading knowledge by passing an examination in one foreign language chosen by the student from among French, German, Italian or Latin. This requirement must be passed prior to the comprehensive examination.

Prerequisites

Applicants should have an undergraduate degree with a major in music or the equivalent, and a substantial background in languages, arts and letters.

Master of Arts in Music, Early Music Performance Emphasis

Curriculum Requirements

- MUEN 550 Early Music Ensemble Units: 1 (3 units total)
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 572 Seminar in Historical Musical Notation Units: 2
- MUHL 574 Music of the Renaissance Units: 2
- MUHL 575 Music of the Baroque Era Units: 2
- MUHL 589 Seminar in Renaissance Repertories and Performance Practice Units: 2
- MUHL 591 Seminar in Baroque Repertories and Performance Practice Units: 2
- MUHL 594a Master's Thesis Units: 2
- MUHL 594b Master's Thesis Units: 2
- MPEM 450 Collegium Workshop Units: 1 (2 units total)
- MPEM 553 Individual Instruction Units: 1 or 2 (5 units total)
- Elective in music
- Electives in letters, arts and sciences

Total units: 32

The thesis will include the planning, research, preparation and leadership of a full-length program in early music. This practical work will be supported by a written essay that deals, as appropriate, with historical data sources, authentic performance practices and a stylistic assessment of the repertoire that is performed. In lieu of a comprehensive examination, candidates for the Early Music Performance Emphasis will be required to pass periodic reviews to demonstrate progress.

Jazz Studies (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course

at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Jazz Studies

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in jazz studies or its equivalent.

Curriculum Requirements

- MUEN 505 Vocal Jazz Ensemble Units: 1 or
- MUEN 529 Jazz Ensemble Units: 1 (4 units total)

- MUEN 532 Jazz Chamber Music Units: 1 (4)
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level

- MUJZ 443 Jazz Pedagogy Units: 2 or
- MUJZ 545 Jazz Ensemble Development Units: 2, 2 years

- MUJZ 547 Jazz Composition Units: 2
- MUJZ 553 Individual Instruction Units: 1 or 2 (8 units total)
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

Total units: 30

Music History and Literature Emphasis (MA)

Overview

This degree is under the jurisdiction of the Graduate School. Students should also refer to The Graduate School section of this catalogue for general regulations.

Departmental Requirements

Applicants will be evaluated on the basis of transcripts of previous college courses, a research paper and letters of reference.

Regular (classified) standing is achieved when the Music Graduate Entrance Examinations have been completed satisfactorily. Remedial course work, if recommended, may be substituted for repetition of examinations.

Language Requirement

Students are required to demonstrate a reading knowledge by passing an examination in one foreign language chosen by the student from among French, German, Italian or Latin. This requirement must be passed prior to the comprehensive examination.

Prerequisites

Applicants should have an undergraduate degree with a major in music or the equivalent, and a substantial background in languages, arts and letters.

Master of Arts in Music, Music History and Literature Emphasis

Core Thornton Academic Courses (8 units)

- MUHL 570 Research Materials and Techniques Units: 2

Select 6 units from the following:

- MUHL 579 Studies in Music History Units: 4
- MUHL courses numbered 600-699

Program Intensive Courses (16 units)

- Courses in history, language, literature or the arts other than music: 8 units total
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2

Select 8 units from the following:

- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL courses numbered 500-699

Electives (6 units)

Capstone Project (0 units)

- Comprehensive Examination: 0 units

Total Units: 30

Music Industry (MS)

Overview

The Master of Science in Music Industry program aims to produce the next generation of music industry leaders via a comprehensive yet student-tailored education. Class topics include copyright, concerts, artist management, marketing data and analysis, and a one-semester internship. Additionally, students have four emphasis track options including music performance, supervision, the business of touring/live event promotion, and entrepreneurship.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 32 semester units at USC, including the portfolio. A grade point average of not less than 3.0 (A = 4.0) is required for all USC courses. Students who transfer credits must achieve this average on all combined transferred and resident units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that

degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Science degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Portfolio Requirement

A portfolio, as capstone to a two-semester immersion into a student-led music campaign, is required for graduation. The Music Industry faculty will provide students with additional details for this requirement.

Curriculum Requirements

Program Intensive Courses (27 units)

- MUIN 510 The Music Industry: Careers, Rights and Income Streams Units: 4
- MUIN 511 Music Industry History: Entrepreneurs, Moguls and Catalogs Units: 2
- MUIN 512 The Management of Live Performances Units: 2
- MUIN 520 Artist Management: Campaign Planning, Pitching, Partnerships Units: 2
- MUIN 521 Music Industry/Producers Forum Units: 1
- MUIN 522 Music Marketing, Branding and Campaigns Units: 3
- MUIN 523 Survey/Analysis of Music Agreements Units: 4
- MUIN 530 Mentorship Units: 1
- MUIN 540 Artist Management: Campaign Execution and Hindsight Analysis Units: 2
- MUIN 541 Data Analytics: Music Marketing Decisions and Presentations Units: 2
- MUIN 542 Developing Copyright Laws and Business Models Units: 3
- MUIN 598 Internship Units: 1

Core Business Fundamentals Course (3 units)

- GSBA 520 Business Fundamentals for Non-Business Professionals Units: 3, 4

Select one Emphasis Option from the following and complete a minimum of 5 units from the emphasis (minimum 5 units)

Emphasis Option 1: Business of Live Promotion/Touring

- MUIN 515 Live Touring Strategy Units: 2
- MUIN 525 Concert Promotion, Venue Management and Event Planning Units: 3

Emphasis Option 2: Music Supervision and Visual Media

- CTPR 410 The Movie Business: From Story Concept to Exhibition Units: 2
- MUIN 526 Music Supervision, Production and Creative Licensing Units: 3

Emphasis Option 3: Performance*

- MUEN at the 500 level: 2 units total
- Courses in music at the 400 or 500 level: 3 units total

Emphasis Option 4: Entrepreneurship

- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 475 Entertainment Entrepreneurship Units: 2
- BAEP 555 Founder's Dilemmas: Anticipate and Avoid Startup Pitfalls Units: 3
- BAEP 556 Technology Feasibility Units: 3
- BAEP 563 Corporate Entrepreneurship Units: 3

Portfolio Requirement (0 units)

Portfolio: 0 units

Total Units: Minimum of 35

** Subject to Thornton audition/acceptance*

Performance (Classical Guitar) (MM)

Overview

The MM in classical guitar is a two-year, 30-unit program consisting of individual instruction, ensembles, Baroque music, guitar history, music history and electives. Two graduate recitals are required.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Master's Recitals

Two public recitals are required of all candidates for the Master of Music degree (Classical Guitar), as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Classical Guitar)

Prerequisite

The applicant must hold a bachelor's degree with a major in music with guitar as the principal instrument.

Curriculum Requirements

Core Thornton Academic Courses (6 units)

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level: 2 units total

Individual Instruction (8 units)

- MPGU 553 Individual Instruction Units: 1 or 2
  8 units total of MPGU 553 (Classical Guitar)

Ensembles (4 units)

- MUEN 526 Guitar Ensemble Units: 1
  2 units total of MUEN 526
- MUEN Ensemble Electives at the 500-level: 2 units total

Program Intensive Courses (8 units)

- MPGU 417 Classical Guitar Pedagogy Units: 2
- MPGU 426 Classical Guitar History and Literature Units: 2
- MPGU 427 Advanced Topics in Classical Guitar History and Literature Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2

Electives (4 units)

Capstone Projects (0 units)

- Two Graduate Recitals: 0 units
- Comprehensive Review: 0 units

Total units: 30

Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in a wind instrument or percussion or equivalent.

Curriculum Requirements

- MUCD 443 Instrumental Conducting II Units: 2
- MUEN 523 University Wind Ensemble Units: 1 (4 units total)
- MUEN 525 Wind and Percussion Chamber Music Units: 1 (4 units total)
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level

- MPWP 481 Interpretation of Baroque Music Units: 2 or
- MPWP 482 Interpretation of Classic, Romantic, and 20th Century Wind and Percussion Music Units: 2

- MPWP 551 Individual Instrument Performance Class III Units: 1 (2 units total)
- MPWP 553 Individual Instruction Units: 1 or 2 (8 units total)
- Graduate recital Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Keyboard Collaborative Arts) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music,

and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Keyboard Collaborative Arts)

Prerequisite

Applicants must hold the Bachelor of Music degree with a major in piano or keyboard collaborative arts or equivalent background as determined by the collaborative arts faculty. It is strongly suggested that students who have not previously taken courses in Italian, French, English and German diction, or in song literature, enroll in the appropriate course(s) (MPVA 440, MPVA 441, MPVA 479) as part of their electives.

Curriculum Requirements

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level
- MPKS 481 Interpretation of Baroque Music Units: 2
- MPKS 553 Individual Instruction Units: 1 or 2 CP (8 units total)
- MPKS 560 Song Interpretation Master Class Units: 2
- MPKS 561 Chamber Music Interpretation Master Class Units: 2
- Electives in music
- Two graduate recitals, one with voice(s), the other with instrument(s) Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Organ) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final

semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Organ)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in organ or equivalent.

Curriculum Requirements

- Ensemble
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level
- MPKS 481 Interpretation of Baroque Music Units: 2
- MPKS 553 Individual Instruction Units: 1 or 2 or (8 units total)
- Music electives (at least two from the 500 level)
- Electives
- Graduate recital Units: 0
  Comprehensive review Units: 0

Total units: 30

Performance (Piano) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Piano)

Prerequisite

The applicant must hold a Bachelor of Music degree in piano or equivalent.

Curriculum Requirements

- Ensemble
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives at 500 level Units: 6
- MPKS 553 Individual Instruction Units: 1 or 2 P (8)
- MPKS 450a Piano Pedagogy: Intermediate Literature and Functional Skills Units: 2
- MPKS 520 Special Studies in Solo Repertoire for Piano Units: 2 (6 units total)
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Studio Guitar) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music

teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Studio Guitar)

Prerequisite

The applicant must hold a bachelor's degree with a major in music with guitar as the principal instrument.

Curriculum Requirements

- MUEN 526 Guitar Ensemble Units: 1 (2 units total)
- Electives
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level
- MPGU 553 Individual Instruction Units: 1 or 2 SG (8 units total)
- MPGU 558 Advanced Studio Guitar Performance Class Units: 1 (4 units total)
- Music electives
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp) (MM)

Overview

The MM in violin, viola, violoncello, double bass or harp performance is a two-year, 30-unit program consisting of individual instruction, ensembles, conducting, Baroque music, music history and electives. A graduate recital is required.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Master's Recital

One public recital is required of all candidates for the Master of Music degree (Violin, Viola, Violoncello, Double Bass or Harp), as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Violin), (Viola), (Violoncello) or (Harp)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in a string instrument or equivalent.

Curriculum Requirements For Violin, Viola, Violoncello and Harp Majors

Core Thornton Academic Courses (8 units)

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level: 4 units total

Individual Instruction (8 units)

- MPST 553 Individual Instruction Units: 1 or 2
  8 units total of MPST 553 in your primary instrument

Ensembles (8 units)

- MUEN 520 USC Symphony Units: 1
  4 units total of MUEN 520
- MUEN 527 String Chamber Music Units: 1
  4 units total of MUEN 527

Program Intensive Courses (4 units)

- MPKS 481 Interpretation of Baroque Music Units: 2
- MUCD 443 Instrumental Conducting II Units: 2

Music Electives (2 units)

Music electives: 2 units total

Capstone Projects (0 units)

- Graduate Recital: 0 units
- Comprehensive Review: 0 units

Total Units: 30

Master of Music in Performance (Double Bass)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in a string instrument or equivalent.

Curriculum Requirements For Double Bass Majors

Core Thornton Academic Courses (8 units)

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level: 4 units total

Individual Instruction (8 units)

- MPST 553 Individual Instruction Units: 1 or 2
  8 units total of MPST 553 (Double Bass)

Ensembles (6 units)

- MUEN 520 USC Symphony Units: 1
  4 units total of MUEN 520
- MUEN 527 String Chamber Music Units: 1

Select one unit from the following:

- MUEN 525 Wind and Percussion Chamber Music Units: 1
- MUEN 527 String Chamber Music Units: 1
- MUEN 530 Contemporary Music Ensemble Units: 1
- MUEN 550 Early Music Ensemble Units: 1

Program Intensive Courses (4 units)

- MPKS 481 Interpretation of Baroque Music Units: 2
- MUCD 443 Instrumental Conducting II Units: 2

Music Electives (4 units)

Music electives: 4 units total

Capstone Projects (0 units)

- Graduate Recital: 0 units
- Comprehensive Review: 0 units

Total Units: 30

Performance (Vocal Arts) (MM)

Overview

The MM in vocal arts performance is a two-year, 30-unit program consisting of individual instruction, ensembles, cantata and oratorio, pedagogy, vocal literature, music history and electives. A graduate recital is required.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Master's Recital

One public recital is required of all candidates for the Master of Music degree (Vocal Arts), as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Vocal Arts)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in vocal arts. Students who have not had formal training in foreign language, diction, vocal pedagogy, acting for singers, song literature and in Italian, French or German languages must show competency in these areas through examination or complete appropriate course work with a grade of B or higher.

Curriculum Requirements

Lessons (8 units)

- MPVA 553 Individual Instruction Units: 1 or 2
  8 units total of MPVA 553 (Voice)

Music Ensembles (2 units)

500 level Music Ensemble (two 1-unit courses)

Program Intensive Courses (6 units)

- MPVA 443 Cantata and Oratorio Units: 2, 2 years
- MPVA 540 Special Studies in Vocal Literature Units: 2
- MPVA 541 Advanced Vocology Units: 2

Core Thornton Academic Courses (4 units)

- MUHL 570 Research Materials and Techniques Units: 2

MUHL Electives at the 500 level (2 units total)

Electives (10 units)

Electives in music at the 400 or 500 level (6 units total)

Electives in non-music or music at the 400 or 500 level (4 units total)

Capstone Projects

Graduate Recital (0 units)

Comprehensive Review (0 units)

Total Units: 30

Comprehensive Review

A final examination in vocal pedagogy, art song and oratorio literature and diction will be administered by the vocal arts faculty. Students are required to write extensive program notes for the degree recital.

USC Opera

USC Opera is an integral part of the Vocal Arts Department, providing career development opportunities for singers, coach/pianists, conductors and directors. The program includes instruction in opera history and literature, coaching techniques, stage direction, body movement for singers, stage training, role study and analysis.

The opera workshop is a repertory experience involving preparation and performance of operatic works and excerpts for performance both on and off the USC campus.

Sacred Music (MM)

Overview

The MM in sacred music consists of course work in sacred music, choral conducting, choral literature, choral development, music history, and vocal arts. The program culminates with a graduate recital or project.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Master's Recital/Project

Students majoring in Sacred Music must complete a recital or a project, as approved by the department. Candidates completing the recital must perform one public recital. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance. Candidates completing the project must work with the department to determine the details for this requirement.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique. A final oral examination in sacred music and related areas will be administered by the sacred and choral music faculty.

Curriculum Requirements

Keyboard and Voice Proficiency

Proficiency tests in keyboard and voice will be given by the choral and sacred music faculty during the student's first semester in residence to determine if additional study in either medium is required.

Lessons (2 units)

Take 2 units from the following:

- MPKS 501 Individual Instruction Units: 1 or 2 ** (PI or OR)
- MPVA 501 Individual Instruction Units: 1 or 2 **

Music Ensembles (2 units)

- Ensemble Units: 2 units total*

Program Intensive Courses (20 units)

- MSCR 571 Music of the Great Liturgies Units: 2
- MSCR 572 Sacred Music Administration Units: 2
- MSCR 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2 units total)
- MUCD 541 Choral Conducting III Units: 2 ** (4 units total)
- MUCM 440 Choral Development Units: 2 **
- MUCM 541 Choral Literature I Units: 2 **
- MUCM 542 Choral Literature II Units: 2 **

Choose one course from the following:

- MSCR 473 Hymnology Units: 2
- MSCR 475 Introduction to Jewish Music Units: 2

Choose one course from the following:

- MSCR 474 The Organ in Worship and Congregational Life Units: 2
- MPVA 541 Advanced Vocology Units: 2 ***
- MPVA 542 Vocal Pedagogy Teaching Practicum Units: 2

Core Thornton Academic Courses (4 units)

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives at the 500 level Units: 2 units total

Electives (2 units)

Capstone Projects (0 units)

- Graduate recital or project Units: 0
- Comprehensive review Units: 0

Total units: 30

**Sacred music majors must participate in a choral ensemble chosen from* MUEN 508, MUEN 510, MUEN 511 *or* MUEN 512 *each semester if enrolled for 4 or more units.*

***In some cases, MUHL 500-level courses and/or private instruction in organ, piano, voice or guitar may be substituted for* MUCM 440, MUCM 541, MUCM 542 *and* MUCD 541. *In some cases, instruction in guitar or another instrument may be substituted for* MPKS 501 *or* MPVA 501.

****Courses with similar content in MPVA 541 taken at another institution may be substituted, subject to Vocal Arts departmental approval. Consult with the Vocal Arts and Sacred Music departments to finalize substitution approval and/or course placement.*

Screen Scoring (MM)

Overview

This two-semester master's program focuses on the art and craft of composing, orchestrating, programming, conducting, producing, recording, mixing, editing, copying and integrating

music for screen-based media, including motion pictures, television programming, video games, Internet fare and other new visual media. Classes are also offered in technology, entrepreneurialism and the business of making movies.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the portfolio. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Portfolio Requirement

A portfolio of multiple original manuscript scores for films and/or games, along with screening copies containing audio tracks, is required for graduation. The scoring faculty will provide students with additional details for this requirement.

Curriculum Requirements

Individual Instruction (4 units)

- SCOR 502 Individual Instruction in Advanced Screen Scoring Units: 1, 2
  4 units total of SCOR 502

Program Intensive Courses (32 units)

- CTPR 473 Spotting Music for Cinema Units: 2
- SCOR 503a Advanced Scoring for Motion Pictures and Television Units: 2
- SCOR 503b Advanced Scoring for Motion Pictures and Television Units: 2
- SCOR 504a Orchestral Scoring Units: 2
- SCOR 504b Orchestral Scoring Units: 2
- SCOR 505a Advanced Game Scoring and Integration Units: 2
- SCOR 505b Advanced Game Scoring and Integration Units: 2
- SCOR 506 Applied Techniques in Contemporary Scoring Units: 2
- SCOR 507 Studio Conducting and Contemporary Score Analysis Units: 2
- SCOR 511a History of Film Scoring Units: 2
- SCOR 511b History of Film Scoring Units: 2
- SCOR 512 Entrepreneurialism for the Screen Composer Units: 2
- SCOR 521a Recording, Mixing and Editing for the Screen Composer Units: 2
- SCOR 521b Recording, Mixing and Editing for the Screen Composer Units: 2
- SCOR 523a Advanced Screen Scoring Technology Units: 2
- SCOR 523b Advanced Screen Scoring Technology Units: 2

Portfolio Requirement

Portfolio: 0 units

Total Units: 36

Teaching and Learning (MM)

Overview

The goal of this professional degree is to prepare the student for an advanced level of pre-college teaching and leadership in the music education profession by developing core knowledge and expertise in pedagogical skills and scholarship. It provides a seamless transition into the DMA in Teaching and Learning, with most units being transferable to the DMA requirements.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the capstone. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Capstone and Guidance Committee

A thesis or final project is required for candidates as a capstone for the Master of Music in Teaching and Learning. The thesis will consist of a research document written on a topic approved by the Music Teaching and Learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis or 590 and 592 (for the project option), a student must establish a guidance committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the guidance committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Curriculum Requirements

Applied Music (4 units)

4-units total are to be earned by choosing from the following: Individual Instruction (lessons); courses in conducting, composition or arranging; or ensemble. Individual instruction and ensembles must be at the 500 level. Conducting, composition and arranging courses must be at the 400 or 500 level.

Program Intensive Courses (11 units)

- MTAL 500 Research Foundations in Music Teaching and Learning Units: 3
- MTAL 505 Teaching and Learning Music Units: 2

Two courses from the following:

- MTAL 501 Historical Foundations of Music Education Units: 3
- MTAL 502 Sociological Foundations of Music Teaching and Learning Units: 3
- MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning Units: 3
- MTAL 504 Psychological Foundations of Music Units: 3

Core Thornton Academic Courses (8 units)

MUHL electives at the 500 level: two 2-unit courses

One course from the following:

- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2

One course from the following:

- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2

Electives in music at the 400 or 500 level (3 units)

Comprehensive Review (0 units)

Capstone Project (4 units)

Choose one group from the following:

- MTAL 594a Master's Thesis Units: 2

and

- MTAL 594b Master's Thesis Units: 2

Or

- MTAL 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

(2 units total of MTAL 590) and

- MTAL 592 Final Project Units: 2

Total units: 30

Graduate Certificate

Arts Leadership Graduate Certificate

Certificate in Arts Leadership (ARTL)

The graduate program in arts leadership is a two-semester certificate program for artists, arts administrators and cultural workers of all types to develop the skills necessary to become successful leaders in the arts and arts organizations in a rapidly changing and radically altered contemporary world. The program is based in the Thornton School of Music, but it is designed to be applicable for artists/students engaged in any of the arts disciplines who want to develop their leadership skills in the hybrid and holistic environment of the contemporary arts. The program is highly individualized and deeply student centered in its approach, with simultaneous emphases on research, discovery, theory and current practice. With strong faculty mentorship and guidance from the director of the program and other working professionals in the field, students explore the dimensions of the most current issues and ideas while developing specific real-world applications of these ideas to their own practice as artists and leaders.

The program consists of a minimum of 18 units which can be completed in two semesters. The program begins with a 2-unit gateway course (ARTL 500), which introduces the students to the varied, complex and contentious issues in the arts and arts leadership that currently exist in the contemporary arts world. From this experience, students will develop a life plan that examines their own career and life trajectory for the next several years, providing a guidepost for their own personal development in arts leadership. Students will take four core courses including ARTL 501, which focuses on a deep understanding and application of the challenges of executive leadership in the arts and ARTL 502, which looks at major environmental trends affecting the arts and how that impacts the student's leadership role in the arts. Essential to all of these courses is developing the ability to think, speak and write critically about the arts in the contemporary world, key components of strong arts leadership. There is also a two semester practicum, ARTL 510, in which the student creates, develops and completes an actual arts leadership project of his or her own choosing, supported by faculty mentorship and the cohort of other practicum students.

Admission to the program is by application, reviewed and approved by the director of the program. Admission to the practicum requires a project proposal to be created by the student and approved by the director of the program.

Core Courses

- ARTL 500 Arts Leadership and Arts Entrepreneurship Units: 2
- ARTL 501 Executive Leadership in the Arts Units: 2
- ARTL 502 Issues in the Arts and the Contemporary World Units: 2
- ARTL 503 Arts Organizations: Innovation and New Models Units: 2
- ARTL 504 Arts and the Community: Current Practice and New Visions Units: 2
- ARTL 510 Arts Leadership Practicum Units: 2 (2 semesters) (4 units total)

Total units: 14

Select a Minimum of 4 Units From the Following Courses*

- MUIN 570 The Music Industry Units: 4
- PAS 561 Curatorial/Organizational Models Units: 2
- PAS 571 Histories of Art in the Public Sphere Units: 3
- PAS 572 Contemporary Art in the Public Sphere Units: 3
- PAS 585 Theorizing the Public Realm Units: 3
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 687 Strategic Management in the Nonprofit Sector Units: 4 **
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Total units: 4

**Courses may be chosen from this list or in consultation with the Director of Arts Leadership.*

***Prerequisite:* PPD 675 *and* PPD 689

Minimum total units: 18

Performance Graduate Certificate

This two-year graduate-level program is designed for students who have completed their undergraduate education in music, or its equivalent, and intend to concentrate their energies on the full-time development of their discipline.

Entrance Requirements

A performance audition is required with repertory to be determined by the student's primary department.

Curriculum Requirements

The requirements for this program consist of 16 units of Graduate Certificate Performance (4 units per semester of MPEM 554, MPGU 554, MPKS 554, MPST 554, MPVA 554, MPWP 554 or MUJZ 554). Graduate Certificate Performance encompasses individual instruction, studio class and two ensembles or the equivalent as appropriate to the discipline.

Doctoral Degree

Choral Music (DMA)

Overview

The DMA in Choral Music consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.ed*u.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula

that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Admission to Candidacy

For the DMA in Choral Music, admission to candidacy occurs after the student has passed the comprehensive examination, upon formal action of the dean of the Thornton School. The dissertation must be completed *after* admission to candidacy.

Doctoral Dissertation

A dissertation based on original investigation and/or creative work is required of candidates in Composition, Music Teaching and Learning and Choral Music. The dissertation must reveal scholarly ability, technical mastery, capacity for independent research and originality in creative thought.

Dissertation Committee

After the guidance committee recommends admission to candidacy and approves the dissertation topic, the committee is reduced to three members. This smaller committee shall be the dissertation committee and will guide the student through the completion of the dissertation. Additional members may be added at the discretion of the chair of the committee if the topic requires special expertise.

Registration for Dissertation

The student must register in 794 Dissertation each semester after admission to candidacy until degree requirements (including the dissertation) are completed. Registration for 794 in no less than two regular semesters following admission to candidacy entitles the candidate to supervision by the dissertation committee. If the dissertation is not completed and accepted within two semesters, the candidate must register for 794 each semester thereafter until the document has been accepted. No more than 8 units of credit in 794 may be accumulated regardless of the number of semesters the candidate may be required to register.

A candidate who must withdraw temporarily from registration in 794 for a semester must report this in writing to the Thornton doctoral adviser before the beginning of that semester. As part of that report, the candidate must also petition for a formal leave of absence. During a leave of absence the candidate will not be entitled to assistance from his or her dissertation committee or to the use of university services and facilities. A leave of absence will be granted only under exceptional circumstances.

Format for Theses and Dissertations

All dissertations submitted for requirements for graduate degrees must conform to university regulations in format and method of preparation. See the USC Graduate School's guidelines for Theses and Dissertations.

Abstract of Dissertation

Since the abstract of the dissertation is published in Dissertation Abstracts International, it should be written with care and be representative of the final draft of the dissertation.

Defense of the Dissertation

After meeting all requirements including the comprehensive examination, the candidate must defend the dissertation. This defense takes place in order for the committee to determine whether the dissertation should be approved or rejected. While this oral defense is open to the general university community, only the members of the dissertation committee have the authority to recommend its acceptance or rejection. The recommendation must be unanimous in order for the dissertation to be approved.

At least seven weeks before the scheduled date of the defense of the dissertation, written approval by all members of the candidate's dissertation committee, along with a typed copy of the dissertation abstract, must be filed with the doctoral adviser of the Thornton School of Music.

A candidate may defend the dissertation on the basis of an approved preliminary copy. If the defense is satisfactory and the committee is satisfied with the manuscript as presented, the committee then signs the Approval to Submit Defended and Final Copy of the Doctoral Work form. If additional work is required, the form is left unsigned until the work has been approved.

The final electronic PDF copy of the dissertation, together with signed signature sheet and approval forms, must be presented to the Thesis Editor in the USC Graduate School by the Graduate

School's submission date and times. Approval of format and acceptance by the Graduate School must be presented to the doctoral adviser of the Thornton School of Music at least one week before the end of the semester.

Curriculum Requirements for Choral Music Major

A keyboard proficiency test will be given by the choral faculty during the student's first semester in residence to determine if additional study in keyboard is required.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MUCD 441 Choral Conducting II Units: 2 *
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MTAL 505 Teaching and Learning Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction, Ensembles and Performance Classes (10 units)

- Ensemble (500 level; choral music majors must participate in a choral ensemble each semester if enrolled for 4 or more units) Units: 2 units total
- MUCD 541 Choral Conducting III Units: 2
  4 units total of MUCD 541
- MUCD 641 Choral Conducting IV Units: 2
- MUCD 653 Performance Units: 1 or 2
  2 units total of MUCD 653

Program Intensive Courses (12 units)

- MSCR 571 Music of the Great Liturgies Units: 2
- MUCM 440 Choral Development Units: 2 **
- MUCM 541 Choral Literature I Units: 2 **
- MUCM 542 Choral Literature II Units: 2 **
- MUCM 641 Choral Literature III Units: 2
- MUCO 441 Choral Arranging Units: 1, 2
  2 units total of MUCO 441

Electives to Fulfill the Academic Field and Two Elective Fields (19 units)

Comprehensive Examinations (0 units)

Examinations that include the major area, one academic field and two elective fields.

Conduct two principal choral concerts; at least one of which will include instrumental ensemble (0 units)

Capstone Project (4 units)

- MUCM 794a Doctoral Dissertation Units: 2
- MUCM 794b Doctoral Dissertation Units: 2

Total units: 65

**Choral music majors are not required to take* MUCD 441.
***May be taken as part of the master's degree.*

Composition (DMA)

Overview

The DMA in Composition consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the USC Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Admission to Candidacy

For the DMA in Composition, admission to candidacy occurs after the student has passed the comprehensive examination,

upon formal action of the dean of the Thornton School. The dissertation must be completed *after* admission to candidacy.

Doctoral Dissertation

A dissertation based on original investigation and/or creative work is required of candidates in Composition, Music Teaching and Learning and Choral Music. The dissertation must reveal scholarly ability, technical mastery, capacity for independent research and originality in creative thought.

Dissertation Committee

After the guidance committee recommends admission to candidacy and approves the dissertation topic, the committee is reduced to three members. This smaller committee shall be the dissertation committee and will guide the student through the completion of the dissertation. Additional members may be added at the discretion of the chair of the committee if the topic requires special expertise.

Registration for Dissertation

The student must register in 794 Dissertation each semester after admission to candidacy until degree requirements (including the dissertation) are completed. Registration for 794 in no less than two regular semesters following admission to candidacy entitles the candidate to supervision by the dissertation committee. If the dissertation is not completed and accepted within two semesters, the candidate must register for 794 each semester thereafter until the document has been accepted. No more than 8 units of credit in 794 may be accumulated regardless of the number of semesters the candidate may be required to register.

A candidate who must withdraw temporarily from registration in 794 for a semester must report this in writing to the Thornton doctoral adviser before the beginning of that semester. As part of that report, the candidate must also petition for a formal leave of absence. During a leave of absence the candidate will not be entitled to assistance from his or her dissertation committee or to the use of university services and facilities. A leave of absence will be granted only under exceptional circumstances.

Format for Theses and Dissertations

All dissertations submitted for requirements for graduate degrees must conform to university regulations in format and method of preparation. See the USC Graduate School's guidelines for Theses and Dissertations.

Abstract of Dissertation

Since the abstract of the dissertation is published in Dissertation Abstracts International, it should be written with care and be representative of the final draft of the dissertation.

Defense of the Dissertation

After meeting all requirements including the comprehensive examination, the candidate must defend the dissertation. This defense takes place in order for the committee to determine whether the dissertation should be approved or rejected. While this oral defense is open to the general university community, only the members of the dissertation committee have the authority to recommend its acceptance or rejection. The recommendation must be unanimous in order for the dissertation to be approved.

At least seven weeks before the scheduled date of the defense of the dissertation, written approval by all members of the candidate's dissertation committee, along with a typed copy of the dissertation abstract, must be filed with the doctoral adviser of the Thornton School of Music.

A candidate may defend the dissertation on the basis of an approved preliminary copy. If the defense is satisfactory and the committee is satisfied with the manuscript as presented, the committee then signs the Approval to Submit Defended and Final Copy of the Doctoral Work form. If additional work is required, the form is left unsigned until the work has been approved.

The final electronic PDF copy of the dissertation, together with signed signature sheet and approval forms, must be presented to the Thesis Editor in the USC Graduate School by the Graduate School's submission date and times. Approval of format and acceptance by the Graduate School must be presented to the doctoral adviser of the Thornton School of Music at least one week before the end of the semester.

Curriculum Requirements for Composition Major

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction, Ensembles and Performance Classes (8 units)

- MUCO 637 Advanced Composition II Units: 1, 2
- 4 units total of MUCO 637
- MUCO 737 Advanced Composition III Units: 1 or 2
- 4 units total of MUCO 737

Program Intensive Courses (8 units)

- MUCO 536 Advanced Orchestration I Units: 1, 2, 3, 4
- 2 units total of MUCO 536
- MUCO 592 Selected Topics in Graduate Composition Units: 2
- 4 units total of MUCO 592
- MUCO 636 Advanced Orchestration II Units: 1 or 2
- 2 units total of MUCO 636

Electives to Fulfill the Academic Field and Two Elective Fields (25 units)

Comprehensive Examinations (0 units)

Examinations that include the major area, one academic field and two elective fields.

Graduate Recital (0 units)

Capstone Project (4 units)

- MUCO 794a Doctoral Dissertation Units: 2
- MUCO 794b Doctoral Dissertation Units: 2

Total units: 65

Jazz Studies (DMA)

Overview

The DMA in Jazz Studies consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is

required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer,

composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Jazz Studies Major

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction, Ensembles and Performance Classes (12 units)

- MUEN 532 Jazz Chamber Music Units: 1
- 4 units total of MUEN 532
- MUJZ 653 Performance Units: 1 or 2
- 8 units total of MUJZ 653

Program Intensive Courses (12 units)

- MUJZ 443 Jazz Pedagogy Units: 2
- MUJZ 545 Jazz Ensemble Development Units: 2, 2 years
- MUJZ 547 Jazz Composition Units: 2
- 4 units total of MUJZ 547
- MUJZ 688 Special Topics in Jazz Performance Units: 2
- 4 units total of MUJZ 688

Electives to Fulfill the Academic Field and Two Elective Fields (21 units)

Comprehensive Examinations (0 units)

Examinations that include the major area, one academic field and two elective fields.

Recitals (0 units)

- Two recitals of original compositions and arrangements written while in the DMA program Units: 0
- Lecture-recital in conjunction with an appropriate research project Units: 0

Total units: 65

Music, Historical Musicology Emphasis, (PhD)

The Doctor of Philosophy degree with a major in music is granted by the Graduate School. Candidates for the PhD in music should also refer to the Graduate School section of this catalogue for general regulations.

A substantial background in music and liberal arts is required. Graduate course requirements for the PhD are adapted to the needs and research interests of the individual student. A minimum of 60 post-baccalaureate units is required.

Foreign Language Requirements

Students are required to demonstrate a reading knowledge by passing an examination in German and one other foreign language chosen by the student from among French, Italian or Latin. With the permission of the chair of the qualifying exam committee, a foreign language relevant to the dissertation may be chosen in place of French, Italian or Latin. The language requirement for the MA degree may be applied toward the PhD Doctoral language requirements should be passed as early as possible, but, at latest, during the fourth semester of course work.

Screening Procedure

Before the completion of 24 units of graduate work at USC and with the approval of the department chair, students must be interviewed by the curriculum committee of the School of Music. Continuance in course work will be contingent upon approval of the committee. PhD candidates in musicology who did not receive an MA degree from USC must take the MA comprehensive examination in historical musicology prior to the interview. Continuance in course work will be contingent upon passing these examinations.

Historical Musicology Emphasis

Requirements

- MUHL 570 Research Materials and Techniques Units: 2

Courses selected from:

- MUHL 579 Studies in Music History Units: 4
- MUHL 600–699

Total units: 12

Electives in history, language, literature or arts other than music

Total units: 8

Courses drawn from:

- MUHL 500–699
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2

Total units: 10

Electives in music, letters, arts and sciences

Total units: 24

Dissertation

- MUHL 794a Doctoral Dissertation Units: 2
- MUHL 794b Doctoral Dissertation Units: 2

Total units: 4

Total units: 60

Performance - Organ, Percussion or Winds (DMA)

Overview

The DMA in Performance - Organ, Percussion or Winds consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.ed*u.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an

elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major - Organ, Percussion or Winds

It is the objective of the performance curriculum to combine high standards of performance with intellectual accomplishments appropriate to a university degree. Candidates electing this major must present at least four major public appearances: two solo recitals and two other appropriate appearances. The exact format, content and scheduling of the four appearances are the responsibility of the candidate's faculty advisers for the major field of study.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction (12 units)

- Individual instruction 653 (take organ, percussion or winds for a maximum of 12 units): 12 units total in your primary instrument

Electives to Fulfill the Academic Field and Two Elective Fields (33 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Two solo recitals and two other appropriate performances Units: 0

Total Units: 65

Majors in percussion and winds must participate in a large ensemble each semester if enrolled in 4 or more units.

Performance - Violin, Viola, Violoncello, Double Bass or Harp (DMA)

Overview

The DMA in Performance - Violin, Viola, Violoncello, Double Bass or Harp consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.ed*u.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton

doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major - Violin, Viola, Violoncello or Harp

It is the objective of the performance curriculum to combine high standards of performance with intellectual accomplishments appropriate to a university degree. Candidates electing this major must present at least four major public appearances: two solo recitals and two other appropriate appearances. The exact format, content and scheduling of the four appearances are the responsibility of the candidate's faculty advisers for the major field of study.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction (12 units)

- MPST 653 Performance Units: 1 or 2
  12 units total of MPST 653 in your primary instrument

Ensembles (4 units)

- MUEN 527 String Chamber Music Units: 1
  4 units total of MUEN 527

Electives to Fulfill the Academic Field and Two Elective Fields (29 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Two solo recitals and two other appropriate performances Units: 0

Total Units: 65

Majors in strings must participate in a large ensemble each semester if enrolled in four or more units.

Curriculum Requirements for Performance Major - Double Bass

It is the objective of the performance curriculum to combine high standards of performance with intellectual accomplishments appropriate to a university degree. Candidates electing this major must present at least four major public appearances: two solo recitals and two other appropriate appearances. The exact format, content and scheduling of the four appearances are the responsibility of the candidate's faculty advisers for the major field of study.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction (12 units)

- MPST 653 Performance Units: 1 or 2
  12 units total of MPST 653 (Double Bass)

Electives to Fulfill the Academic Field and Two Elective Fields (33 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Two solo recitals and two other appropriate performances Units: 0

Total Units: 65

Majors in strings must participate in a large ensemble each semester if enrolled in four or more units.

Performance - Vocal Arts (DMA)

Overview

The DMA in Performance - Vocal Arts consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the USC Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students

will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major - Vocal Arts

It is the objective of the performance curriculum to combine high standards of performance with intellectual accomplishments appropriate to a university degree. Candidates electing this major must present at least four major public appearances: two solo recitals and two other appropriate appearances. The exact format, content and scheduling of the four appearances are the responsibility of the candidate's faculty advisers for the major field of study.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction (12 units)

- MPVA 653 Individual Instruction Units: 1 or 2
  12 units total of MPVA 653 (Voice)

Program Intensive Courses (2 units)

- MPVA 541 Advanced Vocology Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (31 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Two solo recitals and two other appropriate performances Units: 0

Total Units: 65

Performance — Classical Guitar (DMA)

Overview

The DMA in Classical Guitar consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital

is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Classical Guitar

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction (12 units)

- MPGU 653 Performance Units: 1 or 2
- 12 units total of MPGU 653 (Classical Guitar)

Ensembles (2 units)

- MUEN 626 Guitar Ensemble Units: 1
  2 units total of MUEN 626

Program Intensive Courses (8 units)

- MPGU 417 Classical Guitar Pedagogy Units: 2
- MPGU 426 Classical Guitar History and Literature Units: 2
- MPGU 427 Advanced Topics in Classical Guitar History and Literature Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (23 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

Four recitals in total: Two solo recitals (one mixed program and one thematic program), one chamber music recital, and one lecture-recital Units: 0

Total units: 65

Performance — Early Music (DMA)

Overview

The DMA in Early Music consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to

serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Early Music

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total *
- Ensemble Units: 2 units total

Note

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction, Ensembles and Performance Classes (16 units)

- MPEM 650 Collegium Directing Units: 2
- 4 units total of MPEM 650
- MPEM 653 Performance Units: 1 or 2
- 8 units total of MPEM 653
- MUEN 650 Early Music Ensemble Units: 1
- 4 units total of MUEN 650

Program Intensive Courses (6 units)

- MUHL 572 Seminar in Historical Musical Notation Units: 2
- MUHL 589 Seminar in Renaissance Repertories and Performance Practice Units: 2
- MUHL 591 Seminar in Baroque Repertories and Performance Practice Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (23 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Four graduate recitals: two as soloist and ensemble director, one lecture-recital, and one recital of the student's choice Units: 0

Total units: 65

**Must include* MUHL 574 *and* MUHL 575.

Performance — Keyboard Collaborative Arts (DMA)

Overview

The DMA in Keyboard Collaborative Arts consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the

comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Keyboard Collaborative Arts

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction (12 units)

- MPKS 653 Performance Units: 1 or 2
- 12 units total of MPKS 653

Program Intensive Courses (6 units)

- MPKS 481 Interpretation of Baroque Music Units: 2
- MPKS 560 Song Interpretation Master Class Units: 2
- MPKS 561 Chamber Music Interpretation Master Class Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (27 units)

Comprehensive Examinations (0 units)

Examinations, which include the major area, one academic field and two elective fields.

Recitals (0 units)

- Four doctoral level recitals; one with voice(s), one with instrument(s), one lecture recital, and other recital as approved Units: 0

Total units: 65

The exact format, content and scheduling of the four graduate recitals are the responsibility of the candidate's major professor.

Performance — Piano (DMA)

Overview

The DMA in Piano consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The

culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Piano

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MTAL 505 Teaching and Learning Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction (12 units)

- MPKS 653 Performance Units: 1 or 2
- 12 units total of MPKS 653

Program Intensive Courses (6 units)

- MPKS 520 Special Studies in Solo Repertoire for Piano Units: 2
- 6 units total of MPKS 520

Electives to Fulfill the Academic Field and Two Elective Fields (27 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Four graduate recitals: two solo recitals, one chamber recital, and one lecture-recital Units: 0

Total units: 65

Performance — Studio Guitar (DMA)

Overview

The DMA in Studio Guitar consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This

requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Studio Guitar

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Individual Instruction, Ensembles and Performance Classes (20 units)

- MPGU 558 Advanced Studio Guitar Performance Class Units: 1
- 4 units total of MPGU 558
- MPGU 653 Performance Units: 1 or 2
- 12 units total of MPGU 653
- MUEN 526 Guitar Ensemble Units: 1
- 4 units total of MUEN 526

Electives to Fulfill the Academic Field and Two Elective Fields (25 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Four doctoral recitals, one of which must be a lecture recital in conjunction with an appropriate research project Units: 0

Total units: 65

Sacred Music (DMA)

Overview

The DMA in Sacred Music consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (six units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any

academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to ten units are taken in the academic field. Six to eight units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Admission to Candidacy

For students pursuing the dissertation option, admission to candidacy occurs after the student has passed the comprehensive examination, upon formal action of the dean of the Thornton School. The dissertation must be completed *after* admission to candidacy. For students pursuing the project option, the project must also be completed *after* the student has passed the comprehensive examination.

Doctoral Project

The doctoral project must be approved by the department and may take the form of a lecture recital, a composition, a musical edition, or other appropriate creative endeavor. The doctoral project must reveal creative and scholarly ability, technical mastery, and must take a form relevant to the field. The evaluation of the doctoral project is made by the department in accordance

with Thornton School of Music practice in evaluation of capstone doctoral recitals.

Doctoral Dissertation

A dissertation based on original investigation and/or creative work is required of candidates in Composition, Music Teaching and Learning, and Choral Music. This also applies to Sacred Music candidates who pursue the dissertation option. The dissertation must reveal scholarly ability, technical mastery, capacity for independent research and originality in creative thought.

Dissertation Committee

After the guidance committee recommends admission to candidacy and approves the dissertation topic, the committee is reduced to three members. This smaller committee shall be the dissertation committee and will guide the student through the completion of the dissertation. Additional members may be added at the discretion of the chair of the committee if the topic requires special expertise.

Registration for Dissertation

The student must register in 794 Dissertation each semester after admission to candidacy until degree requirements (including the dissertation) are completed. Registration for 794 in no less than two regular semesters following admission to candidacy entitles the candidate to supervision by the dissertation committee. If the dissertation is not completed and accepted within two semesters, the candidate must register for 794 each semester thereafter until the document has been accepted. No more than 8 units of credit in 794 may be accumulated regardless of the number of semesters the candidate may be required to register.

A candidate who must withdraw temporarily from registration in 794 for a semester must report this in writing to the Thornton doctoral adviser before the beginning of that semester. As part of that report, the candidate must also petition for a formal leave of absence. During a leave of absence the candidate will not be entitled to assistance from his or her dissertation committee or to the use of university services and facilities. A leave of absence will be granted only under exceptional circumstances.

Format for Theses and Dissertations

All dissertations submitted for requirements for graduate degrees must conform to university regulations in format and method of preparation. See the USC Graduate School's guidelines for Theses and Dissertations.

Abstract of Dissertation

Since the abstract of the dissertation is published in Dissertation Abstracts International, it should be written with care and be representative of the final draft of the dissertation.

Defense of the Dissertation

After meeting all requirements including the comprehensive examination, the candidate must defend the dissertation. This defense takes place in order for the committee to determine whether the dissertation should be approved or rejected. While this oral defense is open to the general university community, only the members of the dissertation committee have the authority to recommend its acceptance or rejection. The recommendation must be unanimous in order for the dissertation to be approved.

At least seven weeks before the scheduled date of the defense of the dissertation, written approval by all members of the candidate's dissertation committee, along with a typed copy of the dissertation abstract, must be filed with the doctoral adviser of the Thornton School of Music.

A candidate may defend the dissertation on the basis of an approved preliminary copy. If the defense is satisfactory and the committee is satisfied with the manuscript as presented, the committee then signs the Approval to Submit Defended and Final Copy of the Doctoral Work form. If additional work is required, the form is left unsigned until the work has been approved.

The final electronic PDF copy of the dissertation, together with signed signature sheet and approval forms, must be presented to the Thesis Editor in the USC Graduate School by the Graduate School's submission date and times. Approval of format and acceptance by the Graduate School must be presented to the doctoral adviser of the Thornton School of Music at least one week before the end of the semester.

Curriculum Requirements for Sacred Music Major

Proficiency tests in both keyboard and voice will be given by the choral and sacred music faculty during the student's first semester in residence to determine if additional study in either area is required.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Ensembles (2 units)

- Music Ensemble at the 500-level: 2 units total*

Program Intensive Courses (6 units)

- MSCR 571 Music of the Great Liturgies Units: 2 **
- MSCR 572 Sacred Music Administration Units: 2 **

One course from the following:

- MSCR 474 The Organ in Worship and Congregational Life Units: 2
- MPVA 541 Advanced Vocology Units: 2 ***
- MPVA 542 Vocal Pedagogy Teaching Practicum Units: 2

Choose 4 units from the following:

- MSCR 473 Hymnology Units: 2
- MSCR 475 Introduction to Jewish Music Units: 2
- MUHL 550 Music and the Holocaust Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (25 units)****

Comprehensive Examinations (0 units)

Examinations, which include the major area, one academic field and two elective fields.

Capstone Project (8 units)

Choose one option from the following:

Dissertation Option:

- Individual Instruction at the 501 level (2 units total)
- MSCR 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2 units total)
- MSCR 794a Doctoral Dissertation Units: 2
- MSCR 794b Doctoral Dissertation Units: 2

Final Project Option:

- MSCR 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2 units total)
- MUCD 653 Performance Units: 1 or 2 (2 units total)
- Individual Instruction at the 501 level (4 units total)
- Lecture/Recital Units: 0

Total required for degree: 65

**Sacred music majors must participate in a choral ensemble chosen from* MUEN 508, MUEN 510, MUEN 511 *or* MUEN 512 *each semester if enrolled for 4 or more units.*

***If these courses have already been taken toward a Master of*

Music degree at USC, then 500-level MUHL courses or 500-level MUCO analysis courses should be substituted, on consultation with the Sacred Music faculty.
****Courses with similar content in MPVA 541 taken at another institution may be substituted, subject to Vocal Arts departmental approval. Consult with the Vocal Arts and Sacred Music departments to finalize substitution approval and/or course placement.*
*****Requires one elective field in a performance area.*

Teaching and Learning (DMA)

Overview

The DMA in Teaching and Learning consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

The DMA curriculum has been designed to extend beyond the public school setting and prepare students for collegiate teaching in both traditional and alternative settings (such as community-based and on-line programs). Further, the degree offers innovative courses on teaching at the college level. Students have the opportunity to intern with university professors in music education methodology classes. The program also includes core scholarly subjects, such as research, sociology, philosophy, psychology and history of music education. The focus goes beyond the traditional band/orchestra/choir model and extends to additional areas especially relevant to the current diverse and technologically proficient student population.

The professional degree stresses teaching with cutting-edge technological tools while developing core knowledge and expertise in pedagogical skills and scholarship. Students will acquire writing and design skills for a wide range of multimedia publications, while being able to pursue a choice of research activities or advanced creative work that will enable them to lead our profession to new heights. USC is one of the few universities that equally values students being able to declare elective fields in areas outside of music education, while also achieving rigorous scholarship, writing and multimedia design skills, and gaining pedagogical experience that prepares them for collegiate teaching in a rapidly changing society.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at *music.usc.edu*.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of a language other than English is required of all Thornton doctoral students. This requirement can be met in any of the following ways:

- Completion of a prior degree, as verified on an official transcript, from an accredited institution of higher education at which the primary language of instruction is a language other than English.
- Completion of at least three semesters of college-level language instruction in a language other than English, as verified on an official transcript, at an accredited institution of higher education.
- Completion of one or more USC language course(s) (in a language other than English) as approved by the Thornton School.
- Earning a passing score on a written examination (in a language other than English) as approved by the Thornton School.

Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled before entering the third semester in the program. Students who have engaged in extensive study of one or more languages other than English that does not meet this requirement as described above may request an exception.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music

Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination comprises a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

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If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Admission to Candidacy

For the DMA in Teaching and Learning, admission to candidacy occurs after the student has passed the comprehensive examination, upon formal action of the dean of the Thornton School. The dissertation must be completed *after* admission to candidacy.

Doctoral Dissertation

A dissertation based on original investigation and/or creative work is required of candidates in Composition, Music Teaching and Learning and Choral Music. The dissertation must reveal scholarly ability, technical mastery, capacity for independent research and originality in creative thought.

Dissertation Committee

After the guidance committee recommends admission to candidacy and approves the dissertation topic, the committee is reduced to three members. This smaller committee shall be the dissertation committee and will guide the student through the completion of the dissertation. Additional members may be added at the discretion of the chair of the committee if the topic requires special expertise.

Registration for Dissertation

The student must register in 794 Dissertation each semester after admission to candidacy until degree requirements (including the dissertation) are completed. Registration for 794 in no less than two regular semesters following admission to candidacy entitles the candidate to supervision by the dissertation committee. If the dissertation is not completed and accepted within two semesters, the candidate must register for 794 each semester thereafter until the document has been accepted. No more than 8 units of credit in 794 may be accumulated regardless of the number of semesters the candidate may be required to register.

A candidate who must withdraw temporarily from registration in 794 for a semester must report this in writing to the Thornton doctoral adviser before the beginning of that semester. As part of that report, the candidate must also petition for a formal leave of absence. During a leave of absence the candidate will not be entitled to assistance from his or her dissertation committee or to the use of university services and facilities. A leave of absence will be granted only under exceptional circumstances.

Format for Theses and Dissertations

All dissertations submitted for requirements for graduate degrees must conform to university regulations in format and method of preparation. See the USC Graduate School's guidelines for Theses and Dissertations .

Abstract of Dissertation

Since the abstract of the dissertation is published in Dissertation Abstracts International, it should be written with care and be representative of the final draft of the dissertation.

Defense of the Dissertation

After meeting all requirements including the comprehensive examination, the candidate must defend the dissertation. This defense takes place in order for the committee to determine whether the dissertation should be approved or rejected. While this oral defense is open to the general university community, only the members of the dissertation committee have the authority to recommend its acceptance or rejection. The recommendation must be unanimous in order for the dissertation to be approved.

At least seven weeks before the scheduled date of the defense of the dissertation, written approval by all members of the candidate's dissertation committee, along with a typed copy of the dissertation abstract, must be filed with the doctoral adviser of the Thornton School of Music.

A candidate may defend the dissertation on the basis of an approved preliminary copy. If the defense is satisfactory and the committee is satisfied with the manuscript as presented, the committee then signs the Approval to Submit Defended and Final Copy of the Doctoral Work form. If additional work is required, the form is left unsigned until the work has been approved.

The final electronic PDF copy of the dissertation, together with signed signature sheet and approval forms, must be presented to the Thesis Editor in the USC Graduate School by the Graduate School's submission date and times. Approval of format and acceptance by the Graduate School must be presented to the doctoral adviser of the Thornton School of Music at least one week before the end of the semester.

Curriculum Requirements for Teaching and Learning Major

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MTAL 505 Teaching and Learning Music Units: 2 *
- MUHL 570 Research Materials and Techniques Units: 2 **
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Program Intensive Courses (20 units)

- MTAL 500 Research Foundations in Music Teaching and Learning Units: 3
- MTAL 502 Sociological Foundations of Music Teaching and Learning Units: 3
- MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning Units: 3
- MTAL 607 Alternative Models in Music Teaching and Learning Units: 2
- MTAL 615 Assessment and Reflective Practice Units: 2
- MTAL 720 Quantitative Research in Music Teaching and Learning Units: 3
- MTAL 721 Qualitative Research in Music Teaching and Learning Units: 3
- MTAL 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- 1 unit total of MTAL 790

Electives within MTAL Department (6 units)***

Electives to Fulfill the Academic Field and Two Elective Fields (20 units minimum)****

Comprehensive Examinations (0 units)

Examinations include the major area, one academic field and two elective fields.

Capstone Project (4 units)

- MTAL 794a Doctoral Dissertation Units: 2
- MTAL 794b Doctoral Dissertation Units: 2

Total units: 68**

**Music Teaching and Learning students are required to take MTAL 605 instead of MTAL 505 in the basic DMA curriculum.*

***MTAL 500 satisfies the requirement of MUHL 570 in the basic DMA curriculum.*

****Electives within MTAL will be chosen in consultation with the department.*

*****It is possible for Music Teaching and Learning students to elect either the academic field or one of the elective field options from outside of the Thornton School. Possible options might include psychology, sociology, education, social work or statistics. These options must be approved by the Graduate Advisory Committee.*

USC School of Pharmacy

Founded in 1905, the USC School of Pharmacy is the oldest and foremost pharmacy school in Southern California. The school is a national leader known for its progressive curriculum and research excellence. Approximately 50 percent of the practicing pharmacists in Southern California are graduates of USC. The school has an average student body of 755 full-time students in the PharmD program and 417 students pursuing MS, PhD, DRSc and undergraduate degrees in pharmacology and toxicology, pharmaceutical sciences, health economics, regulatory science, healthcare decision analysis and biopharmaceutical marketing. There are 77 full-time faculty and more than 300 part-time and volunteer faculty at the school.

The school occupies state-of-the-art facilities on the USC Health Sciences Campus in metropolitan Los Angeles, adjacent to the Los Angeles County+USC Medical Center (one of the largest teaching hospitals in the country), the USC Norris Cancer Hospital and the Keck Hospital of USC. USC School of Pharmacy students receive clinical training at these facilities and many other affiliated hospitals, healthcare clinics, skilled nursing facilities, home healthcare agencies and pharmacies in the Southern California region.

Recognized as one of the most innovative schools of pharmacy, the USC School of Pharmacy serves as a model for other progressive schools. In 1950, USC was the first to establish a Doctor of Pharmacy program. Additional national "firsts" that distinguish the school include: first clinical pharmacy program (1968); first PharmD/MBA dual degree program (1988); first MS and PhD programs in pharmaceutical economics and policy (1994) and first professional doctorate in regulatory science (2008).

Consistently the top private pharmacy school nationwide, the school is a member of the American Association of Colleges of Pharmacy, and the PharmD program is accredited by the Accreditation Council for Pharmacy Education, 135 S. LaSalle Street, Suite 4100, Chicago, IL 60603-4810, phone: (312) 664-3575; fax: (312) 664-4652 or (312) 664-7008.

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pharmacyschool.usc.edu/apply/admission

Office of Graduate Affairs (PhD, MS)
(323) 442-1474
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Gavin Herbert Professorship in Pharmaceutical Sciences: Andrew MacKay, PhD
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Professors of Clinical Pharmacy: Melvin F. Baron, PharmD, MPA; Paul M. Beringer, PharmD; Steven Chen, PharmD; Daryl Davies, PhD; Julie A. Dopheide, PharmD; Kari L. Franson, PharmD, PhD; Stanley G. Louie, PharmD; Tien M.H. Ng, PharmD; Fred G. Weissman, PharmD, JD; Annie Wong-Beringer, PharmD
Associate Professors of Clinical Pharmacy: Melissa Durham, PharmD; Kevin L. Forrester, PharmD; Lisa W. Goldstone, PharmD; William C. Gong, PharmD; Cynthia L.L. Lieu, PharmD;

Emi Minejima, PharmD; Edith Mirzaian, PharmD; Dima M. Qato, PharmD, PhD, MPH; Irving Steinberg, PharmD; Fred G. Weissman, PharmD, JD
Assistant Professors of Clinical Pharmacy: Houda Alachkar, PharmD, PhD; Carla Blieden, PharmD; Amanda Burkhardt, PhD; Michelle Chu, PharmD; David Dadiomov, PharmD; Richard Dang, PharmD; Tatyana Gurvich, PharmD; Emily Han, PharmD; Connie Kang, PharmD; Kum Ja Lee, PharmD; Serghei Mangul, PhD; Scott Mosley, PharmD; Rory O'Callaghan-Kim, PharmD; Tam Phan, PharmD; Raffi Svadjian, PharmD, MBA; Patrick Tabon, PharmD; Ying Wang, PharmD; Paul J. Wong, PharmD; Maryann Wu, EdD
Research Professor: Jing Liang, MD, PhD
Research Assistant Professor of Clinical Pharmacy: Liana Asatryan, PhD

Department of Pharmaceutical and Health Economics
Professors of Pharmaceutical and Health Economics: Dana Goldman, PhD; Joel W. Hay, PhD; Darius N. Lakdawalla, PhD
Associate Professors of Pharmaceutical and Health Economics: Geoffrey Joyce, PhD; Grant D. Lawless, MD, RPh; Jeffrey S. McCombs, PhD; John Romley, PhD; Seth Seabury, PhD; Daniel Tomaszewski, PharmD, PhD; Ken S. Wong, PharmD, MPH
Assistant Professors of Pharmaceutical and Health Economics: William Padula, PhD; Erin Trish, PhD
Research Assistant Professors of Pharmaceutical and Health Economics: Bo Zhou, PhD; Steven Fox, MD

Department of Regulatory and Quality Sciences
Professor, Department of Regulatory and Quality Sciences: Frances J. Richmond, PhD
Associate Professor, Department of Regulatory and Quality Sciences: Eunjoo Pacifici, PharmD, PhD
Assistant Professors, Department of Regulatory and Quality Sciences: Susan Bain, DRSc; Terry David Church, DRSc; C. Benson Kuo, PhD; Nancy Pire-Smerkanich, DRSc

Programs

The School of Pharmacy offers curricula leading to the Doctor of Pharmacy (PharmD) and Doctor of Regulatory Science (DRSc) degrees and graduate degrees through the Graduate School including: Doctor of Philosophy (PhD) in Health Economics; and the PhD Programs in Pharmaceutical and Translational Sciences which is a one-year umbrella program after which students select one of the following three tracks to complete their PhD degree in Pharmaceutical Sciences, Molecular Pharmacology and Toxicology, or Clinical and Experimental Therapeutics. The School also offers Master of Science (MS) in Pharmaceutical Economics and Policy; Master of Science (MS) in Pharmaceutical Sciences; Master of Science (MS) in Molecular Pharmacology and Toxicology; Master of Science (MS) in Clinical and Experimental Therapeutics; Master of Science (MS) in Healthcare Decision Analysis; Master of Science (MS) in Biopharmaceutical Marketing; Master of Science (MS) in Regulatory Science; Master of Science (MS) in Regulatory Management; Master of Science (MS) in Management of Drug Development; and Master of Science (MS) in Medical Product Quality. Eight dual degree programs are also offered, including: PharmD/PhD, PharmD/JD, PharmD/MBA, PharmD/MPH, PharmD/MS in Regulatory Science, PharmD/MS in Gerontology, PharmD/MS in Global Medicine, PharmD/MS in Healthcare Decision Analysis, and a joint degree in Pharmaceutical Economics and Policy (PhD). Graduate certificates include clinical research design and management, food safety, healthcare decision analysis, medical product quality, preclinical drug development, patient and product safety, and regulatory and clinical affairs.

The School of Pharmacy also offers a Bachelor of Arts (BA) and a Bachelor of Science (BS) in Pharmacology and Drug Development; a Bachelor of Arts (BA) and a Bachelor of Science (BS) in Biopharmaceutical Sciences; and minors in Biopharmaceutical Business, Science and Management of Biomedical Therapeutics, and Foundation in Regulatory Sciences.

Doctor of Pharmacy (PharmD) Program

Admission Requirements for the Doctor of Pharmacy (PharmD) Program

Applicants should possess a bachelor's degree from an accredited college or university. A cumulative grade point average of 3.0 and a prerequisite grade point average of 3.0 or higher is strongly recommended. All students should complete the pre-requisite courses that are required by the USC School of Pharmacy before they start the program. An interview is mandatory and required of all students prior to admission. International students are required to complete the TOEFL and may request a virtual interview.

Acceptance criteria will be assessed on a case-by-case basis. The admission committee reviews each student holistically, taken all application materials and the interview process into consideration when making an admission decision. Along with being academically prepared, having the soft skills to communicate, problem solve, build relationships and show your ability to think critically are important characteristics to demonstrate.

Tuition and Fees (Estimated)

Tuition for the PharmD at USC School of Pharmacy degree programs is charged at a flat rate (which differs from standard USC tuition). See the Tuition and Fees section for fee information. These fees are subject to change.

Doctor of Pharmacy students must pay a $1,000 non-refundable acceptance deposit that is applicable toward tuition. For deposit information in other degree programs in the School of Pharmacy, please consult appropriate offices.

Honor Societies

Rho Chi

Theta chapter of Rho Chi, the academic honor society in pharmacy, was established at USC in 1925. Eligibility for membership is based on high attainment in scholarship, character, personality and leadership. All candidates selected for membership must have completed three semesters of the pharmacy program (or post-qualifying exam for PhD students), and they must be approved by the dean of the School of Pharmacy.

Phi Lambda Sigma

The Phi Lambda Sigma chapter was established at USC in 1988. This national pharmacy leadership society is devoted to identifying, supporting and recognizing the contribution of pharmacy students to their colleges, their classmates, their campuses, their communities and to their chosen profession.

Undergraduate Honors Program

The undergraduate honors in pharmacology and drug development (post code 1681) or biopharmaceutical sciences is awarded through successful completion of the senior capstone project. The project is a demonstration of knowledge in the student's chosen area of interest which results in a product/project, research data, research paper, or portfolio of work, and a presentation. This experience encourages students to use a variety of skills in the areas of writing, speaking, research, and documentation, which distinguishes them as scholars and future leaders in pharmacy. Students will register in RXRS/BPSI - 493, Senior Honors Seminar I and RXRS/BPSI - 494 Senior Honors Seminar II.

Student Housing and Service Facility, Health Sciences Campus

There are no university-managed accommodations on the Health Sciences Campus. Currie Hall is privately owned, has a state-of-the-art fitness center, 24-hour academic success center, pool, wi-fi and fully furnished apartments with enhanced-privacy floor plans. For more information about Currie Hall, call (213) 784-7558 or visit the Currie Hall website.

For bookstore information, call (323) 442-2674. Students may also live in student housing on the University Park Campus, located about eight miles from the Health Sciences Campus.

Student Health Services, Health Sciences Campus

Services of the Student Health Center, covered by the mandatory student health fee, include the ambulatory care health services provided by the Student Health Center nursing staff. The Student Health Center is located in the USC Health Care Consultation Center, 1500 San Pablo Street, Suite 104, adjacent to the USC University Hospital, one block northeast of the School of Pharmacy. The telephone number is (323) 442-5980. In addition to the student health fee, all students must have major medical insurance coverage from the USC Student Health Plan. A student may request a waiver of the USC Student Health Plan if covered by a personal medical plan that meets criteria established by the Health Insurance Office.

Graduate Degrees

The School of Pharmacy, through the Graduate School, offers curricula leading to the MS and PhD degrees in clinical and experimental therapeutics, molecular pharmacology and toxicology, pharmaceutical sciences and health economics, as well as a doctorate in Regulatory Sciences (DRSc). The Pharmaceutical and Translational Sciences (PHTS) PhD Program is a one-year umbrella program after which students select a particular track to complete their PhD in pharmaceutical sciences, molecular pharmacology and toxicology, or clinical and experimental therapeutics. The school also offers interdisciplinary MS degrees in regulatory science, in regulatory management, in the management of drug development, in medical product quality, in healthcare decision analysis and in biopharmaceutical marketing. The MS degree in pharmaceutical economics and policy is offered jointly with the USC Price School of Public Policy and the Department of Economics. In addition, the school offers dual degrees with the schools of law, business, gerontology and medicine as well as other programs. Instructions given in the Admission section of this catalogue are to be followed. An online application is required. See the Graduate Admission application page. Additional information may be obtained by calling (323) 442-1474 or sending an email to pharmgrd@usc.edu.

Admission Requirements for the Master of Science in Clinical and Experimental Therapeutics

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 (A = 4.0) and qualifying scores on the GRE or equivalent examination are required. Special attention is given to the grades achieved in science courses relevant to the program (e.g., chemistry, biology, biochemistry, pharmacology and mathematics). Students who have research experience and/or work experience in the pharmaceutical arena are encouraged to apply.

Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential. Students will be selected for admission, whenever possible, after interviews with one or more members of faculty.

Admission Requirements for the Master of Science in Molecular Pharmacology and Toxicology and Master of Science in Pharmaceutical Sciences

Applicants should possess a bachelor's or master's degree in pharmacy, chemistry, biology or other related disciplines from an accredited college or university. A minimum grade point average of 3.0 is required. Submission of scores on the GRE in the verbal and quantitative areas is strongly recommended. Special attention is given to the grades achieved in science courses relevant to the program (e.g., chemistry, biology, biochemistry, pharmacology and mathematics).

Applicants must have demonstrated proficiency in verbal and written English and in fundamental scientific areas such as organic and physical chemistry, biochemistry, biology, mathematics, statistics and computer science. Three letters from faculty knowledgeable about the student's ability and capability are required. These letters should provide a thorough assessment of the student's experience in laboratory research, ability to communicate in verbal and written English, motivation and creativity, and other qualities in the student's academic performance.

Applications for admission are reviewed by the Pharmacology and Pharmaceutical Sciences Graduate Admissions Committee of the School of Pharmacy and are evaluated primarily on the basis of academic excellence.

Admission Requirements for Programs in Pharmaceutical and Translational Sciences: Doctor of Philosophy in Clinical and Experimental Therapeutics, Doctor of Philosophy in Molecular Pharmacology and Toxicology, and Doctor of Philosophy in Pharmaceutical Sciences

All prospective students will apply through the single umbrella program in Pharmaceutical and Translational Sciences and become enrolled in one of the three participating PhD programs after having successfully completed the first year's course work and laboratory rotations. Application materials will be reviewed by a joint admission committee, with equal representation of faculty from each track, evaluating applications on the basis of academic excellence and scientific research commitment.

Applicants must have a baccalaureate degree in the natural sciences, or sufficient courses in mathematics and the life sciences. This is required to provide a strong background for studies in biomedical and biological research. Appropriate undergraduate degrees include biology, physiology, engineering, chemistry or computer science. A student currently enrolled in the PharmD program may pursue a PharmD/PhD by following the admission procedure in the Catalogue.

Applicants should have a strong record of academic achievement. A minimum grade point average of 3.0 is required and previous research experience is expected.

In addition to the application for admission, three letters of recommendation from faculty knowledgeable of the student's ability and capability are required. These letters should provide a thorough assessment of the student's experience in laboratory research, ability to communicate in verbal and written English, motivation, creativity and other qualities in the student's academic performance. The student's research and professional experience should be well described within the application and include a personal statement summarizing career objectives and research interests.

Admission Requirements for the Master of Science in Pharmaceutical Economics and Policy

Applicants for admission must have achieved a minimum 3.0 GPA in an undergraduate or professional school and adequate scores on the GRE. In addition, applicants will be required to have completed upper-division courses in statistical methods, calculus and microeconomics.

Admission Requirements for the Doctor of Philosophy in Health Economics

Candidates with a bachelor's, master's or PharmD degree are invited to apply. Applicants must have demonstrated proficiency in verbal and written English and aptitude in economics, mathematics, statistics and computer science. Deficiencies in economics and statistical background can be addressed through preliminary course work after admission to the program.

A minimum grade point average of at least 3.0 (A = 4.0) is required. Special attention is given to the grades achieved in economics, statistics and mathematics courses relevant to the program. A qualifying score on the GRE in verbal and quantitative areas is required. There is no set minimum score required for admission, and GRE scores are considered in conjunction with all other parts of the application.

Admission Requirements for the Master of Science in Healthcare Decision Analysis

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 is required. The program encourages the participation of part-time students with work experience. Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential. Additional requirements for international students are outlined by university regulations under Admission of International Students.

Admission Requirements for the Master of Science in Biopharmaceutical Marketing

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 and qualifying scores on the GRE or GMAT examinations are required. The program encourages the participation of part-time students with work experience. Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential. Additional requirements for international students are outlined by university regulations under Admission of International Students.

Admission Requirements for the Doctorate of Science in Regulatory Science

The program is designed for individuals with strong professional experience and demonstrated intellectual and leadership capabilities. Applicants are expected to have a GPA of 3.0 on university-level course work and ten or more years of professional experience. Admission requirements include university transcripts, a résumé or curriculum vitae, at least three letters of reference, and a one-page personal statement that outlines the background, a topic of interest for the dissertation and goals of the applicant. Students are encouraged even at this early stage to identify areas in which they are interested in conducting research. Additional requirements for international students are outlined by university regulations under Admission of International Students. (See Admission and Orientation.) Students are not required to provide GRE scores unless indicated by the program director. Applicants will be selected for admission, whenever possible, after interviews with one or more members of faculty, current student and/or alumnus of the program.

Students with an appropriate graduate or professional degree may use some previous graduate courses as transfer units toward the overall credit requirements of the Doctor of Regulatory Science program with the approval of the program director and under the policies of the university. Students who have graduated from the Master of Science program in Regulatory Science at USC are eligible to apply all of the previously taken course work toward the doctoral degree. Students with graduate degrees from outside of the Regulatory Science program are required to take a minimum of 32 units of course work and 4 units of dissertation research to complete the requirements for graduation. The course work requirements will be determined on an individual basis in consultation with the program director and student's advisers.

Admission Requirements for the Master of Science in Regulatory Science

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 and applicants are not required to provide GRE scores unless indicated by the program director. The program encourages the participation of part-time students with work experience.

Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential.

Admission Requirements for the Master of Science in Management of Drug Development

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 and applicants are not required to provide GRE scores unless indicated by the program director. The program encourages the participation of part-time students with work experience. Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential.

Admission Requirements for the Master of Science in Medical Product Quality

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 and applicants are not required to provide GRE scores unless indicated by the program director. The program encourages the participation of part-time students who are already working in the industry as well as students who have recently completed or are about to complete an undergraduate program.

Acceptance criteria will be assessed on a case-by-case basis. English proficiency is essential. Applicants who do not meet all the specific requirements indicated above, but who show unique potential, may be considered for admission with conditions, which may be fulfilled during the first semester of enrollment.

Admission Requirements for the Master of Science in Regulatory Management

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants should also possess a conferred doctoral degree or equivalent from an accredited college or university. A minimum grade point average of 3.0 and applicants are not required to provide GRE scores unless indicated by the program director. Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential. The program encourages the participation of part-time students who are already working in the industry as well as students who have recently completed or are about to complete a doctoral program.

Acceptance criteria will be assessed on a case-by-case basis. English proficiency is essential. Applicants who do not meet all the specific requirements indicated above, but who show unique potential, may be considered for admission with conditions, which may be fulfilled during the first two semesters of enrollment.

Admission of International Students to Graduate Degree Programs

All requirements described in this section are also applicable to the admission of international students. In addition, special application and admission procedures are required of international students. Refer to the section on Admission of International Students in this catalogue.

Degree Requirements

These degrees are under the jurisdiction of the School of Pharmacy and/or jointly with the Graduate School. Students should also refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

- Master of Science in Biopharmaceutical Marketing
- Master of Science in Clinical and Experimental Therapeutics
- Master of Science in Healthcare Decision Analysis
- Master of Science in Management of Drug Development
- Master of Science in Medical Product Quality
- Master of Science in Molecular Pharmacology and Toxicology
- Master of Science in Pharmaceutical Economics and Policy
- Master of Science in Pharmaceutical Sciences

- Master of Science in Regulatory Management
- Master of Science in Regulatory Science
- Doctor of Philosophy in Clinical and Experimental Therapeutics
- Doctor of Philosophy in Health Economics
- Doctor of Philosophy in Molecular Pharmacology and Toxicology
- Doctor of Philosophy in Pharmaceutical Sciences
- Doctor of Philosophy in Pharmaceutical Economics and Policy
- Doctor of Regulatory Science
- PharmD
- PharmD/Juris Doctor
- PharmD/Master of Business Administration Dual Degree Program
- PharmD/Master of Science, Gerontology
- PharmD/Master of Science, Global Medicine
- PharmD/Master of Science, Healthcare Decision Analysis
- PharmD/Master of Public Health
- PharmD/Master of Science, Regulatory Science
- PharmD/Doctor of Philosophy

Non-Degree Programs

Office of Continuing Professional Development
1985 Zonal Avenue
Los Angeles, CA 90089-9121
(323) 442-2403
FAX: (323) 442-3600
Email: pharmce@usc.edu
pharmacyschool.usc.edu/programs/ce/

Continuing Education

The School of Pharmacy, Office of Continuing Professional Development, is a recognized provider of continuing pharmacy education accredited by the Accreditation Council for Pharmacy Education (ACPE) and recognized by the California State Board of Pharmacy and throughout the United States.

The school serves as a primary educational resource for pharmacists in California and as a supplementary resource for other health professionals and pharmacists, nationally and internationally.

Programs are designed to educate pharmacists about current issues in pharmaceutical care, practice management, therapeutics and other topics of professional interest. Continuing education programs are held at the School of Pharmacy and other locations.

For information concerning continuing education programs contact the Office of Continuing Professional Development.

Bachelor's Degree

Biopharmaceutical Sciences (BA)

The Bachelor of Arts in Biopharmaceutical Sciences (BPS) provides a well-defined pathway for science and non-science majors to gain significant knowledge in pharmacology, pharmaceutical sciences, toxicology and medical product development, regulation, marketing and use.

The Bachelor of Arts in Biopharmaceutical Sciences (BPS) is a cooperative degree program involving the USC Dornsife College of Letters, Arts and Sciences and the USC School of Pharmacy. Students complete 128 units, including at least 70 units of coursework in USC Dornsife and at least 36 units of coursework in USC School of Pharmacy.

The Bachelor of Arts in Biopharmaceutical Sciences offers a unique interdisciplinary approach designed to provide in-depth training in the discovery, development and commercialization of pharmaceutical products and their role in health care industries. Courses focus on sub disciplines of pharmaceutical sciences including the study of the chemical and physical properties of drugs and their biological effects, and will link these systems to the discovery, development and commercialization of pharmaceuticals for the advancement of human health. Courses will also focus on the business and marketing aspects of the pharmaceutical industry.

The Bachelor of Arts in Biopharmaceutical Sciences will be a springboard to diverse careers in industrial, academic or other research environments within the areas of drug discovery, development and commercialization. It will prepare students for professional or graduate studies in graduate education in pharmaceutical, medical and basic sciences and post-baccalaureate professional education in biomedical engineering, business, finance and law.

The Bachelor of Arts in Biopharmaceutical Sciences requires the completion of a minimum of 128 units that include:

1. General Education, Foreign Language and Writing Requirements
2. Foundational courses designed to prepare students for the major
3. An introductory 4-unit lower division (200 level) course in Pharmaceutical and Regulatory Science (RXRS)
4. A minimum number of 32 units of upper-division (300 level and above) courses in Biopharmaceutical Sciences (BPSI) and Pharmaceutical and Regulatory Science (RXRS)
5. A minimum of 8 units of upper-division (300 level and above) courses in Biological Sciences (BISC) unique to the major

The Bachelor of Arts in Biopharmaceutical Sciences is conferred by USC Dornsife.

Calculus

Select one course.

- MATH 108g Contemporary Precalculus Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4

Statistics

Select one course.

- BISC 305g Statistics for Biological Sciences Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- PSYC 274Lg Statistics Units: 4

Chemistry

Select two courses from either the general chemistry or the advanced general chemistry series.

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

Biology

Select two courses from either the general biology or the advanced general biology series.

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Biopharmaceutical Sciences (BPSI) and Pharmaceutical and Regulatory Science (RXRS) Unit Requirement

Students must complete a minimum of 36 units of BPSI or RXRS course work, including one 4-unit lower-division RXRS course and a minimum of 32 units of upper-division (300 level and above) BPSI or RXRS course work. A maximum of 4 units can be met by taking Directed Research (BPSI 490x).

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 1)

One course.

- RXRS 200 Approaches to Pharmacology and Drug Development Units: 4

Biopharmaceutical Sciences (BPSI) Requirement (Part 2)

One course.

- BPSI 402 Biopharmaceutics I Units: 4

Biopharmaceutical Sciences (BPSI) Requirement (Part 3)

Select a minimum of 4 units from:

- BPSI 407 Pharmaceutical and Health Economics Units: 4
- BPSI 414 Pharmacoethics Units: 2
- BPSI 415 Science Talk Units: 2

Biopharmaceutical Sciences (BPSI) Requirement (Part 4)

Select a minimum of 16 units from:

- BPSI 403 Biopharmaceutics II Units: 4
- BPSI 410 Biopharmaceutical Product Development and Brand Planning Units: 4
- BPSI 411 Biopharmaceutical Marketing Analysis and Strategy Units: 4
- BPSI 412 Targeted and Precision Medicines Units: 4
- BPSI 413 Rigor, Resources and Reproducibility Units: 2

Biopharmaceutical Sciences (BPSI) & Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 5)

Select a minimum of two courses totaling a minimum of 8 units. Can be a combination of BPSI and RXRS coursework.

- BPSI 405 Organ Systems Physiology, Drug Delivery and Drug Action Units: 4
- BPSI 406 Drug Safety Pharmacology and Toxicology Units: 4
- BPSI 408 Biologics and Vaccines Units: 4
- BPSI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 412 Ethics, Drugs and Society Units: 4
- RXRS 413w Globalization of the Biomedical Industry Units: 4

Biological Sciences (BISC) Requirement

Select two courses.

- BISC 300L Introduction to Microbiology Units: 4
- BISC 307L General Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

Undergraduate Honors Program (optional)

The undergraduate honors in Biopharmaceutical Sciences is awarded through successful completion of the senior capstone project. The project is a demonstration of knowledge in the student's chosen area of interest which results in a product/project, research data, research paper, or portfolio of work, and a presentation. This experience encourages students to use a variety of skills in the areas of writing, speaking, research and documentation, which distinguishes them as scholars and future leaders in pharmacy.

- BPSI 493 Senior Honors Seminar I Units: 2
- BPSI 494 Senior Honors Seminar II Units: 2

Biopharmaceutical Sciences (BS)

The Bachelor of Science in Biopharmaceutical Sciences (BPS) offers a unique interdisciplinary approach designed to provide in-depth training in the discovery, development and commercialization of pharmaceutical products and their role in health care industries. Courses will focus on subdisciplines of pharmaceutical sciences including the study of the chemical and physical properties of drugs and their biological effects, and will link these systems to the discovery, development and commercialization of pharmaceuticals for the advancement of human health. Courses will also focus on the business and marketing aspects of the pharmaceutical industry.

The Bachelor of Science in Biopharmaceutical Sciences will train students for diverse positions in industrial, academic or other research environments within the areas of drug discovery, development and commercialization. It will also prepare students for professional or graduate studies in graduate education in pharmaceutical, health care delivery, medical and basic sciences and post-baccalaureate professional education in medicine, pharmacy, business, regulatory and quality science, finance and law.

The Bachelor of Science in Biopharmaceutical Sciences will be a springboard to diverse careers in industrial, academic or other research environments within the areas of drug discovery, development and commercialization. It also will prepare students for professional or graduate studies in graduate education in pharmaceutical, medical and basic sciences and post-baccalaureate professional education in biomedical engineering, business, finance and law.

The Bachelor of Science in Biopharmaceutical Sciences requires the completion of a minimum of 128 units that include:

1. General Education and Writing Requirements
2. Foundational courses designed to prepare students for the major
3. An introductory 4-unit lower-division (200 level) course in Pharmaceutical and Regulatory Science (RXRS)
4. A minimum number of 32 units of upper-division (300 level and above) courses in Biopharmaceutical Sciences (BPSI) and Pharmaceutical and Regulatory Science (RXRS)
5. A minimum of 8 units of upper-division (300 level and above) courses in Biological Sciences (BISC) unique to the major

Students interested in pursuing advanced degrees in pharmacy, medicine, chemistry or dentistry are encouraged to take organic chemistry and/or physics.

The Bachelor of Science in Biopharmaceutical Sciences is conferred by the USC School of Pharmacy.

Calculus

Select one course.

- MATH 108g Contemporary Precalculus Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4

Statistics

Select one course.

- BISC 305g Statistics for Biological Sciences Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- PSYC 274Lg Statistics Units: 4

Chemistry

Select two courses from either the general chemistry or the advanced general chemistry series.

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

Biology

Select two courses from either the general biology or the advanced general biology series.

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4

- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Biopharmaceutical Sciences (BPSI) and Pharmaceutical and Regulatory Science (RXRS) Unit Requirement

Students must complete a minimum of 36 units of BPSI or RXRS coursework, including one 4-unit lower-division RXRS course and a minimum of 32 units of upper-division (300 level and above) BPSI or RXRS coursework. A maximum of 4 units can be met by taking Directed Research (BPSI 490).

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 1)

One course.

- RXRS 200 Approaches to Pharmacology and Drug Development Units: 4

Biopharmaceutical Sciences (BPSI) Requirement (Part 2)

One course.

- BPSI 402 Biopharmaceutics I Units: 4

Biopharmaceutical Sciences (BPSI) Requirement (Part 3)

Select one course.

- BPSI 407 Pharmaceutical and Health Economics Units: 4
- BPSI 410 Biopharmaceutical Product Development and Brand Planning Units: 4
- BPSI 411 Biopharmaceutical Marketing Analysis and Strategy Units: 4

Biopharmaceutical Sciences (BPSI) Requirement (Part 4)

Select four courses.

- BPSI 403 Biopharmaceutics II Units: 4
- BPSI 405 Organ Systems Physiology, Drug Delivery and Drug Action Units: 4
- BPSI 406 Drug Safety Pharmacology and Toxicology Units: 4
- BPSI 408 Biologics and Vaccines Units: 4
- BPSI 412 Targeted and Precision Medicines Units: 4

Biopharmaceutical Sciences (BPSI) and Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 5)

Select a minimum of two courses totaling a minimum of 8 units. Can be a combination of BPSI and RXRS coursework.

- BPSI 413 Rigor, Resources and Reproducibility Units: 2
- BPSI 414 Pharmacoethics Units: 2
- BPSI 415 Science Talk Units: 2
- BPSI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 413w Globalization of the Biomedical Industry Units: 4

Biological Sciences (BISC) Requirement

Select two courses.

- BISC 300L Introduction to Microbiology Units: 4
- BISC 307L General Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

Undergraduate Honors Program (optional)

The undergraduate honors in Biopharmaceutical Sciences is awarded through successful completion of the senior capstone project. The project is a demonstration of knowledge in the student's chosen area of interest which results in a product/project, research data, research paper, or portfolio of work, and a presentation. This experience encourages students to use a variety of skills in the areas of writing, speaking, research and documentation, which distinguishes them as scholars and future leaders in pharmacy.

- BPSI 493 Senior Honors Seminar I Units: 2
- BPSI 494 Senior Honors Seminar II Units: 2

Pharmacology and Drug Development (BA)

The Bachelor of Arts in Pharmacology and Drug Development (PDD) provides a well-defined pathway for science and non-science majors to gain significant knowledge in pharmacology, pharmaceutical sciences, toxicology and medical product development, regulation, marketing and use.

The Bachelor of Arts in Pharmacology and Drug Development is a cooperative degree program involving the USC Dornsife College of Letters, Arts and Sciences and the USC School of Pharmacy. Students complete 128 units, including at least 70 units of coursework in USC Dornsife and at least 36 units of coursework in USC School of Pharmacy.

The Bachelor of Arts in Pharmacology and Drug Development offers a unique interdisciplinary approach designed to provide in-depth training in the discovery, development and commercialization of pharmaceutical products and their role in health care industries. Courses focus on sub disciplines of pharmaceutical sciences including the study of the chemical and physical properties of drugs and their biological effects, and will link these systems to the discovery, development and commercialization of pharmaceuticals for the advancement of human health. Courses will also focus on the business and marketing aspects of the pharmaceutical industry.

The Bachelor of Arts in Pharmacology and Drug Development will be a springboard to diverse careers in industrial, academic or other research environments within the areas of drug discovery, development, and commercialization. It will prepare students for professional or graduate studies in graduate education in pharmaceutical, medical and basic sciences and post-baccalaureate professional education in biomedical engineering, business, finance and law.

The Bachelor of Arts in Pharmacology and Drug Development requires the completion of a minimum of 128 units that include:

1. General Education, Foreign Language and Writing Requirements
2. Foundational courses designed to prepare students for the major
3. An introductory 4-unit lower-division (200 level) course in Pharmaceutical and Regulatory Science (RXRS)
4. A minimum number of 32 units of upper-division (300 level and above) courses in Pharmaceutical and Regulatory Science (RXRS) and Biopharmaceutical Sciences (BPSI)
5. A minimum of 8 units of upper-division (300 level and above) courses in Biological Sciences (BISC) unique to the major

The Bachelor of Arts in Pharmacology and Drug Development is conferred by USC Dornsife.

Calculus

Select one course.

- MATH 108g Contemporary Precalculus Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4

Statistics

Select one course.

- BISC 305g Statistics for Biological Sciences Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- PSYC 274Lg Statistics Units: 4

Chemistry

Select two courses from either the general chemistry or the advanced general chemistry series.

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

Biology

Select two courses from either the general biology or the advanced general biology series.

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Pharmaceutical and Regulatory Science (RXRS) and Biopharmaceutical Sciences (BPSI) Unit Requirement

Students must complete a minimum of 36 units of RXRS or BPSI coursework, including one 4-unit lower-division RXRS course and a minimum of 32 units of upper-division (300 level and above) RXRS or BPSI courses. A maximum of 4 units can be met by taking Directed Research (RXRS 490)

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 1)

One course.

- RXRS 200 Approaches to Pharmacology and Drug Development Units: 4

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 2)

One course.

- RXRS 402 Human Pharmacology: Challenge of Therapeutics in Society Units: 4

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 3)

Select one course.

- RXRS 302 Introduction to Pharmacology and Therapeutics Units: 4
- RXRS 413w Globalization of the Biomedical Industry Units: 4

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 4)

Select four courses.

- RXRS 304 Mysterious Deaths: From Poisons in Literature and History to Forensic Toxicology Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 408 Arming the Immune System for Novel Therapies Units: 4
- RXRS 411 Innovations in Medical Product Development Units: 4
- RXRS 412 Ethics, Drugs and Society Units: 4
- RXRS 414 Buzzed: Modern Substances of Abuse and Addiction Units: 4
- RXRS 416 Medical Products: From Idea to Market Units: 4
- RXRS 421 Management and Operation of Clinical Trials Units: 4

Pharmaceutical and Regulatory Science (RXRS) and Biopharmaceutical Sciences Requirement (BPSI) (Part 5)

Select a minimum of two courses totaling a minimum of 8 units. Can be a combination of RXRS and BPSI upper-division coursework.

- RXRS 405 Breaking Brains: The Pharmacology of Addiction Units: 4
- RXRS 406 Clinical Pharmacology and Medication Management Units: 4
- RXRS 410 Cancer Biology and Pharmacotherapy Units: 4
- RXRS 417 Food Safety: The Good, The Bad and The Deadly Units: 4
- RXRS 418 Plant Medicines in Modern Medicine Units: 4
- RXRS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- BPSI 405 Organ Systems Physiology, Drug Delivery and Drug Action Units: 4
- BPSI 412 Targeted and Precision Medicines Units: 4
- BPSI 413 Rigor, Resources and Reproducibility Units: 2
- BPSI 414 Pharmacoethics Units: 2
- BPSI 415 Science Talk Units: 2

Biological Sciences (BISC) Requirement

Select two courses.

- BISC 300L Introduction to Microbiology Units: 4
- BISC 307L General Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

Undergraduate Honors Program (optional)

The undergraduate honors in Pharmacology and Drug Development is awarded through successful completion of the senior capstone project. The project is a demonstration of knowledge in the student's chosen area of interest which results in a product/project, research data, research paper or portfolio of work, and a presentation. This experience encourages students to use a variety of skills in the areas of writing, speaking, research and documentation, which distinguishes them as scholars and future leaders in pharmacy.

- RXRS 493x Senior Honors Seminar I Units: 2
- RXRS 494x Senior Honors Seminar II Units: 2

Pharmacology and Drug Development (BS)

The Bachelor of Science in Pharmacology and Drug Development (PDD) provides a well-defined pathway for science and non-science majors to gain significant knowledge in pharmacology, pharmaceutical sciences, toxicology and medical product development, marketing and use.

Pharmacology is the science of drugs including their origin, composition, pharmacokinetics, pharmacodynamics, therapeutic uses and toxicology. Drug development is the discipline that deals with the process of turning a new chemical entity (NCE) into a safe and effective medication for the advancement of human health. Completion of the PDD major will significantly prepare USC undergraduates for advanced training in health related fields including pharmacy, medicine, dentistry, occupational therapy and other clinical specialties. The PDD major is also uniquely suited to provide coursework applicable for undergraduates interested in drug discovery/development training that will lead to careers in biotech, pharmaceutical and biomedical industries ranging from private companies to governmental careers.

The Bachelor of Science in Pharmacology and Drug Development requires the completion of a minimum of 128 units that include:

1. General Education and Writing Requirements
2. Foundational courses designed to prepare students for the major
3. An introductory 4-unit lower-division (200 level) course in Pharmaceutical and Regulatory Science (RXRS)
4. A minimum number of 32 units of upper-division (300 level and above) courses in Pharmaceutical and Regulatory Science (RXRS)
5. A minimum of 8 units of upper-division (300 level and above) courses in Biological Sciences (BISC) unique to the major

The Bachelor of Science in Pharmacology and Drug Development provides a novel path for science and non-science

undergraduates at USC to gain significant knowledge in the disciplines of pharmacology and drug development. Pharmacology is the science of drugs including their origin, composition, pharmacokinetics, pharmacodynamics, therapeutic uses and toxicology. Drug development is the discipline that deals with the process of turning a new chemical entity (NCE) into a safe and effective medication for the advancement of human health. Completion of the major will prepare students for advanced clinical training in health-related fields including pharmacy, medicine and dentistry. It will also provide foundational education that can lead to new opportunities for students considering careers in biotech, pharmaceutics and biomedical industries.

The Bachelor of Science in Pharmacology and Drug Development is conferred by the USC School of Pharmacy.

Calculus

Select one course

- MATH 108g Contemporary Precalculus Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4

Statistics

Select one course

- BISC 305g Statistics for Biological Sciences Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- HP 340Lg Health Behavior Statistical Methods Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- PSYC 274Lg Statistics Units: 4

Chemistry

Select two courses

- CHEM 105aLg General Chemistry Units: 4
  and
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
  and
- CHEM 115bL Advanced General Chemistry Units: 4
  Courses must be selected from either the general chemistry or the advanced general chemistry series.

Biology

Select two courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
  and
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
  or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
  and
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
  Courses must be selected from either the general biology or the advanced general biology series.

Pharmaceutical and Regulatory Science (RXRS) Unit Requirement

Students must complete a minimum of 36 units of RXRS coursework, including one 4-unit lower division RXRS course and a minimum of 32 units of upper division (300 level and above) RXRS courses. A maximum of 4 units can be met by taking Directed Research (RXRS 490)

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 1)

One course

- RXRS 200 Approaches to Pharmacology and Drug Development Units: 4

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 2)

One course

- RXRS 402 Human Pharmacology: Challenge of Therapeutics in Society Units: 4

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 3)

Select one course

- RXRS 302 Introduction to Pharmacology and Therapeutics Units: 4
- RXRS 413w Globalization of the Biomedical Industry Units: 4

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 4)

Select four courses

- RXRS 304 Mysterious Deaths: From Poisons in Literature and History to Forensic Toxicology Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 408 Arming the Immune System for Novel Therapies Units: 4
- RXRS 410 Cancer Biology and Pharmacotherapy Units: 4
- RXRS 411 Innovations in Medical Product Development Units: 4
- RXRS 414 Buzzed: Modern Substances of Abuse and Addiction Units: 4
- RXRS 416 Medical Products: From Idea to Market Units: 4
- RXRS 420 Organ Physiology, Drug Delivery, and Drug Action Units: 4

Pharmaceutical and Regulatory Science (RXRS) Requirement (Part 5)

The remaining units may be selected from the following RXRS courses, including, but not limited to:

- RXRS 405 Breaking Brains: The Pharmacology of Addiction Units: 4
- RXRS 406 Clinical Pharmacology and Medication Management Units: 4
- RXRS 412 Ethics, Drugs and Society Units: 4
- RXRS 417 Food Safety: The Good, The Bad and The Deadly Units: 4
- RXRS 418 Plant Medicines in Modern Medicine Units: 4
- RXRS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
  A maximum of 4 units can be met by taking Directed Research (RXRS 490)

Biological Sciences (BISC) Requirement

Select two courses

- BISC 300L Introduction to Microbiology Units: 4
- BISC 307L General Physiology Units: 4
- BISC 320Lg Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

Minor

Biopharmaceutical Business Minor

The minor in Biopharmaceutical Business will provide a foundation in biopharmaceutical business and marketing practices that can be used in a variety of careers. For example, graduates may find jobs in product development, marketing and brand management in the biopharmaceutical industry. Beyond the biopharmaceutical industry, graduates may apply their knowledge to applied business areas of medical and pharmacy practice, healthcare law, healthcare finance and healthcare consulting.

Students who minor in Biopharmaceutical Business must take a minimum of six upper-division courses in BPSI and/or RXRS, totaling at least 22 units. At least 16 units of course work must be from BPSI and do not overlap with the major, another minor or general education requirements of the undergraduate students.

A maximum of 4 units can be met by taking Directed Research (BPSI 490x).

Only students with a declared major are eligible to apply. Students must be in sophomore standing and have completed a minimum of 32 USC units as an entering freshman or 16 units as an entering transfer student.

Students will select course work in consultation with an academic adviser.

Biopharmaceutical Sciences (BPSI) and Pharmaceutical and Regulatory Science (RXRS) Unit Requirement

Students must complete a minimum of six upper-division courses in BPSI and/or RXRS, totaling at least 22 units. At least 16 units of coursework must be from BPSI. A maximum of 4 units can be met by taking Directed Research (BPSI 490).

Part 1: Biopharmaceutical Sciences (BPSI) Course Requirements

Three courses (10 units).

- BPSI 410 Biopharmaceutical Product Development and Brand Planning Units: 4
- BPSI 411 Biopharmaceutical Marketing Analysis and Strategy Units: 4
- BPSI 414 Pharmacoethics Units: 2

Part 2: Biopharmaceutical Sciences (BPSI) and Pharmaceutical and Regulatory Science (RXRS) Course Work

Complete a minimum of 12 units; at least 6 units must be selected from BPSI course work.

- BPSI 402 Biopharmaceutics I Units: 4
- BPSI 403 Biopharmaceutics II Units: 4
- BPSI 405 Organ Systems Physiology, Drug Delivery and Drug Action Units: 4
- BPSI 406 Drug Safety Pharmacology and Toxicology Units: 4
- BPSI 407 Pharmaceutical and Health Economics Units: 4
- BPSI 408 Biologics and Vaccines Units: 4
- BPSI 412 Targeted and Precision Medicines Units: 4
- BPSI 413 Rigor, Resources and Reproducibility Units: 2
- BPSI 415 Science Talk Units: 2
- BPSI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 412 Ethics, Drugs and Society Units: 4
- RXRS 413w Globalization of the Biomedical Industry Units: 4
- RXRS 416 Medical Products: From Idea to Market Units: 4

Foundation in Regulatory Sciences Minor

The Foundation in Regulatory Sciences minor will deepen students' understanding of current regulations and quality practices with practical application in the development and commercialization of drugs, biologics and medical device products. This minor will broaden perspectives and integrate knowledge to allow students to effectively understand the regulatory process.

Students who minor in Foundation in Regulatory Sciences must take a minimum of five upper division RXRS courses, totaling at least 20 units. All courses must be at the 300 and 400 level, and must be unique to this minor and must not overlap with the major or another minor. A maximum of 4 units can be met by taking Directed Research (RXRS 490x).

Only students with a declared major are eligible to apply. Students must be in sophomore standing and have completed a minimum of 32 USC units as an entering freshman or 16 units as an entering transfer student.

Required Courses (12 units)

- RXRS 402 Human Pharmacology: Challenge of Therapeutics in Society Units: 4
- RXRS 413w Globalization of the Biomedical Industry Units: 4
- RXRS 416 Medical Products: From Idea to Market Units: 4

Electives (minimum of 8 RXRS course units)

Select a minimum of two RXRS courses totaling a minimum of 8 units. A maximum of 4 units can be met by taking Directed Research (RXRS 490).

- RXRS 304 Mysterious Deaths: From Poisons in Literature and History to Forensic Toxicology Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4
- RXRS 405 Breaking Brains: The Pharmacology of Addiction Units: 4
- RXRS 406 Clinical Pharmacology and Medication Management Units: 4
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 408 Arming the Immune System for Novel Therapies Units: 4
- RXRS 410 Cancer Biology and Pharmacotherapy Units: 4
- RXRS 411 Innovations in Medical Product Development Units: 4
- RXRS 412 Ethics, Drugs and Society Units: 4
- RXRS 414 Buzzed: Modern Substances of Abuse and Addiction Units: 4
- RXRS 417 Food Safety: The Good, The Bad and The Deadly Units: 4
- RXRS 418 Plant Medicines in Modern Medicine Units: 4
- RXRS 420 Organ Physiology, Drug Delivery, and Drug Action Units: 4
- RXRS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Science and Management of Biomedical Therapeutics Minor

The minor in Science and Management of Biomedical Therapeutics consists of a minimum of 20 units of Pharmaceutical and Regulatory Science (RXRS) course work, 16 of which must be at the 300 or 400 level, and which are unique to this minor and do not overlap with the major, another minor or general education requirements of the undergraduate students.

The minor in Science and Management of Biomedical Therapeutics requires a minimum of five RXRS courses. A maximum of 4 units can be met by taking Directed Research (RXRS 490). Only students with a declared major are eligible to apply. Students must be in sophomore standing and have completed a minimum of 32 USC units as an entering freshman or 16 units as an entering transfer student.

Course work within the minor will focus on domains of pharmacology, pharmaceutical sciences, toxicology, nutritional sciences, medical product development and drug use and abuse.

Students will select course work in consultation with an academic adviser.

Required Pharmaceutical and Regulatory Science (RXRS) Courses

To gain a solid foundation for the minor, at least two core courses (selected from the four below) are required:

- RXRS 402 Human Pharmacology: Challenge of Therapeutics in Society Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 416 Medical Products: From Idea to Market Units: 4

Additional Pharmaceutical and Regulatory Science (RXRS) Courses

The remaining units may be selected from the following RXRS courses. A maximum of 4 units of lower-division course work permitted. Students may select courses from the required course work category to complete the minimum five RXRS course requirement.

- RXRS 200 Approaches to Pharmacology and Drug Development Units: 4

- RXRS 201p The History and Geography of Drugs Units: 4
- RXRS 302 Introduction to Pharmacology and Therapeutics Units: 4
- RXRS 304 Mysterious Deaths: From Poisons in Literature and History to Forensic Toxicology Units: 4
- RXRS 405 Breaking Brains: The Pharmacology of Addiction Units: 4
- RXRS 406 Clinical Pharmacology and Medication Management Units: 4
- RXRS 408 Arming the Immune System for Novel Therapies Units: 4
- RXRS 410 Cancer Biology and Pharmacotherapy Units: 4
- RXRS 411 Innovations in Medical Product Development Units: 4
- RXRS 412 Ethics, Drugs and Society Units: 4
- RXRS 413w Globalization of the Biomedical Industry Units: 4
- RXRS 414 Buzzed: Modern Substances of Abuse and Addiction Units: 4
- RXRS 417 Food Safety: The Good, The Bad and The Deadly Units: 4
- RXRS 418 Plant Medicines in Modern Medicine Units: 4
- RXRS 420 Organ Physiology, Drug Delivery, and Drug Action Units: 4
- RXRS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Joint Degree

Pharmaceutical Economics and Policy (PhD)

Application deadline: December 1

The Department of Economics and the Department of Pharmaceutical Economics and Policy (USC School of Pharmacy) jointly offer a program of study leading to the PhD degree and to the MA degree in the process of work toward the PhD degree.

Required courses include both core requirements and area requirements. Core requirements include courses in economic theory, econometrics, and research methods. Area requirements include courses in health economics, pharmaceutical economics, welfare theory and applied econometrics.

For a detailed description of this program, see the School of Pharmacy section of this catalogue.

Master's Degree

Biopharmaceutical Marketing (MS)

Master of Science in Biopharmaceutical Marketing

The Master's Program in Biopharmaceutical Marketing (BPMK) is an intensive, industry focused and uniquely targeted program designed to produce graduates whose undergraduate and graduate backgrounds in marketing, communication, biological and pharmaceutical, related sales and advertising, drug management and other healthcare-involved business are enhanced by knowledge and skills appropriate for a highly regulated environment, specifically in the application and practice of biopharmaceutical marketing. Biopharmaceutical marketing is a uniquely emerging branch of drug product development, management, market placement, access and insurance coverage, outcomes and value determinations that functions at the intersection of audience segmented product marketing, healthcare industry and government regulatory issues and treatment efficiency, including value and reimbursement. This program will provide the opportunity for mid-career professionals as well has highly motivated new graduates to enter a field in which public and private payers, biopharmaceutical industry and government cannot find sufficient qualified individuals and technically skilled managers to meet demand.

The Biopharmaceutical Marketing Master of Science (BPMK) program will require 27 academic units of formal course work, selected in consultation with an adviser. Course requirements normally include a minimum of seven courses and may include a capstone (21 units total) from the BPMK program with emphasis on biopharmaceutical marketing, market research and analytics, business intelligence, and applied health care policy. Recommended course work and electives include some courses available in other departments of the university. These courses will be selected in consultation with program advisers according to the areas of intended specialization of the participant in order to meet the credit requirements of the program. Students should develop a specific plan of study in consultation with the graduate advisers before beginning the program.

Clinical and Experimental Therapeutics (MS)

A Master of Science in Clinical Experimental and Therapeutics (28 units) will be granted on the basis of completion of at least 24 units of formal course work, in addition to 4 units earned by either completing and successfully presenting a thesis (CXPT 594a and CXPT 594b, both 2-unit courses based on the results of an original investigation), or by completing a non-thesis option. Students must choose one of these options by the end of the first year of study.

Three courses (11 units) are required: CXPT 609, CXPT 664 and PM 510L. The remaining units will be taken from courses offered within the School of Pharmacy or in various related disciplines outside the department, if approved by the Clinical Experimental Therapeutics Program Director.

All 28 units must be at the 400 level or above, with a maximum of 8 units of 400-level courses applied toward the degree.

Healthcare Decision Analysis (MS)

Curriculum Requirements

A Master of Science degree in healthcare decision analysis will be granted upon completion of at least 33 units of formal course work. Students with experience in industry or government can substitute an equivalent amount of formal course work with a research project, subject to the approval from program administrators.

Course requirements normally include a minimum of eight courses (24 units) with emphasis on applied health care policy, business intelligence and technical analysis. Recommended course work and electives include some courses available in other departments of the university and will be selected in consultation with the program advisers according to the areas of intended specialization of the participant in order to meet the credit requirements of the program. Students should develop a specific plan of study in consultation with the graduate advisers before beginning the program.

Grade Point Average

A grade point average of at least 3.0 (A = 4.0) must be achieved on graduate course work at USC.

Management of Drug Development (MS)

A Master of Science degree in the management of drug development will be granted upon completion of at least 32 units of course work. The program is offered on both a full-time and part-time basis, and courses are also available in distance formats. Course requirements normally include a minimum of three courses concerned with translational aspects of medical product development. Recommended courses to satisfy this core requirement include RSCI 531, RSCI 532, PSCI 664 or CXPT 609. The program must also include a minimum of one course in each of: regulatory science, quality assurance, clinical research, business and statistics. Students should develop a specific plan of study in consultation with graduate advisers before beginning the program.

Medical Product Development

Recommended coursework includes:

- CXPT 609 Preclinical Experimental Drug Therapeutic Development Units: 4
- PSCI 664 Drug Discovery and Design Units: 4
- RSCI 531 Industrial Approaches to Drug Discovery Units: 4
- RSCI 532 Early Stage Drug Development Units: 3

Medical Product Quality (MS)

To keep medical products safe and effective, a strong system of quality management is required. Quality is assured through compliance with strict regulations and is assessed by regulatory agencies through audits and inspections. A Master of Science degree in Medical Product Quality is a specialized program designed to prepare individuals to function effectively as quality specialists in pharmaceutical and medical device sectors. The degree will be granted upon completion of at least 32 units of course work. Course requirements normally include a minimum of four courses concerned with the quality aspects of medical product development and manufacturing and a minimum of one course each in regulatory science, risk management, statistics and project management. The program is offered on both a full-time and part-time basis, and courses are also available in distance formats. Students should develop a specific plan of study in consultation with their graduate adviser before beginning the program.

Molecular Pharmacology and Toxicology (MS)

A Master of Science in Molecular Pharmacology and Toxicology (28 units) will be granted on the basis of completion of at least 24 units of formal course work, in addition to four units earned by either completing and successfully presenting a thesis (MPTX 594a and MPTX 594b, both 2-unit courses based on the results of an original investigation), or by completing a non-thesis option. Students must choose one of these options by the end of the first year of study.

Three courses (12 units) are required from Department of Pharmacology and Pharmaceutical Sciences: PSCI 501, PSCI 502 and PSCI 503. Additionally, four units are in a degree-specific required course: MPTX 500.

The remaining units will be taken from courses offered within the Department of Pharmacology and Pharmaceutical Sciences or in various related disciplines outside the department, if approved by the Department of Pharmacology and Pharmaceutical Sciences Graduate Affairs Committee.

All 28 units must be at the 500 level or above.

Pharmaceutical Economics and Policy (MS)

The Department of Pharmaceutical Economics and Policy (School of Pharmacy) offers a program of study leading to the MS degree. Applicants must apply to the Graduate School and meet the admissions requirements of the program. This program requires students to demonstrate skills in the analysis of pharmaceutical and health technology innovations, as well as an understanding of contemporary health policy issues.

A minimum of 36 units of graduate level courses is required.

Grade Point Average

A grade point average of at least 3.0 (A = 4.0) must be achieved on graduate course work at USC.

Recommended Courses

Students must complete all recommended courses for the degree within five years of entry into the program. It is recommended that the student complete the following 36 units of graduate level course work.

- PPD 501a Economics for Policy, Planning and Development Units: 2 and
- PPD 501b Economics for Policy, Planning and Development Units: 2
- HCDA 506 Foundations of Insurance and Global Access Units: 3
- PMEP 509 Research Design Units: 4
- PMEP 525 Pharmacoeconomics I Units: 4 *
- PMEP 526 Pharmacoeconomics II Units: 2 *
- PMEP 527 Pharmacoeconomics III Units: 4
  or approved elective
- PMEP 535 Behavioral Science and Policy in Healthcare Units: 4
- PMEP 539 Economic Assessment of Medical Care Units: 4
- PMEP 547 Programming Methods for Empirical Analysis of Health Data Units: 4
- PMEP 551 Introduction to Health Econometrics Units: 4
- PMEP 552 Advanced Health Econometrics I Units: 4
  or approved elective
- PMEP 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Note:

* The student must satisfactorily complete the recommended courses in public administration (PPD 501a and PPD 501b) prior to enrolling in PMEP 525 and PMEP 526.

Additional Degree Requirements

The student is also required to complete an empirical research project on a topic relevant to pharmaceutical economics and policy. This paper will be completed under the advisement of a faculty member in the Department of Pharmaceutical and Health Economics and be approved by two additional faculty.

List of Approved Electives

- ECON 401 Mathematical Methods in Economics Units: 4
- ECON 415 Behavioral Economics Units: 4
- ECON 419 Advanced Econometrics Units: 4
- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4
- ECON 601 Microeconomic Theory I Units: 4
- ECON 603 Microeconomic Theory II Units: 4
- ECON 604 Game Theory Units: 4
- ECON 611 Probability and Statistics for Economists Units: 4
- ECON 615 Applied Econometrics Units: 4
- ECON 688 Empirical Industrial Organization Units: 4
- HCDA 506 Foundations of Insurance and Global Access Units: 3
- HCDA 507 Foundations of Product Development and Commercialization Units: 3
- MEDS 500 Basic Concepts in Global Health Units: 4
- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 511cL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 536 Program Evaluation and Research Units: 4
- PM 552 Statistical Methods in Clinical Trials Units: 3
- PM 560 Statistical Programming With R Units: 2
- PSYC 426 Motivated Behaviors and Addiction Units: 4

Pharmaceutical Sciences (MS)

A Master of Science in Pharmaceutical Sciences (28 units) will be granted on the basis of completion of at least 24 units of formal course work, in addition to 4 units earned by either completing and successfully presenting a thesis (PSCI 594a and PSCI 594b, both 2-unit courses based on the results of an original investigation), or by completing a non-thesis option. Students must choose one of these options by the end of the first year of study.

Three courses (12 units) are required from Department of Pharmacology and Pharmaceutical Sciences: PSCI 501, PSCI 502 and PSCI 503. Additionally, 4 units are in a degree-specific required course: PSCI 665.

The remaining units will be taken from courses offered within the Department of Pharmacology and Pharmaceutical Sciences or in various related disciplines outside the department, if approved by the Department of Pharmacology and Pharmaceutical Sciences Graduate Affairs Committee.

All 28 units must be at the 500 level or above.

Regulatory Management (MS)

Regulatory management relates to the leadership of teams involved in the regulatory and legal requirements of biomedical product development to the scientific study needed to establish product safety and efficacy. The Master of Science in Regulatory

Management program is designed to provide post-doctoral scientists with the knowledge and skills necessary to become leaders in regulatory and clinical research. A Masters of Science in Regulatory Management will be granted upon completion of at least 24 units of formal course work. Degree requirements include courses concerned with the regulatory aspects of medical product development, quality assurance, clinical research and business. Students should develop a specific plan of study in consultation with the graduate advisers before beginning the program.

Course Work

Students may select courses from areas within the regulatory science program, including from regulatory science, quality management, and clinical development, including that of business, human resource management, and project management. Suggested course options include but are not limited to the following:

- MPTX 511 Introduction to Medical Product Regulation Units: 3
- MPTX 512 Regulation of Pharmaceutical and Biological Products Units: 3
- MPTX 513 Regulation of Medical Devices and Diagnostics Units: 3
- MPTX 517 Structure and Management of Clinical Trials Units: 4
- RSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Regulatory Science (MS)

Regulatory science relates the regulatory and legal requirements of biomedical product development to the scientific study needed to establish product safety and efficacy. A Master of Science degree in regulatory science will be granted upon completion of at least 36 units of formal course work. Course requirements normally include a minimum of three courses concerned with regulatory aspects of medical product development and a minimum of one course each in quality assurance, clinical research, business, statistics and law. Recommended course work includes some courses available in other departments of the university. Students should develop a specific plan of study in consultation with the graduate advisers before beginning the program.

Dual Degree

Doctor of Pharmacy/Doctor of Philosophy (PharmD/PhD)

The Doctor of Pharmacy/Doctor of Philosophy (PharmD/PhD) program is designed to permit qualified PharmD students with a bachelor of science or equivalent degree to pursue research training in the pharmaceutical sciences and toxicology. A student accepted into the joint program must meet all requirements for the PharmD, as well as the requirements for the PhD in the pharmaceutical sciences or toxicology sections listed in this catalogue. A maximum of 20 units from the PharmD program may be credited toward the PhD. Up to 12 units of these PharmD courses may, at the discretion of the student's PhD adviser, be counted toward the required 24 units of core course work.

Admission Procedure

Students applying for the dual degree program must meet the respective admission requirements for each program. This includes having completed a baccalaureate degree from an accredited college or university with a minimum GPA of 3.0 and a minimum GRE score of 1000. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/PhD degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students who are accepted by only one program may choose to attend that program but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to one of the PhD programs in the School of Pharmacy during their first two years of enrollment in the PharmD prior to the respective published application deadlines for the PhD programs. Students who elect this approach must apply through the PharmD program. Students admitted to the PhD program using this approach will be offered admission to the dual degree contingent on their having maintained a minimum 3.0 GPA in the PharmD program.

Doctor of Pharmacy/Juris Doctor (PharmD/JD)

Admission Requirements

Admission to the dual Doctor of Pharmacy/Juris Doctor (PharmD/JD) program is competitive, and involves meeting admission requirements and gaining acceptance to both the School of Pharmacy and the USC Gould School of Law. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students who have a baccalaureate degree may apply to the dual PharmD/JD degree program in two ways.

First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both schools. Students who elect this approach must identify themselves on their PharmD applications as potential dual PharmD/JD degree students. Students who are admitted to both schools will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students pursuing the dual PharmD/JD degree must notify the law school in a timely fashion that they will be enrolling in the dual PharmD/JD degree program and will not matriculate at the law school until the following year. Students who are accepted by only one school may choose to attend that school but will not be eligible for the dual degree.

Second, students can apply to the dual degree by submitting an application to the Gould School of Law during their first year of enrollment in the PharmD program prior to the law school's published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students who are admitted to the law school using this approach would be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. See the admissions section of the School of Pharmacy and the Gould School of Law for specific requirements.

PharmD Requirements

Dual degree students should graduate with their PharmD degrees at the completion of the first semester of the sixth academic year of the dual degree program. Students will be eligible to sit for the Pharmacy Board Exams after completion of the PharmD degree requirements. However, dual degree students will not actually be awarded their PharmD degrees until they complete requirements for both degrees. The PharmD requires 136 units.

Juris Doctor Requirements

Dual degree students must complete their JD course work during the second to sixth years of the dual degree program. Students cannot receive the JD degree under the requirements of the dual degree program without prior or simultaneous completion of the PharmD degree.

Both professions require passing a state board or bar exam to practice the respective professions. Neither of these professional doctoral degrees requires a thesis or comprehensive final exam. The JD requires 76 units.

Year I (P1) Curriculum

Fall

- PHRD 501 Pharmaceutics I Units: 3
- PHRD 502 Pharmaceutics II Units: 2

- PHRD 503 Biological Systems I Units: 4
- PHRD 511 Pharmacy Practice and Professionalism 1 Units: 5
- PHRD 515 Metabolism and Cell Biology Units: 2
- PHRD 521 Medicinal Chemistry Units: 2

Spring

- PHRD 504 Biological Systems II Units: 4
- PHRD 512 Pharmacy Practice and Professionalism 2 Units: 2
- PHRD 514 Calculations and Compounding Units: 2
- PHRD 516 Non-Prescription Therapies Units: 3
- PHRD 520 Introduction to Therapeutics Units: 2
- PHRD 552 Pharmaceutics III Units: 3
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)

Year II (P2) Curriculum

Fall

- PHRD 508 Pharmacy Literature Analysis and Drug Information Units: 3
- PHRD 559 Therapeutics: Pharmacokinetics Units: 3
- PHRD 563 Case Conference 1 Units: 2
- PHRD 572 Therapeutics: General Medicine Units: 5
- PHRD 625 Hospital Pharmacy Practice Units: 1
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)
- Electives: 1-3 units*

Spring

- PHRD 517 Pharmacogenetics Units: 2
- PHRD 564 Case Conference 2 Units: 2
- PHRD 570 Therapeutics: Central Nervous System Units: 5
- PHRD 603 Therapeutics: Endocrine System Units: 5
- PHRD 624 Community Pharmacy Practice Units: 2
- PHRD 634 Scholarly Project 1 Units: 1
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)
- Electives: 1-3 units*

Year III (P3) Curriculum

Fall

- PHRD 611 Therapeutics: Infectious Diseases Units: 5
- PHRD 619 Therapeutics: Cardiovascular System Units: 5
- PHRD 622 Case Conference 3 Units: 2
- PHRD 633 Pharmacy Management and Economics Units: 2
- PHRD 635 Scholarly Project 2 Units: 1
- Pharmacy Practice IPPE (0 unit; CR/NC or IP)
- Electives: 1-3 units*

Spring

- PHRD 567 Pharmacy Law Units: 2
- PHRD 608 Therapeutics: Oncology and Immune Disorders Units: 5
- PHRD 623 Case Conference 4 Units: 1
- PHRD 636 Scholarly Project 3 Units: 1
- PHRD 650 APPE Gateway Units: 2
- Pharmacy Practice IPPE (0 unit; CR/NC or IP)
- Electives: 1-3 units*
- APPE Course (Optional): 6 units

Required Introductory Pharmacy Practice Experiences (IPPE) Courses

Students will be required to register for the following IPPE course sequences as indicated in the schedule above. Students will need to register for the second course of each sequence until they have completed the 80 hours of IPPE associated with each the first courses of each sequence. Students will be given a grade of Credit (CR) in the first course of each sequence once the 80 IPPE hours have been successfully completed.

- PHRD 627a Longitudinal Elective Pharmacy Practice Units: 2
- PHRD 627b Longitudinal Elective Pharmacy Practice Units: 0
- PHRD 629a Longitudinal Community Pharmacy Practice Units: 2
- PHRD 629b Longitudinal Community Pharmacy Practice Units: 0
- PHRD 631a Longitudinal Institutional Pharmacy Practice Units: 1, 2, 3
- PHRD 631b Longitudinal Institutional Pharmacy Practice Units: 0

Note:

*Elective courses: Students MUST complete a minimum of 3 units of elective courses for the PharmD degree. Students will be provided a list of courses approved each year.
**APPE courses are described below. Students may begin their APPEs in late March or early April of their P3 year and may be assigned to any of APPEs listed below.

Advanced Pharmacy Practice Experience (APPE)

Students must enroll in a minimum of six 6-unit six-week APPEs for a total of 36 units. Some students will take their APPEs entirely in their P4 year. Some will take one 6-unit APPE starting in the spring of their P3 year (late March/early April). Students will return to campus the last six weeks of their P4 year.

Required APPE Courses

Students must complete all APPE courses below (24 units) and the Doctor of Pharmacy Capstone courses (0 units).

- PHRD 701 Acute Care Clinical APPE Units: 6
- PHRD 704 Primary Care APPE Units: 6
- PHRD 705 Community Pharmacy APPE Units: 6
- PHRD 718 Hospital Pharmacy Practice APPE Units: 6
- PHRD 796a Doctor of Pharmacy Capstone Units: 0
- PHRD 796b Doctor of Pharmacy Capstone Units: 0, 3

Elective APPE Courses

Students must complete 12 units from the list below.

- PHRD 714 Nuclear Pharmacy APPE Units: 6
- PHRD 725 International Pharmacy Practice Experience Units: 3, 6
- PHRD 731 Advanced Geriatrics APPE Units: 6
- PHRD 738 Pharmaceutical Industry APPE Units: 6
- PHRD 750 Advanced Pharmacy Practice Elective (APPE) Units: 6
- PHRD 751 Non-traditional Advanced Pharmacy Elective (APPE) Units: 6

Plus a minimum of 76 units of JD Course Work

Doctor of Pharmacy/Master of Business Administration (PharmD/MBA)

Responding to the growing demand on pharmacists to be knowledgeable in both science and business administration, the USC School of Pharmacy in 1988 helped pioneer an innovation in pharmaceutical education by offering this unique five-year dual degree program.

The Doctor of Pharmacy/Master of Business Administration (PharmD/MBA) dual degree program is offered cooperatively by the School of Pharmacy and the USC Marshall School of Business. Students must complete concurrently all requirements established by both schools for their respective degrees.

The program involves completion of the first year in the School of Pharmacy, the second in the Marshall School of Business, and then completion of the balance of both degrees during the third through fifth years. A total of 48 units must be completed in the Marshall School of Business.

First Year: Required Pharmacy School courses.

Second Year: Required MBA courses and graduate business electives.

Third to Fifth Years: remaining Pharmacy courses and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units. The PharmD and the MBA are awarded simultaneously upon completion of the School of Pharmacy and the Marshall School of Business requirements.

MBA Admission Requirements

Applicants to this program must have a baccalaureate degree from an accredited college or university and should apply during their first year of pharmacy studies. Only students who have successfully completed one year in the School of Pharmacy will be considered for admission to the Marshall School of Business. See the Marshall School of Business for admission requirements.

Doctor of Pharmacy/Master of Public Health (PharmD/MPH)

The School of Pharmacy and the Master of Public Health program, in recognition of the rapidly changing health care environment, and in response to the growing demand for pharmacists who are knowledgeable in both pharmacy and population-based health care issues, have developed a dual degree program. The joint PharmD/MPH degree will enable graduates to be more responsive to today's health care needs and will provide training for pharmacists who seek to be agents of change within the profession and to assume leadership roles in the pharmacy field and in public health at the local, state and national levels.

The PharmD and the MPH degrees are awarded simultaneously upon completion of the School of Pharmacy and the Master of Public Health requirements.

Admission Requirements and Procedures

Students applying for the dual degree program must meet the respective admission requirements for each program. This includes having completed a baccalaureate degree from an accredited college or university with a minimum GPA of 3.0 and having acceptable GRE and TOEFL or IELTS scores as applicable. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MPH degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students who are accepted by only one program may choose to attend that program, but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the MPH program during their first year of enrollment in the PharmD prior to the MPH published application deadline. Students who elect this approach must apply through the School of Pharmacy.

Year I (P1) Curriculum

Fall

- PHRD 501 Pharmaceutics I Units: 3
- PHRD 502 Pharmaceutics II Units: 2
- PHRD 503 Biological Systems I Units: 4
- PHRD 511 Pharmacy Practice and Professionalism 1 Units: 5
- PHRD 515 Metabolism and Cell Biology Units: 2
- PHRD 521 Medicinal Chemistry Units: 2

Spring

- PHRD 504 Biological Systems II Units: 4
- PHRD 512 Pharmacy Practice and Professionalism 2 Units: 2
- PHRD 514 Calculations and Compounding Units: 2
- PHRD 516 Non-Prescription Therapies Units: 3
- PHRD 520 Introduction to Therapeutics Units: 2
- PHRD 552 Pharmaceutics III Units: 3
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)

Year II (P2) Curriculum

Fall

- PHRD 508 Pharmacy Literature Analysis and Drug Information Units: 3
- PHRD 559 Therapeutics: Pharmacokinetics Units: 3
- PHRD 563 Case Conference 1 Units: 2
- PHRD 572 Therapeutics: General Medicine Units: 5
- PHRD 625 Hospital Pharmacy Practice Units: 1
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)
- Electives: 1-3 units*

Spring

- PHRD 517 Pharmacogenetics Units: 2
- PHRD 564 Case Conference 2 Units: 2
- PHRD 570 Therapeutics: Central Nervous System Units: 5
- PHRD 603 Therapeutics: Endocrine System Units: 5
- PHRD 624 Community Pharmacy Practice Units: 2
- PHRD 634 Scholarly Project 1 Units: 1
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)
- Electives: 1-3 units*

Year III (P3) Curriculum

Fall

- PHRD 611 Therapeutics: Infectious Diseases Units: 5
- PHRD 619 Therapeutics: Cardiovascular System Units: 5
- PHRD 622 Case Conference 3 Units: 2
- PHRD 633 Pharmacy Management and Economics Units: 2
- PHRD 635 Scholarly Project 2 Units: 1
- Pharmacy Practice IPPE (0 unit; CR/NC or IP)
- Electives: 1-3 units*

Spring

- PHRD 567 Pharmacy Law Units: 2
- PHRD 608 Therapeutics: Oncology and Immune Disorders Units: 5
- PHRD 623 Case Conference 4 Units: 1
- PHRD 636 Scholarly Project 3 Units: 1
- PHRD 650 APPE Gateway Units: 2
- Pharmacy Practice IPPE (0 unit; CR/NC or IP)
- Electives: 1-3 units*
- APPE Course (Optional): 6 units

Required Introductory Pharmacy Practice Experiences (IPPE) Courses:

Students will be required to register for the following IPPE course sequences as indicated in the schedule above. Students will need to register for the second course of each sequence until they have completed the 80 hours of IPPE associated with the first course of each sequence. Students will be given a grade of Credit (CR) in the first course of each sequence once the 80 IPPE hours have been successfully completed.

- PHRD 627a Longitudinal Elective Pharmacy Practice Units: 2
- PHRD 627b Longitudinal Elective Pharmacy Practice Units: 0
- PHRD 629a Longitudinal Community Pharmacy Practice Units: 2
- PHRD 629b Longitudinal Community Pharmacy Practice Units: 0
- PHRD 631a Longitudinal Institutional Pharmacy Practice Units: 1, 2, 3
- PHRD 631b Longitudinal Institutional Pharmacy Practice Units: 0

Note:

*Elective courses: Students MUST complete a minimum of 3 units of elective courses for the degree. Students will be provided a list of courses approved each year.

**APPE courses are described below. Students may begin their APPEs in late March or early April of their P3 year and may be assigned to any of APPEs listed below.

Advanced Pharmacy Practice Experience (APPE)

Students must enroll in a minimum of six 6-unit six-week APPEs for a total of 36 units. Some students will take their APPEs entirely in their P4 year. Some will take one 6-unit APPE starting in the

spring of their P3 year (late March/early April). Students will return to campus the last six weeks of their P4 year.

Required APPE Courses

Students must complete all APPE courses below (24 units) and the Doctor of Pharmacy Capstone courses (0 units).

- PHRD 701 Acute Care Clinical APPE Units: 6
- PHRD 704 Primary Care APPE Units: 6
- PHRD 705 Community Pharmacy APPE Units: 6
- PHRD 718 Hospital Pharmacy Practice APPE Units: 6
- PHRD 796a Doctor of Pharmacy Capstone Units: 0
- PHRD 796b Doctor of Pharmacy Capstone Units: 0, 3

Elective APPE Courses

Students must complete 12 units from the list below.

- PHRD 714 Nuclear Pharmacy APPE Units: 6
- PHRD 725 International Pharmacy Practice Experience Units: 3, 6
- PHRD 731 Advanced Geriatrics APPE Units: 6
- PHRD 738 Pharmaceutical Industry APPE Units: 6
- PHRD 750 Advanced Pharmacy Practice Elective (APPE) Units: 6
- PHRD 751 Non-traditional Advanced Pharmacy Elective (APPE) Units: 6

MPH Curriculum

Students in the PharmD/MPH dual degree must complete 38 units of MPH specific course work (18 units of MPH core + 20 units of concentration course work). Relevant courses taken in the School of Pharmacy will be counted toward the MPH concentration elective requirement.

Doctor of Pharmacy/Master of Science, Gerontology (PharmD/MS)

The emerging impact of the elderly on the health care system has created a need for health care providers who understand the unique needs of the elderly. As drug therapy remains the primary therapeutic option for chronic disease, the demand for prescription drugs will continue to rise. There is a demand for pharmacists who are equipped to meet the pharmaceutical care needs of this population. Geriatric pharmacy is recognized as a specialty, with board certification through the Commission for Certification in Geriatric Pharmacy. The PharmD/MS, Gerontology program will provide extensive education and training in the unique health care needs of older adults. It will allow student pharmacists with a career interest in geriatrics or gerontology to work with health care planning or delivery organizations to develop and implement progressive pharmaceutical care programs for the elderly.

Application and Admission Requirements

Students who intend to pursue the dual PharmD/MSG degree must be accepted by both programs. This includes having completed a baccalaureate degree from an accredited college or university with a minimum GPA of 3.0 and a minimum equivalent GRE score of 1000. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MS degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program. Second, students can apply to the dual degree by submitting an application to the MS program during their first year of enrollment in the PharmD prior to the MS published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the MS program using this approach will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students accepted to the dual degree program must maintain a minimum 3.0 GPA in their Gerontology and PharmD courses.

Recommended Program

First year: Required Year I PharmD course work
Second year: Required Gerontology course work
Third year: Required Year II PharmD course work
Fourth year: Required Year III PharmD course work
Fifth year: Required Year IV PharmD course work

Graduation Requirements

Students must complete all requirements for the PharmD (see the Professional Degrees page) and MS, Gerontology degrees as listed in the current catalogue with a minimum cumulative 3.0 GPA. The specific MS course requirements for the dual PharmD/MS degree are listed on the School of Gerontology Dual Degree Programs page.

Doctor of Pharmacy/Master of Science, Global Medicine (PharmD/MS)

The dual degree in Pharmacy and Global Medicine is designed for students who are interested in providing pharmaceutical care to underserved populations around the world. Students enrolled in this dual degree program will benefit from an advanced understanding of the role of, and issues surrounding, modern medicine in developing countries.

Requirements

Students must gain admission to and fulfill the degree requirements for both programs, which include 136 units for the Doctor of Pharmacy and 24 units for the MS in Global Medicine.

Program Adaptation

Because MEDS 503 and MEDS 504, core requirements for the MS in Global Medicine program, cover the same material as PHRD 503 and PHRD 504, the PharmD/MS, Global Medicine dual degree program substitutes PHRD 503 and PHRD 504 for MEDS 503 and MEDS 504 as core requirements for the dual degree.

Year I (P1) Curriculum

Fall

- PHRD 501 Pharmaceutics I Units: 3
- PHRD 502 Pharmaceutics II Units: 2
- PHRD 503 Biological Systems I Units: 4
- PHRD 511 Pharmacy Practice and Professionalism 1 Units: 5
- PHRD 515 Metabolism and Cell Biology Units: 2
- PHRD 521 Medicinal Chemistry Units: 2

Spring

- PHRD 504 Biological Systems II Units: 4
- PHRD 512 Pharmacy Practice and Professionalism 2 Units: 2
- PHRD 514 Calculations and Compounding Units: 2
- PHRD 516 Non-Prescription Therapies Units: 3
- PHRD 520 Introduction to Therapeutics Units: 2
- PHRD 552 Pharmaceutics III Units: 3
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)

Year II (P2) Curriculum

Fall

- PHRD 508 Pharmacy Literature Analysis and Drug Information Units: 3
- PHRD 559 Therapeutics: Pharmacokinetics Units: 3
- PHRD 563 Case Conference 1 Units: 2
- PHRD 572 Therapeutics: General Medicine Units: 5
- PHRD 625 Hospital Pharmacy Practice Units: 1
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)
- Electives: 1-3 units*

Spring

- PHRD 517 Pharmacogenetics Units: 2
- PHRD 564 Case Conference 2 Units: 2
- PHRD 570 Therapeutics: Central Nervous System Units: 5
- PHRD 603 Therapeutics: Endocrine System Units: 5
- PHRD 624 Community Pharmacy Practice Units: 2
- PHRD 634 Scholarly Project 1 Units: 1

- Pharmacy Practice IPPE (2 unit; CR/NC or IP)
- Electives: 1-3 units*

Year III (P3) Curriculum

Fall

- PHRD 611 Therapeutics: Infectious Diseases Units: 5
- PHRD 619 Therapeutics: Cardiovascular System Units: 5
- PHRD 622 Case Conference 3 Units: 2
- PHRD 633 Pharmacy Management and Economics Units: 2
- PHRD 635 Scholarly Project 2 Units: 1
- Pharmacy Practice IPPE (0 unit; CR/NC or IP)
- Electives: 1-3 units*

Spring

- PHRD 567 Pharmacy Law Units: 2
- PHRD 608 Therapeutics: Oncology and Immune Disorders Units: 5
- PHRD 623 Case Conference 4 Units: 1
- PHRD 636 Scholarly Project 3 Units: 1
- PHRD 650 APPE Gateway Units: 2
- Pharmacy Practice IPPE (0 unit; CR/NC or IP)
- Electives: 1-3 units*
- APPE Course (Optional): 6 units

Required Introductory Pharmacy Practice Experiences (IPPE) Courses

Students will be required to register for the following IPPE course sequences as indicated in the schedule above. Students will need to register for the second course of each sequence until they have completed the 80 hours of IPPE associated with the first course of each sequence. Students will be given a grade of Credit (CR) in the first course of each sequence once the 80 IPPE hours have been successfully completed.

- PHRD 627a Longitudinal Elective Pharmacy Practice Units: 2
- PHRD 627b Longitudinal Elective Pharmacy Practice Units: 0
- PHRD 629a Longitudinal Community Pharmacy Practice Units: 2
- PHRD 629b Longitudinal Community Pharmacy Practice Units: 0
- PHRD 631a Longitudinal Institutional Pharmacy Practice Units: 1, 2, 3
- PHRD 631b Longitudinal Institutional Pharmacy Practice Units: 0

Note:

*Elective courses: Students MUST complete a minimum of 3 units of elective courses for the PharmD degree. Students will be provided a list of courses approved each year.
**APPE courses are described below. Students may begin their APPEs in late March or early April of their P3 year and may be assigned to any of APPEs listed below.

Advanced Pharmacy Practice Experience (APPE)

Students must enroll in a minimum of six 6-unit six-week APPEs for a total of 36 units. Some students will take their APPEs entirely in their P4 year. Some will take one 6-unit APPE starting in the spring of their P3 year (late March/early April). Students will return to campus the last six weeks of their P4 year.

Required APPE Courses

Students must complete all APPE courses below (24 units) and the Doctor of Pharmacy Capstone courses (0 units).

- PHRD 701 Acute Care Clinical APPE Units: 6
- PHRD 704 Primary Care APPE Units: 6
- PHRD 705 Community Pharmacy APPE Units: 6
- PHRD 718 Hospital Pharmacy Practice APPE Units: 6
- PHRD 796a Doctor of Pharmacy Capstone Units: 0
- PHRD 796b Doctor of Pharmacy Capstone Units: 0, 3

Elective APPE Courses

Students must complete 12 units from the list below.

- PHRD 714 Nuclear Pharmacy APPE Units: 6
- PHRD 725 International Pharmacy Practice Experience Units: 3, 6
- PHRD 731 Advanced Geriatrics APPE Units: 6
- PHRD 738 Pharmaceutical Industry APPE Units: 6
- PHRD 750 Advanced Pharmacy Practice Elective (APPE) Units: 6
- PHRD 751 Non-traditional Advanced Pharmacy Elective (APPE) Units: 6

Doctor of Pharmacy/Master of Science, Regulatory Science (PharmD/MS)

Regulatory science is the branch of knowledge that relates the regulatory and legal requirements of biomedical product development to the scientific testing and oversight needed to ensure product safety and efficacy. The program provides an opportunity for advanced preparation in the fields of regulatory affairs, quality assurance and clinical research. Students must complete concurrently all of the requirements established for the respective degrees. The program alternates the courses required for the PharmD program during the fall and spring terms with courses required in summer terms for the MS program. Students will typically take courses in the summers of years two to four. Up to 12 appropriate units of course work from the PharmD program can be applied toward the MS degree. The PharmD and the MS, Regulatory Science degrees will be awarded simultaneously upon completion of requirements for the two programs.

Admission Requirements and Procedures

Students applying for the dual degree program must meet the respective admission requirements for each program and must have a baccalaureate degree. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MS, Regulatory Science degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students who are accepted by only one program may choose to attend that program but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the MS in Regulatory Science program during their first or second year of enrollment in the PharmD prior to the MS in Regulatory Science published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the MS in Regulatory Science using this approach will be offered admission to the dual degree contingent on passing all courses in their PharmD studies with a minimum 3.0 GPA.

Healthcare Decision Analysis (PharmD/MS)

The Healthcare Decision Analysis (HCDA) program gives students the tools and knowledge to succeed in the complex world of healthcare data analytics, international access and reimbursement, product pricing and value assessment, insurance operations and design, along with competitive business intelligence. A dual degree of Doctor of Pharmacy and Master of Science in Healthcare Decision Analysis will be granted upon the completion of the course work required for the PharmD degree, and the HCDA core and elective units. Dual degree students will be credited up to 9 units of appropriate PharmD course work toward the MS, HCDA. Dual degree students will select from a series of HCDA core courses and required electives to meet the MS, HCDA degree requirements. Electives will be considered from the disciplines: applied healthcare policy, business intelligence, regulatory science, and healthcare economics, along with all required clerkships and rotations offered though the USC School of Pharmacy. Students should develop a specific plan of study

in consultation with program administrators before beginning the program.

Graduate Certificate

Advanced Pharmacy Practice Graduate Certificate

The USC School of Pharmacy Graduate Certificate for Advanced Pharmacy Practice program provides an accelerated pathway to licensure for foreign-trained pharmacists with advanced degrees. Participants, who must have FPGEC certification to enroll, will benefit from the extensive network for pharmacy practice rotations at USC to complete four core 6-unit rotations and 12 units of elective rotations. Participants will also enroll in the Capstone course that prepares them for the NAPLEX and CPJE or MPJE exams.

Required Courses (24 Units)

- PHRD 701 Acute Care Clinical APPE Units: 6
- PHRD 704 Primary Care APPE Units: 6
- PHRD 705 Community Pharmacy APPE Units: 6
- PHRD 718 Hospital Pharmacy Practice APPE Units: 6
- PHRD 796a Doctor of Pharmacy Capstone Units: 0
- PHRD 796b Doctor of Pharmacy Capstone Units: 0, 3

Elective Courses (12 Units)

Must take two courses from the options below:

- PHRD 714 Nuclear Pharmacy APPE Units: 6
- PHRD 725 International Pharmacy Practice Experience Units: 3, 6
- PHRD 731 Advanced Geriatrics APPE Units: 6
- PHRD 738 Pharmaceutical Industry APPE Units: 6
- PHRD 750 Advanced Pharmacy Practice Elective (APPE) Units: 6
- PHRD 751 Non-traditional Advanced Pharmacy Elective (APPE) Units: 6

Minimum Units Required: 36

Clinical Research Design and Management Certificate

The graduate certificate in clinical research design and management is designed to strengthen the statistical, research and project management skills of clinical researchers and their associated clinical team members. Students must complete at least 12 units of course work including at least two courses in clinical design and trial management, one course in ethics and one course in a specialized aspect of design, management or statistics, subject to the approval of the program director. The program will include course work delivered in nontraditional formats such as intensive weekend sessions and will use distance learning tools, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Requirements

Introduction to Clinical Trials

- MPTX 517 Structure and Management of Clinical Trials Units: 4

Clinical Design/Statistics (choose one)

- MPTX 522 Introduction to Clinical Trial Design and Statistics Units: 3
- PM 510L Principles of Biostatistics Units: 4

Biomedical Ethics

- MPTX 602 Science, Research and Ethics Units: 2

Elective (choose at least one)

- MPTX 511 Introduction to Medical Product Regulation Units: 3
- MPTX 522 Introduction to Clinical Trial Design and Statistics Units: 3 *
- PM 510L Principles of Biostatistics Units: 4 *
- RSCI 506 Auditing Principles Units: 3
- RSCI 520 Introduction to Risk Management for Health Care Products Units: 2
- RSCI 527 Medical Product Safety Units: 3
- RSCI 603 Managing Complex Projects Units: 3

*Note:

Cannot be double counted as an elective and the Clinical Design/Statistics requirement.

Food Safety Certificate

The graduate certificate in food safety is a 12-unit program of course work designed to strengthen the knowledge base and functional "toolkit" of individuals who deal with the production and management of food in industry and government. Students are required to take an entry level course that focuses on regulatory requirements for foods and dietary supplements and two additional courses that focus on food science and food/drug toxicology respectively. Final course work will be selected from a small grouping of electives that deal with quality systems or risk management. The program will include course work delivered in nontraditional formats, such as intensive weekend sessions, and will use distance learning tools, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Requirements

- MPTX 514 Regulation of Food and Dietary Supplements Units: 3
- MPTX 524 Introduction to Food Science and Technology Units: 3
- RSCI 525 Introduction to Drug and Food Toxicology Units: 3

Quality/Risk Management Option:

Select at least one course (3 units):

- MPTX 511 Introduction to Medical Product Regulation Units: 3
- MPTX 515 Quality Systems and Standards Units: 3
- MPTX 526 Chemistry Manufacturing and Controls Units: 3
- RSCI 508 Quality Assurance for Drugs and Biologics Units: 3
- RSCI 509 Quality Assurance, Medical Devices and Combination Products Units: 3
- RSCI 520 Introduction to Risk Management for Health Care Products Units: 2
- RSCI 529 Application of Risk Management Tools and Techniques Units: 2

Healthcare Decision Analysis Certificate

The Healthcare Decision Analysis (HCDA) Certificate program gives students the tools and knowledge to succeed in the complex world of healthcare data analytics, international access and reimbursement, product pricing and value assessment, insurance operations and design, along with competitive business intelligence. Course work is typically delivered in nontraditional formats such as intensive weekend sessions, Webcast lectures, and distance learning tools. Courses must be taken on-site. Students should confirm their specific course work plan in consultation with the graduate adviser before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate

study through the Healthcare Decision Analysis program. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Students must complete at least 12 units of specified course work, which normally will include two introductory courses on healthcare insurance and access, and product development and commercialization, along with two additional elective courses. The certificate can be completed on a part-time basis but must be finished within five years.

Required Courses

- HCDA 506 Foundations of Insurance and Global Access Units: 3
- HCDA 507 Foundations of Product Development and Commercialization Units: 3

Electives (select two):

- HCDA 501 Fundamentals of Healthcare Insurance Design Units: 3
- HCDA 502 Comparative International Healthcare Systems Units: 3
- HCDA 503 Competitive Healthcare Intelligence Units: 3
- HCDA 510 Business Implications of Healthcare Policy Units: 3
- HCDA 515 Healthcare Decision Analysis and Modeling Units: 3
- HCDA 520 Health Economic and Outcomes Methodology Units: 3
- HCDA 525 Healthcare Literature Analysis and Applications Units: 3
- HCDA 530 Total Product Development: Benchtop to Launch Units: 3
- HCDA 540 Executive Leadership and Healthcare Marketing Units: 3
- HCDA 550 Healthcare Innovation: Creativity to Value Units: 3
- HCDA 553 Advanced Pricing Strategies Units: 3
- HCDA 560 Managing Effective Partnerships and Mergers Units: 3
- HCDA 570 Asia Pacific: Access, Delivery and Reimbursement Units: 3

Medical Product Quality Graduate Certificate

The graduate certificate in Medical Product Quality is a 12-unit program designed for students with a background in biological, pharmaceutical and biomedical sciences and biomedical engineering. Quality assurance and quality control are the two functions in the biomedical industry that are responsible for the testing and oversight required to ensure the safety of the health care products that are manufactured. An essential tenet of regulatory oversight is the assurance of quality through guidelines, audits and inspections. In this program the regulations and guidelines to ensure the quality of drugs, biologics and medical devices, both in the United States and internationally, will be studied to develop an understanding of the basic principles important for the interpretation and implementation of quality practices and quality systems. Course work is typically delivered in nontraditional formats such as intensive weekend sessions and will use distance learning tools, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Students must complete 12 units of specified course work (four course minimum), that normally will include an introductory course in the basic principles of quality systems, a course in project management, a course in quality tools and one elective chosen from the quality or regulatory offerings. The certificate can be completed on a part-time basis but must be finished within five years.

Choose at least one Quality Systems course from:

- MPTX 515 Quality Systems and Standards Units: 3
- RSCI 508 Quality Assurance for Drugs and Biologics Units: 3
- RSCI 509 Quality Assurance, Medical Devices and Combination Products Units: 3

Choose at least one Quality Tools course from:

- RSCI 506 Auditing Principles Units: 3
- RSCI 507 Quality Systems and Statistical Process Control Units: 2
- RSCI 535 Methods Development and Validation Units: 3

Project Management

- RSCI 603 Managing Complex Projects Units: 3

Choose an elective from the Quality or Regulatory offerings (minimum 3 units)

Elective course selected in consultation with academic adviser

Patient and Product Safety Certificate

The graduate certificate in patient and product safety is a 12-unit program that educates students in the emerging field of safety and risk management in the health care environment. It is designed to produce graduates who have a particular expertise in the evaluation and mitigation of medical errors and health-care product problems. Course work is typically delivered in nontraditional formats such as intensive weekend sessions and will use distance learning tools, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Students must complete 12 units of specified course work, that normally will include an introductory course in the basic principles of risk management, a second course in the use of risk management tools, and two additional courses in patient and product safety respectively as listed below. In addition, a course in medical ethics is recommended. Most students will take the courses that are listed in the sample student program below, but if students have already strong previous experience in risk management or safety, other statistical or quality courses taught in graduate programs at USC may be substituted with the permission of the program director. The certificate can be completed on a part-time basis but must be finished within five years.

Courses may be selected from the following recommended course list.

Recommended Course List

- MPTX 515 Quality Systems and Standards Units: 3
- MPTX 517 Structure and Management of Clinical Trials Units: 4
- MPTX 602 Science, Research and Ethics Units: 2
- RSCI 520 Introduction to Risk Management for Health Care Products Units: 2
- RSCI 527 Medical Product Safety Units: 3
- RSCI 529 Application of Risk Management Tools and Techniques Units: 2
- RSCI 603 Managing Complex Projects Units: 3

Preclinical Drug Development Certificate

The graduate certificate in preclinical drug development provides advanced foundational training in preclinical aspects of drug development, translational research and regulatory control.

Students must complete at least 12 units of course work including at least three courses in preclinical design and development (typically, RSCI 530 Translational Medicine: An Overview ; RSCI 531 Industrial Approaches to Drug Discovery; RSCI 532 Early Stage Drug Development) and one course in a related aspect of research design, regulation or ethics, subject to the approval of the program director. The program will include course work delivered in nontraditional formats such as intensive weekend sessions and will use distance capabilities, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with graduate advisers before beginning the program. Students who have baccalaureate degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Regulatory and Clinical Affairs Certificate

The graduate certificate in regulatory and clinical affairs is designed to provide specialized education for individuals interested in developing a systematic understanding of the U.S. regulatory system for medical products. Students must complete at least 12 units of course work including an introductory course in regulatory affairs:

Requirements

Introductory Course (1 course)

- MPTX 511 Introduction to Medical Product Regulation Units: 3
- RSCI 531 Industrial Approaches to Drug Discovery Units: 4
- RSCI 532 Early Stage Drug Development Units: 3

Advanced Regulation (1 course)

- MPTX 512 Regulation of Pharmaceutical and Biological Products Units: 3
- MPTX 513 Regulation of Medical Devices and Diagnostics Units: 3
- MPTX 514 Regulation of Food and Dietary Supplements Units: 3

Clinical Trials (1 course)

- MPTX 517 Structure and Management of Clinical Trials Units: 4
- MPTX 518 Writing Regulatory Drug Submissions Units: 3
- MPTX 522 Introduction to Clinical Trial Design and Statistics Units: 3
- MPTX 526 Chemistry Manufacturing and Controls Units: 3
- RSCI 525 Introduction to Drug and Food Toxicology Units: 3

Quality Assurance and Risk Management (1 course)

- MPTX 515 Quality Systems and Standards Units: 3
- RSCI 508 Quality Assurance for Drugs and Biologics Units: 3
- RSCI 509 Quality Assurance, Medical Devices and Combination Products Units: 3
- RSCI 520 Introduction to Risk Management for Health Care Products Units: 2

Minimum Units: 12

Additional Requirements

Other courses may be substituted with the approval of the program director. The program will include course work delivered in nontraditional formats such as intensive weekend sessions and will use distance capabilities to capture and Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before beginning the program. Students who have a baccalaureate degree from an accredited college or university must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Doctoral Degree

Clinical and Experimental Therapeutics (PhD)

The goal of the PhD program in Clinical and Experimental Therapeutics is to develop a scientist who is engaged in team science through interdisciplinary education; competent in conducting research across clinical and basic science disciplines; and integrates basic investigations and clinical observations in applied research to better understand disease process, advance drug development and evaluate efficacy and toxicity of therapeutic regimens with the goal of improving the safe, effective and economical use of therapeutic modalities by patients.

The program applies an interdisciplinary approach that focuses the graduate studies directly toward translational, rather than basic science, aiming to educate students with the perspective and skill set to identify important connections between fundamental biomedical research and human disease. This program emphasizes cross-training between clinical and basic sciences focusing on the investigation of disease processes, drug development and the efficacy and toxicity of therapeutic regimens. Course requirements and research opportunities for graduate students enrolled in the program provide both experimental (basic) and disease-focused experiences that complement the graduate's research focus.

Course Requirements

A minimum of 60 units is required. At least 26 of the 60 units are to be formal graduate course work at the 500- level or above, exclusive of seminars and directed research. Students must complete 14 units of course work before they are eligible for the screening procedure. Additional course work relevant to the research interests of the student may be required by the student's advisers or the student's qualifying exam committee, with an emphasis on cross-training and taking into account the amount and level of previous scientific preparation and the nature of the research dissertation that will be the major endpoint of the program. Specifically, recommended course work differs between students who have an advanced professional degree (Track I) and those who do not (Track II). A maximum of 12 units may be transferred from graduate studies elsewhere.

In the first year, all students (Tracks I and II) are recommended to take 14 units of course work in translational medicine (RSCI 530 , 2 units), research design (CXPT 609, 4 units), biostatistics (PM 510, 4 units), and clinical trial design (MPTX 517, 4 units). In the second year, Track I students will take the remaining 12 units of course work as electives based on the background of the student and the proposed research focus of the student. Track II students who do not have an advanced professional degree are recommended to select from the following courses as part of their electives: systems physiology and disease (INTD 572 and INTD 573, 4 units each) or pathology (INTD 550, INTD 551, 4 units each). Other electives that can be chosen are INTD 531, INTD 561, PM 533, PM 538, PM 570 and PSCI 665.

The remaining 34 of the 60 units required for the PhD degree may be fulfilled with other courses including ethics, interdisciplinary seminar, directed research and dissertation. Note that to become eligible to take the qualifying exam, Track II students must fulfill the prescribed clinical experiences that match the disease-related topic of the student's thesis work as approved by the student's advisers and advisory committee. Students with a bachelor's degree in a health care subject area (e.g., nursing, pharmacy, medicine) will be evaluated on a case basis and may be required to meet the therapeutic course work or clinical experience component described above, as determined by their background and previous experiences.

Foreign Language Requirement

There is no formal language requirement. However, an individual qualifying exam committee can require competency in a foreign language or a computer language if it is relevant for the student's area of research.

Qualifying Exam Committee

Upon admission, the student will be assigned to a member of the graduate faculty who will serve as his or her temporary adviser until a permanent adviser has been identified. The student's program of study will be under the direction of the qualifying exam committee composed of at least five members, one of whom must be from outside the department. Because of the centrality of research in the PhD program, the student is encouraged to get acquainted with the participating faculty mentors from the day they enter the program, and have selected a research direction, paired graduate advisers (clinical and basic scientists), and qualifying exam committee no later than the third semester of study. The graduate affairs committee will serve as the qualifying exam committee until one is selected.

Screening Procedure

The performance of each student will be evaluated no later than the end of the second semester of enrollment in the graduate program. This screening procedure is conducted by the student's qualifying exam committee or, if a student has not yet selected a qualifying exam committee, by the graduate affairs committee. The committee reviews the student's progress to date in various areas including course work, research interests, and laboratory performance on his or her research project or laboratory rotations. If a performance deficiency is determined, specific goals will be established that the student must fulfill to continue in the program. Passing this screening procedure is prerequisite to continuation in the PhD program.

Qualifying Examination

Students will be required to pass a comprehensive written and oral examination on the chosen disease-focused area of research emphasis. The examination will encompass basic scientific concepts relevant to the disease under study and the laboratory techniques in that discipline, fundamental principles of clinical research and design, biostatistics, and therapeutics in the chosen disease-focused area of research. The examination is administered by the qualifying exam committee and consists of two parts: a written examination administered to all students at the end of their second year of study and a detailed written proposal and its oral presentation and defense by the student to the qualifying exam committee. The examination process is conducted by the student's advisory committee with oversight by the graduate affairs committee. All course and qualifying examination requirements for the Doctor of Philosophy must be completed within two-and-a-half years after admission. After passing these examinations, the student is admitted to candidacy for the PhD degree.

Dissertation

A dissertation based on original investigation in a relevant scientific area is required for the PhD. The dissertation research must represent a significant contribution to science and should demonstrate the candidate's scholarly advancement and competence to undertake independent research. An oral defense of the dissertation will be held after the candidate submits the final draft of the dissertation to the dissertation committee. (See Theses and Dissertations in the Graduate School section.)

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. As part of the general requirements for the PhD degree, each student is required to participate in the teaching program of the School of Pharmacy.

Health Economics (PhD)

The Department of Pharmaceutical and Health Economics (in the School of Pharmacy) offers a program of study leading to the PhD degree in Health Economics. The program focuses on microeconomics; econometrics; health economics and policy; public finance; pharmaceutical economics and policy. The program offers one track in microeconomics and a second track in pharmaceutical economics and policy.

Microeconomics Track

Students in the microeconomics track will complete the microeconomic theory and econometric sequence and course work in health economics. They will receive focused training and mentoring in health economics through collaboration on research projects.

Satisfactory completion of the economic theory sequence with a grade point average of B or higher.

At least one of the econometrics courses must be completed with a grade of B or higher. The courses recommended for fulfilling the requirements for the Microeconomics Track are:

- GSBA 602 Selected Issues in Economic Theory I Units: 3
- PMEP 509 Research Design Units: 4

- ECON 636 Health Economics I Units: 4
- ECON 693 Seminar in Applied Economics and Public Policy Units: 2
- GSBA 612 Selected Issues in Economic Theory II Units: 3
  or
- PMEP 525 Pharmacoeconomics I Units: 4
  and
- PMEP 526 Pharmacoeconomics II Units: 2
- PMEP 535 Behavioral Science and Policy in Healthcare Units: 4
- PMEP 544 Health Economics II Units: 4
- PMEP 547 Programming Methods for Empirical Analysis of Health Data Units: 4
- PMEP 551 Introduction to Health Econometrics Units: 4
- PMEP 552 Advanced Health Econometrics I Units: 4
- PMEP 553 Advanced Health Econometrics II Units: 4
- PMEP 698 Seminar in Pharmaceutical Economics and Policy Units: 1

Additional Requirements

Students in the microeconomics track will complete the microeconomic theory and econometric sequence and course work in health economics. They will receive focused training and mentoring in health economics through collaboration on research projects.

Foreign Language Requirement

There is no formal foreign language requirement. However, competence in the use of one computer programming language is required for the graduate degree. Such competence can be demonstrated either by course work or examination.

Grade Point Average

A grade point average (GPA) of at least 3.0 and typically considerably higher (on a scale of 4.0) must have been achieved on all graduate work at USC for the passing of the screening procedure. The Graduate School requires a minimum GPA of 3.0 on all course work taken as a graduate student at USC.

Unit Requirements

The PhD in Health Economics requires a minimum of 64 units of graduate-level courses numbered 500 or higher (excluding 794) and a minimum of 4 units of 794. A maximum of two full courses (eight units) or their equivalent may be PMEP 790 (research) since directed research will generally be incorporated into most 500- and 600-level courses. Exceptions will be considered on an individual basis. Normally, a full-time graduate student course load is three full courses or their equivalent per semester, with a four-course maximum. Students may transfer and substitute up to 24 units of graduate course work from other universities to fulfill the required 64 units of graduate credit subject to the approval of the department.

Screening Procedure

The student's progress will be reviewed after each semester and before registration for any additional course work to determine if progress has been satisfactory. The screening procedure will include satisfactory performance on written screening exams covering the major topics covered in the recommended coursework for each track.

Qualifying Exam

Upon successful completion of the first two years of course and grade requirements, and following passing of required screening procedures, the student takes a general written and oral examination on the chosen area of research emphasis after presenting a detailed written dissertation proposal. After passing these examinations, the student is admitted to candidacy for the PhD degree.

The student will select a member of the graduate faculty who will serve as his or her adviser and chair of the student's qualifying exam committee. The student should consult the director of Graduate Studies for the Health Economics program on the selection of his or her adviser and chair of the PhD qualifying exam committee after taking the written screening examinations. The chairman of the student's PhD qualifying exam committee advises the student on matters of curriculum and graduate opportunities. The qualifying exam committee is composed of five members. The committee chair and at least two additional members must have appointments in the student's program. Faculty eligible to serve as committee chairs and members include tenured, tenure-track, and research faculty, teaching faculty, practitioner faculty or clinical faculty (RTPC) faculty. The committee chair and at least three members must be research active in a field relevant to the research thesis and one member of the committee must be tenured or tenure track; and the committee membership requires approval by the dean of the school. Visiting faculty may not serve on qualifying exam committees. The vice provost for graduate programs is an ex officio member of all qualifying exam committees.

The composition of all PhD qualifying exam committees must be approved by the director of Graduate Studies for the Health Economics program. The student must form his or her qualifying exam committee soon after passing the departmental screening procedure.

Dissertation Proposal Preparation

The student is required to register for two units of PMEP 790 and write a research paper on a topic suitable for a dissertation. Typically, the chair of the student's guidance committee directs this work. The resulting essay becomes part of the student's written dissertation proposal which constitutes the written portion of the qualifying exam. This proposal is presented and critiqued during the oral portion of the qualifying examination.

Dissertation

After admission to candidacy, the student forms a dissertation committee comprising three faculty members, one of whom can be from an outside department. The chair of this committee is the dissertation supervisor. The student must register for PMEP 794a, PMEP 794b, PMEP 794c, PMEP 794d, or PMEP 794z each semester, excluding summer sessions, until the dissertation and all other degree requirements are completed.

The student is expected to complete a dissertation based on an original investigation. The dissertation must represent a significant contribution to knowledge and must be defended in an oral examination administered by the dissertation committee (see the section on Theses and Dissertations).

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. As part of the general requirements for the PhD, all students are required to undergo training as an educator. This will include participating in seminars on educational techniques and hands-on teaching experiences through participation in didactic and small group teaching in the School of Pharmacy or the USC Price School of Public Policy.

Seminar Requirements

Every student is recommended to take and satisfactorily complete 4 units of research seminars chosen from ECON 693, PMEP 698 or the equivalent. At least one of these seminars must be related to the student's major field, and the same seminar may be taken more than once. Before completing the dissertation, it is recommended that the student present at least one original research paper in a seminar of his or her choice. This paper should typically consist of original results contained in the student's dissertation.

Three electives at the 500 level or higher from the School of Pharmacy's Health Economics Program and from the departments of economics, mathematical statistics, biometry, epidemiology, public administration, computer science or other relevant fields are required.

Pharmaceutical Economics and Policy Track

Students in the pharmaceutical economics and policy track will specialize in areas such as cost-effectiveness, comparative effectiveness, drug therapy outcomes and organization of pharmaceutical markets. They will receive focused training and mentoring in pharmaceutical economics and policy through collaboration on research projects.

Satisfactory completion of the pharmaceutical economics and policy sequence with an average grade of B or higher

- ECON 636 Health Economics I Units: 4
- GSBA 602 Selected Issues in Economic Theory I Units: 3
- PMEP 509 Research Design Units: 4
- PMEP 525 Pharmacoeconomics I Units: 4
- PMEP 526 Pharmacoeconomics II Units: 2
- PMEP 527 Pharmacoeconomics III Units: 4
- PMEP 535 Behavioral Science and Policy in Healthcare Units: 4
- PMEP 539 Economic Assessment of Medical Care Units: 4
- PMEP 547 Programming Methods for Empirical Analysis of Health Data Units: 4
- PMEP 551 Introduction to Health Econometrics Units: 4
- PMEP 552 Advanced Health Econometrics I Units: 4
- PMEP 553 Advanced Health Econometrics II Units: 4
- PMEP 698 Seminar in Pharmaceutical Economics and Policy Units: 1

Additional Requirements

Foreign Language Requirement

There is no formal foreign language requirement. However, competence in the use of one computer programming language is required for the graduate degree. Such competence can be demonstrated either by course work or examination.

Grade Point Average

A grade point average (GPA) of at least 3.0 and typically considerably higher (on a scale of 4.0) must have been achieved on all graduate work at USC for the passing of the screening procedure. The Graduate School requires a minimum GPA of 3.0 on all course work taken as a graduate student at USC.

Unit Requirements

The PhD in Health Economics requires a minimum of 64 units of graduate-level courses numbered 500 or higher (excluding 794) and a minimum of 4 units of 794. A maximum of two full courses (eight units) or their equivalent may be PMEP 790 (research) since directed research will generally be incorporated into most 500- and 600-level courses. Exceptions will be considered on an individual basis. Normally, a full-time graduate student course load is three full courses or their equivalent per semester, with a four-course maximum. Students may transfer and substitute up to 24 units of graduate course work from other universities to fulfill the required 64 units of graduate credit subject to the approval of the department.

Screening Procedure

The student's progress will be reviewed after each semester and before registration for any additional course work to determine if progress has been satisfactory. The screening procedure will include satisfactory performance on written screening exams covering the major topics covered in the recommended coursework for each track.

Qualifying Exam

Upon successful completion of the first two years of course and grade requirements, and following passing of required screening procedures, the student takes a general written and

oral examination on the chosen area of research emphasis after presenting a detailed written dissertation proposal. After passing these examinations, the student is admitted to candidacy for the PhD degree.

The student will select a member of the graduate faculty who will serve as his or her adviser and chair of the student's qualifying exam committee. The student should consult the director of Graduate Studies for the Health Economics program on the selection of his or her adviser and chair of the PhD qualifying exam committee after taking the written screening examinations. The chairman of the student's PhD qualifying exam committee advises the student on matters of curriculum and graduate opportunities. The qualifying exam committee is composed of five members. The committee chair and at least two additional members must have appointments in the student's program. Faculty eligible to serve as committee chairs and members include tenured, tenure-track, and research faculty, teaching faculty, practitioner faculty or clinical faculty (RTPC) faculty. The committee chair and at least three members must be research active in a field relevant to the research thesis and one member of the committee must be tenured or tenure track; and the committee membership requires approval by the dean of the school. Visiting faculty may not serve on qualifying exam committees. The vice provost for graduate programs is an ex officio member of all qualifying exam committees.

The composition of all PhD qualifying exam committees must be approved by the director of Graduate Studies for the Health Economics program. The student must form his or her qualifying exam committee soon after passing the departmental screening procedure.

Dissertation Proposal Preparation

The student is required to register for 2 units of PMEP 790 and write a research paper on a topic suitable for a dissertation. Typically, the chair of the student's guidance committee directs this work. The resulting essay becomes part of the student's written dissertation proposal, which constitutes the written portion of the qualifying exam. This proposal is presented and critiqued during the oral portion of the qualifying examination.

Dissertation

After admission to candidacy, the student forms a dissertation committee comprising three faculty members, one of whom can be from an outside department. The chair of this committee is the dissertation supervisor. The student must register for PMEP 794a, PMEP 794b, PMEP 794c, PMEP 794d, or PMEP 794z each semester, excluding summer sessions, until the dissertation and all other degree requirements are completed.

The student is expected to complete a dissertation based on an original investigation. The dissertation must represent a significant contribution to knowledge and must be defended in an oral examination administered by the dissertation committee (see the section on Theses and Dissertations).

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. As part of the general requirements for the PhD, all students are required to undergo training as an educator. This will include participating in seminars on educational techniques and hands-on teaching experiences through participation in didactic and small group teaching in the School of Pharmacy or the USC Price School of Public Policy.

Seminar Requirements

Every student is recommended to take and satisfactorily complete 4 units of research seminars chosen from PMEP 698 or the equivalent. At least one of these seminars must be related to the student's major field and the same seminar may be taken more than once. Before completing the dissertation, it is recommended that the student present at least one original research paper in a seminar of his or her choice. This paper should typically consist of original results contained in the student's dissertation.

A minimum of three electives at the 500 level or higher from the School of Pharmacy's Pharmaceutical Economics and Policy Program and from the departments of economics, mathematical statistics, biometry, epidemiology, public administration, computer science or other relevant fields are required.

List of Electives

- ECON 401 Mathematical Methods in Economics Units: 4
- ECON 415 Behavioral Economics Units: 4
- ECON 419 Advanced Econometrics Units: 4
- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4
- ECON 601 Microeconomic Theory I Units: 4
- ECON 603 Microeconomic Theory II Units: 4
- ECON 604 Game Theory Units: 4
- ECON 611 Probability and Statistics for Economists Units: 4
- ECON 615 Applied Econometrics Units: 4
- ECON 688 Empirical Industrial Organization Units: 4
- GSBA 612 Selected Issues in Economic Theory II Units: 3
- HCDA 506 Foundations of Insurance and Global Access Units: 3
- HCDA 507 Foundations of Product Development and Commercialization Units: 3
- MEDS 500 Basic Concepts in Global Health Units: 4
- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 511cL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 536 Program Evaluation and Research Units: 4
- PM 552 Statistical Methods in Clinical Trials Units: 3
- PM 560 Statistical Programming With R Units: 2
- PSYC 426 Motivated Behaviors and Addiction Units: 4

Molecular Pharmacology and Toxicology (PhD)

This program emphasizes basic as well as applied research in various aspects of drug discovery and molecular and behavioral mechanisms of action. Research opportunities span investigations of fundamental molecular and cellular physiological mechanisms, including receptor activity, intracellular signaling and the regulation of gene expression, to the molecular bases of disease and aging, including avenues of pharmacological intervention.

A minimum of 60 units is required for the Doctor of Philosophy degree. At least 24 units of course work are required at the 500-level or above, exclusive of seminar and directed research. The Doctor of Philosophy candidate must select a minimum of 12 units from courses offered in the Department of Pharmacology and Pharmaceutical Sciences (PPSI), eight of which must be selected from the core 4-unit courses. The remainder of the 24 units may be taken from PPSI courses or from courses offered in other departments that are approved by the PPSI graduate affairs committee. The qualifying exam committee may require more than 24 units of course work. A maximum of 12 units can be transferred from graduate studies elsewhere.

Foreign Language Requirement

There is no formal language requirement. However, an individual qualifying exam committee can require competency in a foreign language or a computer language if it is relevant for the student's area of research.

Qualifying Exam Committee

Upon admission, the student will be assigned to a member of the graduate faculty who will serve as his or her temporary adviser until a permanent adviser has been identified. The student's program of study will be under the direction of a qualifying exam committee composed of at least five members, one of whom must be from outside the department. The student should select a graduate adviser and qualifying exam committee no later than the third semester in residence. The graduate affairs committee will serve as the qualifying exam committee until one is selected.

Screening Procedure

The performance of each student will be evaluated no later than the end of the second semester of enrollment in the graduate program. This screening procedure is conducted by the student's qualifying exam committee or, if a student has not yet selected a qualifying exam committee, by the graduate affairs committee. The committee reviews the student's progress to date in various areas including course work, research interests and laboratory performance on his or her research project or laboratory rotations. If a performance deficiency is determined, specific goals will be established that the student must fulfill to continue in the program. Passing this screening procedure is prerequisite to continuation in the PhD program.

Qualifying Examination

Students will be required to pass a comprehensive qualifying examination in major areas of molecular pharmacology, including fundamental principles of molecular and cellular biology. The examination is administered by the qualifying exam committee and consists of two parts: a written examination administered to all students at the end of their second year of study and a written proposal outlining the dissertation goals, and its oral presentation and defense by the student to the qualifying exam committee. The examination process is conducted by the student's advisory committee with oversight by the graduate affairs committee. The qualifying examination must be completed within three years after admission, unless an extension is obtained from the qualifying exam committee.

Annual Research Appraisal (ARA)

Beginning in the third year, each graduate student will meet with the qualifying exam committee and present a progress report on his or her research. Prior to the meeting the student will present a short written document describing significant experiments during the past year, problems and projected studies. This document is distributed to the committee members and is included in the student's file. The oral ARA meeting is intended to be a working session between the student and the qualifying exam committee. Experimental results and problems are discussed in this context, as well as a research plan for the next year of work. A satisfactory ARA is required for each year in the graduate program.

Dissertation

A dissertation based on original investigation in a relevant scientific area is required for the PhD The dissertation research should demonstrate the student's ability to undertake independent research through planning, conducting and evaluating experiments. The dissertation research must represent a significant contribution to knowledge. A public oral defense of the dissertation will be held after the candidate submits the final draft of the dissertation to the dissertation committee, and it is approved by the graduate adviser and dissertation committee. For additional details, see Theses and Dissertations.

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. As part of the general requirements for the PhD degree, each student is required to participate in the teaching program of the School of Pharmacy.

Pharmaceutical Sciences (PhD)

This program emphasizes basic as well as applied research in drug delivery and targeting, utilizing medicinal chemistry, computational chemistry, pharmaceutics, pharmacodynamics, molecular pharmacology, immunology and cell biology.

A minimum of 60 units is required for the Doctor of Philosophy degree. At least 24 units of course work are required at the 500-level or above, exclusive of seminar and directed research. The Doctor of Philosophy candidate must select a minimum of 12 units from courses offered in the Department of Pharmacology and Pharmaceutical Sciences (PPSI), eight of which must be selected from the core 4-unit courses. The remainder of the 24 units may be taken from PPSI courses or from courses offered in other departments that are approved by the PPSI graduate affairs committee. The qualifying exam committee may require more than 24 units of course work. A maximum of 12 units can be transferred from graduate studies elsewhere.

Foreign Language Requirement

There is no formal foreign language requirement. However, an individual qualifying exam committee can require competency in a foreign language or some other research tool such as computer language, if this is relevant for the student's area of research.

Qualifying Exam Committee

Upon admission, the student will be assigned to a member of the graduate faculty who will serve as his or her temporary adviser until a permanent adviser has been identified. The student's program of study will be under the direction of a qualifying exam committee composed of at least five members, one of whom must be from outside the department granting the degree. The student should select a graduate adviser and qualifying exam committee no later than the third semester in residence.

Screening Procedure

The performance of each student will be evaluated no later than the end of the second semester of enrollment in the graduate program. This screening procedure is conducted by the student's qualifying exam committee or, if a student has not selected his or her research adviser at that time, by the Graduate Review Committee of the department. The committee reviews thoroughly the student's progress up to that point in various areas including course work, research interests and laboratory performance on his or her research project or laboratory rotations. If a performance deficiency is detected at that point by the committee, the student will be recommended to either take additional course work or transfer to the Master of Science program. Passing this screening procedure is prerequisite to continuation in the PhD program.

Qualifying Examination

Students will be required to pass a comprehensive qualifying examination in major areas of the pharmaceutical sciences. The examination is administered by the qualifying exam committee and consists of two parts: a written examination and a written proposition outlining a research project, followed by an oral examination based on the proposition and questions dealing with the written examination. All course and qualifying examination requirements for the Doctor of Philosophy must be completed within two and one half years after admission.

Dissertation

A dissertation based on original investigation is required. The research should make a contribution to science and should demonstrate the candidate's scholarly advancement and competence to undertake independent research. An oral defense of the dissertation will be held after the candidate submits the final draft of the dissertation to the dissertation committee (see Theses and Dissertations).

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. Thus, as part of the general requirements for the PhD, each student is required to participate in the teaching program of the School of Pharmacy.

Pharmacy (PharmD)

The USC School of Pharmacy offers a full-time, four-year course of study leading to the Doctor of Pharmacy (PharmD). An undergraduate BA or BS degree is required for admission to the program. A description of the curriculum is listed in the following pages. The degree will be conferred only upon successful completion of all Doctor of Pharmacy degree requirements. The USC School of Pharmacy Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, which is the sole agency providing accreditation for professional degree programs in pharmacy.

Application Procedure

The School of Pharmacy requires applicants to complete both the Pharmacy College Application Service (PharmCAS) and a supplemental application for admission. The supplemental application is available at pharmacyschool.usc.edu.

Both the PharmCAS and the supplemental applications deadlines are November 1. Applicants are encouraged to follow the instructions carefully for both the PharmCAS and supplemental applications. Applications will not be reviewed until both applications have been received by the Office of Admission and Student Affairs. An interview is required for admission. Only applicants with complete application files are evaluated for an interview and only highly qualified applicants will be granted interviews. Not all applicants will be invited for an interview. Applicants are encouraged to apply well before the November 1 deadline to allow time for file review.

All documents mailed directly to the School of Pharmacy and received from PharmCAS by the Office of Admission become the property of the university and cannot be returned or duplicated for other than USC's purposes.

Admission Guidelines

The Admission Committee considers several factors in making admissions decisions including: previous academic performance; the interview including a writing component; letters of recommendation; and other components of the completed application. The committee also considers a candidate's motivation to pursue pharmacy, interpersonal skills, oral and written communication skills, and leadership abilities. While the School of Pharmacy gives equal consideration to every qualified applicant, the school cannot accommodate all qualified candidates who apply for admission.

Entrance Requirements

Admission to the School of Pharmacy requires completion of a baccalaureate degree; completion of the specified prerequisite college courses, with a grade of C or better; and a minimum 3.0 (A = 4.0) grade point average, both in the prerequisite courses and cumulative grade point average.

Pre-pharmacy Requirements*

*Courses for science majors are required to meet the Pre-Pharmacy Requirements

To be eligible for admission to the School of Pharmacy, applicants must take required prerequisite college courses, including general biology (one-year course with laboratory, excluding human anatomy and physiology), general chemistry (one-year course with laboratory, including inorganic and qualitative analysis), organic chemistry (one-year course with laboratory), biochemistry (one course upper division), microbiology (one course), calculus (one semester or two quarters), statistics (one course) and human physiology (one course for science majors). The science requirements should be completed at an accredited four-year university.

Prerequisite courses are subject to change, and applicants are encouraged to check with the school prior to submitting an application.

Recommended Courses:

Upper-division molecular biology, physics (thermodynamics and electromagnetism), microeconomics, statistics (non-business), human behavior in either general psychology, introductory sociology, or cultural anthropology

Grades of pass/no pass or credit/no credit will not be accepted (unless a course is only offered on a pass/no pass basis). Online courses are not accepted for science courses with a laboratory requirement.

Mathematics and Sciences

Courses must include calculus, general biology, microbiology, human physiology, general chemistry, biochemistry, and organic chemistry. Only courses for science majors are acceptable. It is highly recommended that math and science courses be completed during the regular academic year and not during a summer term.

Advanced Placement and International Baccalaureate Examinations

Applicants may use AP and IB courses to meet certain USC School of Pharmacy prerequisites with the following provisos. AP results are acceptable only with scores of 4 or 5. Results for IB courses are acceptable with a score of 5. Credit for AP or IB courses is limited to a maximum of two courses (total). In addition, the AP or IB courses taken may be applied to a maximum of one semester/one quarter of general chemistry or general biology; they may not be used to satisfy the laboratory requirement. Note: AP/IB courses used to meet prerequisites will be for course credit only (i.e., they will not count toward the GPA). The Admission Committee recommends that applicants enroll in all of the required pre-pharmacy courses. Please contact the School of Pharmacy Office of Admission for specific information.

Entrance Examination

An interview is required for admission.

Special Admission Program for Entering Freshmen

The Trojan Admission Prepharmacy (TAP) program provides priority consideration for admission to the USC School of Pharmacy's four-year Doctor of Pharmacy (PharmD) program for USC undergraduates who are accepted to the program. The TAP program is designed to attract highly qualified, mature high school seniors applying to USC. Students accepted into the TAP program apply to the Doctor of Pharmacy program during their final year of undergraduate education. Students must meet all regular admission criteria to the School of Pharmacy, including a BA/BS degree from USC, specific academic performance standards (GPA) and complete an interview. Students in the TAP program are required to complete all prerequisite courses at USC and meet regularly with a TAP program adviser. A specific listing of USC courses and a recommended program for TAP participants may be obtained from the School of Pharmacy Office of Admission or online at pharmacyschool.usc.edu/programs/pre/tap.

PharmD Curriculum Requirements

The completion of the four-year professional curriculum is required for the Doctor of Pharmacy (PharmD) degree. The PharmD curriculum is a "block" program, meaning all students enroll for specified courses each semester and progress as a "class" through the curriculum. Students do not have a choice in the course sequence and must remain full-time students throughout the program. Students have a limited number of elective course choices and a list of electives offered is available to students prior to registration each semester. Student progress is permitted only when the prior semester has been successfully completed. Students should view the curriculum outlined here as advisory only and subject to modification. A minimum of 136 units is required for graduation.

Students enrolled in the Doctor of Pharmacy program are required to hold an Intern Pharmacist license in good standing (clear of restrictions) issued by the California Board of Pharmacy as an intern pharmacist for the entire length of the program. Licensure is required because completion of the pharmacy program requires placement in health care settings for experiential learning during each academic year. The School of Pharmacy has developed technical standards to inform students of the non-academic requirements of the program. Placement in health care settings requires the applicants pass criminal background screening and/or drug screening tests.

The pharmacist of tomorrow will provide preventive and therapeutic pharmaceutical care, provide drugs to patients, communicate in health care matters, meet the ethical and legal requirements of the practice of pharmacy and maintain professional expertise.

The curriculum committee of the School of Pharmacy has developed guidelines and patient care competencies consistent

with interpretations of this new role. An appropriate and dynamic educational program is needed to develop these competencies. Therefore curriculum changes may be necessary in order to meet scientific advances, population profile changes, increasing health expectations, technological advances, or changes in health services.

Core Curriculum

Foundational courses in biomedical, pharmaceutical, social administrative and clinical sciences comprise the first three years of the program. A Pharm.D. Scholarly Project must also be completed by the end of the third year of the program.

Students must complete Introductory Pharmacy Practice Experiences (IPPEs) throughout their first three years in the program. Students may begin Advanced Pharmacy Practice Experiences (APPEs) as early as late March or early April of the third year and throughout the fourth year of the program.

Year I (P1) Curriculum

Fall

- PHRD 501 Pharmaceutics I Units: 3
- PHRD 502 Pharmaceutics II Units: 2
- PHRD 503 Biological Systems I Units: 4
- PHRD 511 Pharmacy Practice and Professionalism 1 Units: 5
- PHRD 515 Metabolism and Cell Biology Units: 2
- PHRD 521 Medicinal Chemistry Units: 2

Spring

- PHRD 504 Biological Systems II Units: 4
- PHRD 512 Pharmacy Practice and Professionalism 2 Units: 2
- PHRD 514 Calculations and Compounding Units: 2
- PHRD 516 Non-Prescription Therapies Units: 3
- PHRD 520 Introduction to Therapeutics Units: 2
- PHRD 552 Pharmaceutics III Units: 3
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)

Year II (P2) Curriculum

Fall

- PHRD 508 Pharmacy Literature Analysis and Drug Information Units: 3
- PHRD 559 Therapeutics: Pharmacokinetics Units: 3
- PHRD 563 Case Conference 1 Units: 2
- PHRD 572 Therapeutics: General Medicine Units: 5
- PHRD 625 Hospital Pharmacy Practice Units: 1
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)
- Electives: 1-3 units*

Spring

- PHRD 517 Pharmacogenetics Units: 2
- PHRD 564 Case Conference 2 Units: 2
- PHRD 570 Therapeutics: Central Nervous System Units: 5
- PHRD 603 Therapeutics: Endocrine System Units: 5
- PHRD 624 Community Pharmacy Practice Units: 2
- PHRD 634 Scholarly Project 1 Units: 1
- Pharmacy Practice IPPE (2 unit; CR/NC or IP)
- Electives: 1-3 units*

Year III (P3) Curriculum

Fall

- PHRD 611 Therapeutics: Infectious Diseases Units: 5
- PHRD 619 Therapeutics: Cardiovascular System Units: 5
- PHRD 622 Case Conference 3 Units: 2
- PHRD 633 Pharmacy Management and Economics Units: 2
- PHRD 635 Scholarly Project 2 Units: 1
- Pharmacy Practice IPPE (0 unit; CR/NC or IP)
- Electives: 1-3 units*

Spring

- PHRD 567 Pharmacy Law Units: 2
- PHRD 608 Therapeutics: Oncology and Immune Disorders Units: 5
- PHRD 623 Case Conference 4 Units: 1
- PHRD 636 Scholarly Project 3 Units: 1
- PHRD 650 APPE Gateway Units: 2
- Pharmacy Practice IPPE (0 unit; CR/NC or IP)
- Electives: 1-3 units*
- APPE Course (Optional): 6 units

Required Introductory Pharmacy Practice Experiences (IPPE) Courses

Students will be required to register for the following IPPE course sequences as indicated in the schedule above. Students will need to register for the second course of each sequence until they have completed the 80 hours of IPPE associated with the first course of each sequence. Students will be given a grade of Credit (CR) in the first course of each sequence once the 80 IPPE hours have been successfully completed.

- PHRD 627a Longitudinal Elective Pharmacy Practice Units: 2
- PHRD 627b Longitudinal Elective Pharmacy Practice Units: 0
- PHRD 629a Longitudinal Community Pharmacy Practice Units: 2
- PHRD 629b Longitudinal Community Pharmacy Practice Units: 0
- PHRD 631a Longitudinal Institutional Pharmacy Practice Units: 1, 2, 3
- PHRD 631b Longitudinal Institutional Pharmacy Practice Units: 0

Note:

*Elective courses: Students MUST complete a minimum of 3 units of elective courses for the degree. Students will be provided a list of courses approved each year.

**APPE courses are described below. Students may begin their APPEs in late March or early April of their P3 year and may be assigned to any of APPEs listed below.

Advanced Pharmacy Practice Experience (APPE)

Students must enroll in a minimum of six 6-unit six-week APPEs for a total of 36 units. Some students will take their APPEs entirely in their P4 year. Some will take one 6-unit APPE starting in the spring of their P3 year (late March/early April). Students will return to campus the last six weeks of their P4 year.

Required APPE Courses

Students must complete all APPE courses below (24 units) and the Doctor of Pharmacy Capstone courses (0 units).

- PHRD 701 Acute Care Clinical APPE Units: 6
- PHRD 704 Primary Care APPE Units: 6
- PHRD 705 Community Pharmacy APPE Units: 6
- PHRD 718 Hospital Pharmacy Practice APPE Units: 6
- PHRD 796a Doctor of Pharmacy Capstone Units: 0
- PHRD 796b Doctor of Pharmacy Capstone Units: 0, 3

Elective APPE Course

Students must complete 12 units from the list below.

- PHRD 714 Nuclear Pharmacy APPE Units: 6
- PHRD 725 International Pharmacy Practice Experience Units: 3, 6
- PHRD 731 Advanced Geriatrics APPE Units: 6
- PHRD 738 Pharmaceutical Industry APPE Units: 6
- PHRD 750 Advanced Pharmacy Practice Elective (APPE) Units: 6
- PHRD 751 Non-traditional Advanced Pharmacy Elective (APPE) Units: 6

Degree Requirements

All students in the Doctor of Pharmacy degree program must meet course requirements, grade point average requirements, licensure requirements, competency assessment requirements (PCOA) and program residency requirements.

All course requirements must be completed with a grade of "C" or better for letter graded courses and a grade of Credit (defined as B quality work or better) in non-letter graded courses.

Grade point average requirements: Students must have a cumulative grade point average of 2.5 in the Doctor of Pharmacy curriculum to meet graduation requirements.

Licensure requirements: All students must obtain and maintain a license in good standing (clear of restrictions) as an Intern Pharmacist issued by the California State Board of Pharmacy at all times during the program.

Competency assessment requirements: Students are required to take and demonstrate satisfactory performance on the national PCOA Exam (Pharmacy Curriculum Outcomes Assessment). The PCOA exam is administered by the NABP (National Association of Boards of Pharmacy) and is required by ACPE (Accreditation Council for Pharmacy Education) for a Doctor of Pharmacy degree.

Residency requirements: Students must complete all requirements for the degree within 6 years. The degree will not be conferred until the student has successfully completed all Doctor of Pharmacy degree requirements. Students are subject to the degree requirements in the USC Catalogue current for the semester of their admission into the Doctor of Pharmacy program unless progression is delayed.

Registration

Details of the School of Pharmacy registration procedures will be included in the orientation program prior to the first week of classes.

Cancellation of Registration

During the didactic portion of the Doctor of Pharmacy program (P1, P2 and P3 years), a student may only withdraw from the entire block of courses enrolled in a semester and may not selectively withdraw from a single course or group of courses. During the APPE portion of the curriculum, students may not withdraw from an APPE after the completion of the fourth week of a six-week course and must contact the School of Pharmacy Office of Admission and Student Affairs. Procedures for readmission into the program or makeup of incomplete courses are included in the school's academic policies and procedures handbook.

Regulatory Science (DRSc)

The Doctor of Regulatory Science program cultivates research, leadership and inquiry skills for advanced students in the emerging profession of global regulatory science. It is designed to produce graduates with expertise in strategic management, policy development and research assessment who can play leadership roles in the public sector, academia and the medical products industry. Participants in this program will take a set of interdependent courses that extend from a strong core of basic regulatory science course work and additionally focus on three main areas — global product strategy, product lifecycle strategy, and project and personnel management. After students have completed foundational course work, they will participate as a cohort that typically has a two-year cycle of classes and an additional year of dissertation research. The program has been designed to meet the needs of individuals who are already working full-time outside of the university. The doctoral degree will be administered by the School of Pharmacy.

Admission

The program is designed for individuals with strong professional experience and demonstrated intellectual and leadership capabilities. Applicants are expected to have a GPA of 3.0 on university-level course work and ten or more years of professional experience. Admission requirements include university transcripts, a resume, at least three letters of reference, and a one-page personal statement that outlines the background and goals of the applicant. Students are encouraged even at this early stage to identify areas in which they are interested in conducting research. Additional requirements for international students are outlined by university regulations under Admission of International Students. Students are not required to provide GRE scores unless indicated by the program director.

Students with an appropriate graduate or professional degree may use some previous graduate courses as transfer units toward the overall credit requirements of the Doctor of Regulatory Science program with the approval of the program director and under the normal rules of the university. Students who have graduated from the MS program in Regulatory Science can apply all of the previously taken course work toward the doctoral degree. Students with graduate degrees from outside of the regulatory science program are required to take a minimum of 32 units of course work and 4 units of dissertation research to complete the requirements for graduation. The course work requirements will be determined on an individual basis in consultation with the program director and participant's advisers.

Curriculum Requirements

The Doctor of Regulatory Science is administered by the School of Pharmacy. It requires participants to complete 64 units that include the following elements:

Requirements

- Foundation courses 15 Units
- Product lifecycle strategy 8 Units
- Global strategy 8 Units
- Project/personnel management 8 Units
- Research methods 4 Units
- Dissertation 4 Units

Additional Requirements

Additional elective course work will be selected in consultation with the program advisers according to the areas of intended specialization of the participant in order to meet the credit requirements of the program. Typically foundational courses and some electives will be taken in the first two years of the program. Advanced courses in product lifecycle strategy, global strategy and project/personnel management will normally be taken by the doctoral cohort of students during the third and fourth years of the program. Dissertation planning and research will typically commence in the third year of the program, and extend until the successful completion of the dissertation.

Foundation Courses

Fifteen or more units of foundation courses may be taken as part of the master's program in regulatory science, or with prior approval, from another graduate program with similar objectives. Required foundational courses normally include: MPTX 511 Introduction to Medical Product Regulation; two from MPTX 512 Regulation of Pharmaceutical and Biological Products, MPTX 513 Regulation of Medical Devices and Diagnostics, MPTX 514 Regulation of Food and Dietary Supplements; MPTX 515 Quality Systems and Standards, MPTX 516 Medical Products and the Law; MPTX 517 Structure and Management of Clinical Trials. Other courses may be substituted after the participant's background preparation has been considered.

Product Lifecycle Strategy

Eight or more units of course work related to product lifecycle management, from discovery to commercialization, will be drawn from a broad list of courses offered in regulatory science or through the Titus Family Department of Clinical Pharmacy and Pharmaceutical Economics and Policy. Included in this list are: PMEP 538 Pharmaceutical Economics ; PMEP 539 Economic Assessment of Medical Care; RSCI 601 Biomedical Commerce. Other courses may also be considered in consultation with the supervisors and program director. Students are also encouraged to take courses outside the School of Pharmacy when more specialized courses fit their professional research or development plans.

Global Regulatory Strategy and Policy

Eight or more units of course work related to global regulatory strategy could include some of the following courses: MPTX 519 Global Regulation of Medical Products; PPD 571 International Public Policy and Management Seminar; RSCI 604 Regulatory Strategy in Asia; RSCI 608 Regulatory Strategy in Europe and the Americas .

Project and Personnel Management

Eight or more units of relevant course work should typically include: MPTX 602 Science, Research and Ethics; RSCI 603 Managing Complex Projects; RSCI 605 Managing Organizations and Human Resources. Graduate courses in other university departments or schools can be substituted with the approval of the program director.

Research Methods

Participants will typically take PMEP 509 Research Design or MPTX 522 Introduction to Clinical Trial Design and Statistics.

Student Progress and Assessments

In the third year, students are expected to identify a pair of advisers including one USC faculty member and one adviser from industry or the private sector. Students are typically placed in study groups of three or four whose dissertation interests are most similar and whose collective supervisors will oversee their academic and research progress. This committee will form the dissertation committee.

At the completion of the foundational course work, students will undergo a competency review that will include considerations of academic progress. Students are expected to maintain a GPA of 3.0 and will be required to pass a written examination designed to assure the professional competence of the student prior to advancing further in the program. Students who do not pass this preliminary review, administered prior to entering the dissertation and advanced course work phase of the program, will be notified of dismissal from the program in writing by the associate dean for graduate studies in the School of Pharmacy.

Doctoral Dissertation

Students must enroll in RSCI 794a, RSCI 794b, RSCI 794c, RSCI 794d, RSCI 794z for at least two terms, during which time they will develop a dissertation proposal and conduct the necessary research and analysis in collaboration with the supervisory team. The dissertation committee will approve the thesis plan and monitor its progress. Each student will be required to produce and defend an independent dissertation as a requirement for graduation. A maximum of 6 dissertation units can be applied to satisfy the degree requirement, but students should register for the dissertation units in each term subsequent to the completion of their course work requirements. Institutional Review Board approval is required for all human studies.

PhD Programs in Pharmaceutical and Translational Sciences (PHTS)

Graduate Affairs Office
Pharmaceutical Sciences Building
1985 Zonal Avenue
Los Angeles, CA 90089-9031
(323) 442-1474
FAX: (323) 442-2258
Email: pharmgrd@usc.edu
Website: pharmgradprograms.usc.edu
Program Director: Annie Wong-Beringer, PharmD

The USC PhD Programs in Pharmaceutical and Translational Sciences (PHTS) prepare students for careers in academia and advanced scientific research in a broad range of settings. The training encompasses a unique scientific framework from drug discovery, delivery and development to application of genetics and genomics to experimental and clinical/translational research.

The umbrella structure is intended to bring together students during their first year to attend foundation core courses and seminars. The goal of the shared experiences is to introduce them to a broad range of pharmaceutical sciences research methods and build a solid foundation in scientific writing, biostatistics, literature evaluation and ethical conduct in research. Complementing their foundation course work, the students will choose from laboratories across the three PhD program tracks (MPTX, PSCI, CXPT) to do rotations during their first year. This fosters interdisciplinary cross-training among students, collaborations among faculty, and assists students in finding the ideal laboratory and faculty mentor in line with the specialized track of study they want to pursue.

At the end of the spring semester of the first year, students will select a faculty adviser and a specific PhD program track from among the three participating programs listed below. In subsequent years, students will take classes that will differ depending on the PhD program they join. In addition, each student will complete qualifying examinations for the chosen PhD program and will develop and complete an original research project that will serve as the basis for a doctoral dissertation.

PhD Graduate Programs: Three Tracks

Molecular Pharmacology and Toxicology (MPTX)
Pharmaceutical Sciences (PSCI)
Clinical and Experimental Therapeutics (CXPT)

PHTS Admission Requirements

Application Deadline (priority review): December 1

All prospective students will apply through the single umbrella program Pharmaceutical and Translational Sciences (PHTS). Application materials will be reviewed by a joint admission committee, with equal representation of faculty from each track, evaluating applications on the basis of academic excellence and scientific research commitment.

Applicants should have a baccalaureate degree in natural sciences, or sufficient courses in mathematics and the life sciences. This is required to provide a strong background for studies in biomedical and biological research. Appropriate undergraduate degrees include biology, physiology, engineering, chemistry or computer science.

Applicants should have a strong academic record. Other requirements for admission include: a detailed personal statement as well as three letters of recommendation, one of which should be from a research mentor, because previous research experience is expected. Students are admitted for the academic year, once in year in the fall semester. Applicants who are accepted with minor deficiencies are expected to correct these during the first year following enrollment.

Admission Criteria

The Admission Committee will consider applications based on the following factors:

1. Overall Grade Point Average (GPA)

A minimum GPA of 3.0 is required. Special attention is given to grades achieved in science courses relevant to the program (e.g., chemistry, biology, biochemistry, pharmacology and physiology).

2. Letters of Recommendation

Three letters from faculty knowledgeable of the student's ability and capability are required. These letters should provide a thorough assessment of the student's experience in research, particularly laboratory or computational-based research; ability to communicate in verbal and written English; motivation; creativity or other unique qualities in the student's academic performance.

3. TOEFL Scores for International Applicants

A minimum TOEFL (computer based) score of 100 is required. A score of 100 is highly competitive for admission and financial support. An IELTS score of 7 is competitive; and an IBT minimum score of 100, with at least 20 in each section, is required.

4. Research and Professional Experience

The student's research and professional experience should be well described within the application. Also, a CV and/or a personal statement summarizing career objectives and research interests, published manuscripts and letters of reference should be included. These documents will help the Admissions Committee in their evaluation of the candidate's background preparation for success

in the PhD program. For those interested in pursuing PhD training in the Clinical and Experimental Therapeutics (CXPT) track, special emphasis will be given to applicants with an advanced professional degree (e.g. PharmD, MD, DDS).

Application Deadline

Applications may be submitted anytime between September 1 and January 15 — the deadline for consideration for admission for the following fall semester. Applications will be reviewed as they are received, beginning in the Fall. Consideration for certain USC Scholarships and Fellowships begins in December. Applicants are encouraged to submit their applications by the December 1 priority deadline.

Admission decisions will continue to be made until the class is filled, usually by mid to late spring before April 15. Applications are only considered for admission beginning in the fall term, except under exceptional circumstances.

Financial Support

Admitted students are supported by research and teaching assistantships or fellowships during their graduate training. Tuition, health insurance, dental insurance and health center fees are also covered.

Lab Rotations

During the first year, students rotate through the labs of at least two faculty members of the program (potential research advisers). By the first summer of graduate study, but no later than after 12 months in the program, each student is expected to have selected a faculty mentor/research adviser.

Admission Requirements for PhD Programs in PHTS

All prospective students will apply through the single umbrella program Pharmaceutical and Translational Sciences (PHTS) and become enrolled in the MPTX, PSCI or CXPT PhD programs after having successfully completed the first year's course work and rotations. During the PHTS year, students must complete the foundation core curriculum of 24 units, maintain a 3.0 grade point average with no grade lower than a C on all courses and must complete at least two laboratory rotations in order to continue on to one of the three PhD program tracks below.

Doctor of Philosophy in Molecular Pharmacology and Toxicology (MPTX)

Program Director: Roger Duncan, PhD

This track provides training in molecular mechanisms of disease as well as disease and drug interaction. Course work emphasizes cell biology and molecular pharmacology. Research areas are laboratory based and include molecular and neuro-pharmacology, receptor pharmacology, cancer biology and pharmacology, metabolism and biochemistry, and oxidant toxicology.

MPTX students are recommended to take PSCI 664 (4, Fa) Drug Design and Discovery; MPTX 500 (4, Sp) Cell Signaling; and PSCI 665 (4, Sp) Drug Transport and Delivery.

PhD students must supplement course work by registering for 790 Research /794 Doctoral Dissertation (a-d & z) during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Molecular Pharmacology and Toxicology, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Doctor of Philosophy in Pharmaceutical Sciences (PSCI)

Program Director: Roger Duncan, PhD

This track provides training that emphasizes basic as well as applied research through advanced course work in contemporary pharmaceutical sciences. Independent laboratory research areas include drug design, development, targeting, and delivery, medicinal chemistry, computational chemistry, pharmaceutics, pharmacokinetics, pharmacodynamics, immunology, and molecular and cell biology.

PSCI students are recommended to take MPTX 500 (4, Sp) Cell Signaling and PSCI 665 (4, Sp) Drug Transport and Delivery.

PhD students must supplement course work by registering for 790 Research /794 Doctoral Dissertation (a-d and z) during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Pharmaceutical Sciences students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Doctor of Philosophy in Clinical and Experimental Therapeutics (CXPT)

Program Director: Stan Louie, PharmD

This track provides cross-training between clinical and basic sciences — focusing on the investigation of disease processes, drug development and the efficacy and toxicity of therapeutic regimens. Course requirements and research opportunities for graduate students enrolled in the track provide both experimental (basic) and disease-focused experiences that complement the graduate's respective research focus. The emphasis in this track is clinical translational, rather than basic science research.

CXPT students are recommended to take CXPT 609 (4, Sp) Preclinical Experimental Therapeutic Drug Development; MPTX 517 (4, FaSpSm) Clinical Trial Design; CXPT 664 (3, Sp) Clinical Problem Solving (for students without an advanced professional degree).

PhD students must supplement course work by registering for 790 Research /794 Doctoral Dissertation (a-d and z) during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Clinical and Experimental Therapeutics, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Unit/Course Requirements

A minimum of 60 units of graduate course credits is required for the PhD, including course work, and research and dissertation units. At least 24 units of formal course work are required at the 500 level or above (see Course Offerings below), exclusive of directed research. No more than 8 units of 794 Doctoral Dissertation may be applied toward the PhD degree. Students must complete the first year PHTS foundation curriculum as well as course requirements for their specific PhD program track. Additional course work relevant to the research interests of the student may be required by the student's guidance committee or by the student's faculty adviser. A minimum of 12 of the 24 units is to be taken in courses in the student's chosen track. Of the total 60 units, 36 units may be fulfilled with other courses, directed research and dissertation.

Graduate Seminar

All first-year PhD candidate students are required to attend departmental and other scheduled school-wide seminars. Students in their second year and above are required to present at least one departmental seminar each year.

Individual Development Plan (IDP)

All PhD students regardless of their chosen tracks/PhD programs are required to complete an Individual Development Plan (IDP) annually at the end of each year of matriculation. IDPs are intended to serve as a tool to facilitate communication between trainees and their advisers. The student will meet with

his/her adviser and IDP committee to systematically identify training needs and competencies, establish goals and take stock of year-by-year progress during the PhD years; and to plan and prepare for their post-PhD future while they are in graduate school. The IDP committee is composed of the student's primary adviser (or program chair if the student does not yet have an adviser at the end of the first year) along with two other members from the student's qualifying or dissertation committee (see below), with the option of substituting one of the committee members with a professional from the student's career of interest.

Guidance Committee

After 24 units of course work, which includes the PHTS core curriculum and course requirements for one of the three PhD program tracks, the student, in consultation with his/her faculty adviser, will nominate five faculty members to serve on the guidance committee for the qualifying examination. A minimum of three of the faculty must be from the student's PhD program track. The chair of the guidance committee must be a member of the student's PhD program track and the faculty adviser is expected to be on the committee as the chair. These nominations are submitted to the Graduate Affairs Office. The appointment form is signed by the committee members, the chair of the program and the dean or dean designate for formal appointment.

Qualifying Examination

Students will be required to pass a qualifying exam by the end of the first semester of their third academic year. Before permission is granted to sit for the qualifying examination, all students must complete the 24 required units as stated above, with no grades lower than "C" and with an overall GPA of 3.0 or better. Final evaluation of the examination is determined by a consensus of the guidance committee. If a student fails, it is at the discretion of the committee to allow the student to repeat the examination within 60 days. The program has the option to dismiss the student from the program with or without the option of a terminal master's degree after the first or second failure.

Dissertation Committee

After advancement to candidacy, the student must form a dissertation committee, in consultation with his or her faculty adviser. A minimum of three committee members must be selected, one of which is the faculty adviser, and at least one of which must be a tenured or tenure-track faculty member of the student's PhD program track. One committee member may be nontenure track. The chair of the dissertation committee is usually the faculty adviser. The dissertation committee is responsible for counseling the student during preparation of the dissertation and conducting the final oral examination during the dissertation defense. Students are expected to meet with the dissertation committee once per year to discuss progress.

Dissertation committee members are expected to read and comment on a dissertation within two weeks from its submission. The student and faculty will coordinate a timeline for the student to present the thesis to the dissertation committee. This timeline must allow all dissertation committee members enough time to fulfill their responsibilities within the four-week deadline.

Dissertation and Oral Defense

A dissertation based on original investigation in a relevant scientific area is required for the PhD. The dissertation research must represent a significant contribution to science and should demonstrate the candidate's scholarly advancement and competence to undertake independent research through planning, conducting and evaluating experiments. Students should have at least one first author publication accepted in a peer-reviewed journal before the defense. A public oral defense of the dissertation will be held after the candidate submits the final draft of the dissertation to the dissertation committee, and it is approved by the graduate adviser and dissertation committee.

All doctoral candidates must be registered in 794 Doctoral Dissertation each semester (excluding summer sessions) from the time of their advancement to candidacy until their dissertation is approved and submitted to the Graduate School.

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. Thus, each PhD student is given the opportunity to participate in the teaching program of the School of Pharmacy.

PHTS Foundation Core Curriculum

- MPTX 502 Pharmacology Units: 4
- MPTX 602 Science, Research and Ethics Units: 2
- PM 510 Principles of Biostatistics Principles of Biostatistics Units: 4
- PSCI 556 Principal Research Approaches and Scientific Writing Units: 4

Additional Core Curriculum for MPTX, PSCI and CXPT Tracks

At least one of the following three courses, from the MPTX, PSCI and CXPT tracks should be selected:

- CXPT 609 Preclinical Experimental Drug Therapeutic Development Units: 4
- MPTX 500 Molecular Pharmacology and Toxicology I Units: 4
- PSCI 665 Drug Transport and Delivery Units: 4

Additional graduate courses offered in the School of Pharmacy

To reach the required 24 units of course work, the student can take more than one of the track courses, and any of the approved courses listed below, as well as other individualized program selected offerings approved by PHTS and the student's adviser.

- CXPT 664 Clinical Problem Solving Units: 3
- MPTX 517 Structure and Management of Clinical Trials Units: 4
- PHTS 654 Computation in Drug Discovery and Development Units: 2
- PSCI 557 Introduction to Tools and Techniques for Chemical Biology Units: 2
- PSCI 599 Special Topics Units: 2, 3, 4
- PSCI 655 Immunopharmaceutics Units: 2, 2 years
- PSCI 667 Intracellular Drug Delivery and Targeting Units: 2, 2 years

Additional campus-wide general courses

To reach the required 24 units of course work, the student can take more than one of the track courses, and any of the approved courses listed below, as well as other individualized program selected offerings approved by PHTS and the student's adviser.

- INTD 531 Cell Biology Units: 4
- INTD 549 Protein Chemistry — Structure and Function Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 572 Medical Physiology I Units: 4

PhD Programs in Pharmaceutical and Translational Sciences (PHTS)

- Clinical and Experimental Therapeutics (PhD)
- Molecular Pharmacology and Toxicology (PhD)
- Pharmaceutical Sciences (PhD)

USC Price School of Public Policy

The USC Price School of Public Policy provides a dynamic learning environment where interdisciplinary education abounds. At USC Price, students choose a program of study from the independent yet related fields of public administration and leadership, public policy, nonprofits and philanthropy, health management and policy, urban planning, real estate development and executive leadership. Students are supported by a committed faculty who contribute to the strong sense of community present in the school.

The school's mission is to improve the quality of life for people and their communities. Faculty engage in solving some of society's most pressing issues — and challenge students to do the same. USC Price is renowned for its expertise in areas such as: sustainability and the environment, health care policy, nonprofit management, housing and real estate, transportation, infrastructure, urban development and land use, social policy, governance, civic engagement, community development, immigration and risk analysis, among others.

Defining characteristics of USC Price are the depth of its academic classroom experience and connecting classroom theory to professional practice through practicums, internships and laboratory work locally, nationally and around the globe. Students can also participate in international exchange programs and acquire knowledge and skills necessary to become successful leaders in a global market. Students graduate with the knowledge, skills and experiences to lead in their chosen field of practice.

Today's complex challenges call for leaders who are able to work across disciplines and across the public, private and nonprofit sectors to find solutions. It is for this multidisciplinary reality that USC Price prepares its students.

USC Price students go on to hold high-ranking appointments in our nation's capital, analyze and determine public policy, design new transportation systems, and redesign city, county, state and federal governance structures — in the United States and abroad.

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Administration

Dana Goldman, PhD, *Dean*
Neeraj Sood, PhD, *Vice Dean for Faculty Affairs and Research*
Juliet Musso, PhD, *Vice Dean for Academic Affairs*
Melissa Azarcon, *Associate Dean for Finance*
Kattie Johnson, *Associate Dean for Faculty and Academic Affairs*
Carole King, MA, *Associate Dean for Development and External Relations*
LaVonna Lewis, PhD, *Associate Dean of Diversity, Equity and Inclusion*
Linda Peacore, *Associate Dean for Administration*
Carol A. Rush, MPA, *Associate Dean, Student Affairs and Enrollment Management*

Faculty

Wallis Annenberg Chair in Communication and Journalism: Manuel Castells, PhD *(Communication)*
Judith & John Bedrosian Chair in Governance & Public Enterprise; Provost Professor: Jeffery A. Jenkins, PhD
Blue Cross of California Chair in Health Care Finance: Glenn A. Melnick, PhD
Margaret and John Ferraro Chair in Effective Local Government: Genevieve Giuliano, PhD*
James Irvine Chair in Urban and Regional Planning: Elizabeth Currid-Halkett, PhD
Lusk Chair in Real Estate: Richard K. Green, PhD *(Business)*
Jeffrey J. Miller Chair in Government, Business and the Economy: Elizabeth Graddy, PhD*
Emery Evans Olson Chair in Nonprofit Entrepreneurship and Public Policy: James M. Ferris, PhD
Price Family Chair in Social Innovation: Christine Beckman, PhD
Quintiles Chair in Pharmaceutical and Regulatory Innovation: Darius Lakdawalla, PhD *(Pharmacy)*
Leonard D. Schaeffer Director's Chair of the USC Leonard D. Schaeffer Center for Health Policy and Economics; Distinguished Professor: Dana Goldman, PhD*
The Norman Topping National Medical Enterprise Chair in Medicine and Public Policy: Jason Doctor, PhD
Turpanjian Chair in Civil Society & Social Change: Manuel Pastor PhD *(Sociology, and American Studies and Ethnicity)*
Borstein Family Endowed Professor of Real Estate: Christian L. Redfearn, PhD
Provost Professor of Public Policy, Psychology, and Behavioral Science: Wandi Bruine de Bruin, PhD
Governor Downey Professor of State and Global Policy: Arnold Schwarzenegger
Frances R. and John J. Duggan Distinguished Professor of Public Administration: Shui Yan Tang, PhD*
Houston I. Flournoy Professor in State Government: Lois Takahashi, PhD
William M. Keck Professor of Energy Resources: Donald Paul, PhD *(Engineering and Earth Sciences)*
John Milner Professor of Child Welfare: Jacquelyn McCroskey, PhD *(Social Work)*
Mary Pickford Foundation Professor: Kathleen Wilber, PhD *(Gerontology)*
UPS Foundation Professor: Jon Pynoos, PhD *(Gerontology)*
Judge Widney Professor: Leonard D. Schaeffer
Judge Widney Professor of Poetry and Public Culture: Dana Gioia, MA, MBA
Professors: Ali E. Abbas, PhD *(Engineering)*; Antonio Bento, PhD; Marlon Boarnet, PhD; Ann Crigler, PhD *(Political Science)*; Howard Greenwald, PhD; Eric Heikkila, PhD; Dan Mazmanian, PhD; James Moore II, PhD *(Engineering)*; Dowell Myers, PhD; Michael B. Nichol, PhD; Ann Owens, PhD *(Sociology)*; Gary Painter, PhD; Jane Pisano, PhD; Alison D. Renteln, PhD* *(Political Science)*; Lisa Schweitzer, PhD; David Sloane, PhD; Neeraj Sood, PhD; Robert Suro *(Journalism)*; Detlof von Winterfeldt, PhD *(Engineering)*
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Assistant Professors: Geoffrey Boeing; Alice Chen, PhD; Spencer Couts, PhD; Jorge De la Roca, PhD; Moussa Diop, PhD; Kathleen Doherty, PhD; Nicolas Duquette, PhD; Alexandra Graddy-Reed, PhD; Janna King, PhD; Eugene Lin, MD, MS *(Medicine)*
Visiting Professors: Wandi Bruine de Bruin; Rosalie Pacula, PhD
Professors (Teaching): Grace Bahng, PhD; Elizabeth Falletta, MRED; LaVonna B. Lewis, PhD; Deborah J. Natoli, PhD; Dora Vertenten, DPA
Associate Professors (Teaching): Tara Blanc, PhD; Mary Lynne Boorn, PhD; Rym Kaki, PhD; William Leach, PhD; John Loper, MRED; T.J. McCarthy, PhD; Mark D. Phillips, PhD; Kelly Rawlings, PhD; Michael Thom, PhD
Assistant Professor (Teaching): Lisa Ozaeta, DrPH
Research Professors: Michael Cousineau, PhD *(Medicine)*; Adam Rose, PhD
Research Associate Professor: Dan Wei, PhD
Research Assistant Professors: Jonathan Eyer, PhD; Jakub Hlavka, PhD; Karen Mulligan, PhD; Mindy Romero, PhD; Erin Trish, PhD; Karen Van Nuys, PhD; Bryan Tysinger, PhD
Professors of Practice: Phil Dalton, MS *(Health Management and Policy),* MPH; Carol J. Geffner, PhD *(Governance, Management*

and Policy); Paul B. Ginsburg, PhD *(Health Policy and Management)*; Michael E. Harris *(Health Services Administration and Policy)*; Geraldine Knatz, PhD *(Public Policy and Engineering)*; Erroll Southers *(Governance)*; Frank Zerunyan, JD *(Governance)*
Adjunct Professors: Janis Breidenbach, MA; Jonathan Brown, DPA; Robert Champion, MRED; Thomas Collins, EdD; Rick Culley, PhD; Patrick G. Hays, MHA; Lori Howard, PhD; Stanley Iezman, JD; Robert Ingenito, MA; Allan Kotin, MA; Ehud Mouchly, MA; Tomson Ong, JD, PhD, LLM; Henry Zaretsky, PhD
Adjunct Associate Professors: Aggie Afarinesh, MPA; P.K. Agarwal, MS; Austin Anderson, MBA; Deepak Bahl, MBA, MPl; Bruce Baltin; William Barcellona, MHA, JD; Vinayak Bharne, MArch; Sandipan Bhattacharjee, MPl; David Brown, JD; Grace Cheng, MSPH; Glenn Daley, MPhil, MBA; Terri Dickerhoff, MRED; Grace Dyrness, DPDS; Ali Farahani, PhD; James Fawcett, PhD; Veronica Flores, MA; Matt Gainer, MFA; Richard Garcia, DPA; Guillermo Gil, MBA; Todd Gish, PhD; Shawn Godkin, MArch; Ray Gonzales, PhD; David Grunwald, JD, MPP; Richard A. Hagy, PhD; Ray Hahn, MHA; Mark Hanson, PhD; Daniel Haverty, DPA; Con Howe, MCP; Donald Hufford, MD; Daniel Inloes, MPL, MPA; Bryan Jackson, JD; Dion Jackson, MBA, MPl, MRED; Daniel Jordan, PhD; Rym Kaki, PhD; Steven Kellenberg, MAUD; William R. Kelly, MPA, MBA, MA; Michael Kodama, MA; Kathy Kolnick, PhD; Alon Kraft, MPl; Jeffrey Kreshek, MBA, MRED; Vi-Nhuan Le, PhD; Richard Little, MS; Kenneth Long; John Loper, MRED; Melissa Lopez, PhD; Robert Manford, DPPD; Marcella Marlowe, PhD; Carl Meyer, MArch; Donald Morgan, PhD; Bret Nielsen, MRED; Mark E. Oliver, MRED; Ralph Oyaga, MBA, JD; P. Michael Paules, MPA; Katherine Perez, MURP; John Perfitt, MBA; John Raffoul, DPA; Maurice Rahimi, PhD; Ann Reyes Robbins, PhD, JD; Ellen Riley, MBA; Jeanne Ringel, PhD; Shlomi Ronen, MBA; Robert A. Saunders, MRED; Jeffrey Schaffer, MPA; Bonnie Shrewsbury, MA; Susan Sinclair, MBA; Krista Sloniowski, MPl; Jeffrey Smith, PhD; Matthew Smith, MRED; Helene Smookler, PhD; Donald Spivack, MCP; Elwood Tescher, MArch; Halil Toros, PhD; Mark Velez, JD, PhD; Barry Waite, MPA; Jeffrey Wasserman, PhD; Dennis A. Watsabaugh; Clyde Wesp, MD; Chris Wilson, MBA; Jack Wong, MA; Ke Ye, PhD; Diane Yoder, PhD
Frances R. and John J. Duggan Professor Emeritus in Public Administration: Chester A. Newland, PhD
Emeritus Professors: William C. Baer, PhD, AICP; Tridib Banerjee, PhD; Gerald Caiden, PhD; Robert M. Carter, DCrim.; T. Ross Clayton, PhD; Terry Cooper, PhD; Lois Friss, Dr.PH; Peter Gordon, PhD; Alan Kreditor, MCP, AICP; David Lopez-Lee, PhD; Robert C. Myrtle, DPA; E.K. Nelson, DPA; William Petak, DPA; Francine Rabvinovtiz, PhD, AICP; Robert Stallings, PhD; Richard A. Sundeen, PhD*; Robert E. Tranquada, MD; Joseph S. Wholey, PhD; William J. Williams, DPA
Emeritus Associate Professor: Catherine Burke, PhD
**Recipient of university-wide or school teaching award.*

Degrees Offered

The Price School of Public Policy offers the following degrees:

- Bachelor of Science in Public Policy
- Bachelor of Science in Real Estate Development
- Bachelor of Science in Urban Studies and Planning
- Master of Health Administration
- Executive Master of Health Administration
- Executive Master of Leadership
- Master of International Public Policy and Management
- Master of Urban Planning
- Master of Planning and Development Studies
- Master of Public Administration
- Master of Public Policy
- Master of Public Policy Data Science
- Master of Nonprofit Leadership and Management
- Master of Real Estate Development
- Doctor of Philosophy in Public Policy and Management
- Doctor of Philosophy in Urban Planning and Development
- Doctor of Policy, Planning, and Development

The Bachelor of Science and the school's master's degrees are also offered jointly as a progressive five-year program and the school participates in the following interdisciplinary minors:

- Construction Planning and Management
- Education Policy
- Health Policy
- International Policy and Management
- Law and Public Policy
- Nonprofits, Philanthropy and Volunteerism
- Real Estate Development
- Urban Sustainable Planning

The Master of Urban Planning is offered as a dual master's degree with programs in architecture, curatorial practices and the public sphere, heritage conservation, landscape architecture, business administration, public administration, public health, public policy, real estate development and social work.

The Master of Public Administration is offered as a dual master's degree with programs in urban planning, gerontology, Jewish nonprofit management, law and social work.

The Master of Real Estate Development is offered as a dual degree with the Master of Business Administration, Juris Doctor and Master of Urban Planning.

The Master of Health Administration is offered as a dual degree with the Master of Science in Gerontology.

The Master of Public Policy is offered as a dual degree with programs in law and urban planning.

National Honor Societies

Pi Alpha Alpha

Pi Alpha Alpha is the national honor society for public affairs and administration. Graduate students in the Price School of Public Policy who have completed at least 18 semester units and have earned a 3.7 grade point average are eligible for membership.

Pi Sigma Alpha

Pi Sigma Alpha is the national honor society for students in public administration, political science and international relations. Students who have completed at least three courses from among these fields and have earned at least a 3.5 grade point average are eligible to apply.

Undergraduate Degrees

The Price School of Public Policy offers a suite of degrees that allow undergraduate students to gain the skills and knowledge necessary to understand complex health, environmental and urban issues, as well as to potentially enter the professional fields of health and nonprofit management, public policy, real estate development, and urban planning. Students may enroll in the Bachelor of Science in Public Policy, Bachelor of Science in Urban Studies and Planning or the Bachelor of Science in Real Estate Development. In addition, students can select from a challenging set of minors or possibly the very competitive progressive degrees associated with the Master of Health Administration, Master of Urban Planning and Master of Public Administration.

Admission

Freshman and transfer students may indicate their desire to declare a Price School major on their university application. Students enrolled at USC wishing to declare either a Price major or to be admitted into the minors must be in good academic standing. Interested current USC students should contact the Admissions and Recruitment Office in RGL 111 for more information.

Advisement

Students must discuss courses of study with the appropriate undergraduate advisers throughout their college enrollment and need to develop their own individual programs with faculty and staff advisers at the time of first enrollment and throughout their college careers.

Progressive Degrees in the Price School of Public Policy

The Price School of Public Policy offers students who have demonstrated exceptional academic success the opportunity to earn both bachelor's and master's degrees in a progressive degree program. This program allows students to earn both the Bachelor of Science and a master's degree in five years. Further details about progressive degrees can be found on the Requirements for Graduation page.

Admission

Admission is available after the completion of 64 units of course work toward the undergraduate degree. Students must apply for admission to the progressive degree program after completing 64 units of applicable course work to their undergraduate programs, but prior to the completion of 96 units of course work (not including AP, IB or courses taken prior to high school graduation). The application for admission to the progressive degree plan must be accompanied by a course proposal plan and two letters of recommendation with one at least from a Price School faculty member.

Awarding of Degrees

The Bachelor of Science and master's degree may be awarded separately upon completion of all degree requirements, but the master's degree will not be awarded before the bachelor's degree. Students who elect not to complete the master's, must complete 128 units to earn the bachelor's degree, including 32 units of upper-division Price course work (including any graduate Price classes).

Time Limits

All requirements for the progressive degree must be completed within 12 semesters. If not completed within that time, students will no longer be eligible for the master's degree but may still earn the bachelor's.

Transfer of Credits

Graduate courses will not be accepted for transfer credit. Undergraduate classes may be transferred in accordance with university guidelines.

Minor Programs

Minor in Construction Planning and Management

This program covers the most current theories and practice of construction planning and management. The program provides a valuable adjunct credential to professional school students pursuing careers in business administration, public administration, environmental studies, and other areas; and a unique opportunity for professional focus to students in the USC Dornsife College of Letters, Arts and Sciences.

Construction activities are complex. In contemporary society, effective planning and management of these activities requires specialized knowledge of the technical, economic and political environment. This program couples the knowledge of how construction activities are organized with a broader understanding of the urban system in which construction projects are embedded. With the exception of statistics, all of the required courses are within the Department of Civil Engineering and the Price School of Public Policy.

Any USC undergraduate who has completed the equivalent of two full-time semesters in good standing is eligible to pursue the minor program. This minor program is rigorous enough to serve as an introductory credential for students subsequently electing to pursue advanced studies in development, urban planning, construction management or allied fields.

See the Department of Civil Engineering for course requirements.

Minor in International Policy and Management

The minor in international policy and management brings together courses from the School of International Relations, dealing with the new global challenges, specific regions of the world, and international organizations and policies, and the Price School of Public Policy, dealing with core management skills and public policy processes. Students will examine the changes and challenges which are transforming the world, and the policy and management skills used to deal with them. To increase their understanding of the context and application of these concepts, students must complete a semester-long internship either in Washington, D.C. (through participation in the Washington, D.C. semester program) or in Los Angeles with an organization that has an international focus.

Students minoring in international policy and management take three courses in international relations, including the gateway course, IR 305w Managing New Global Problems; three courses in public policy and management; and an approved internship through the School of International Relations (IR 491x Field Study). For additional course information, see International Relations.

Graduate Degrees

Admission

Applicants for admission to the Master of Health Administration; Executive Master of Health Administration; Executive Master of Leadership; Master of Nonprofit Management and Leadership; Master of Urban Planning; Master of Planning and Development Studies; Master of Public Administration; Master of Public Policy; Master of International Public Policy and Management; Master of Real Estate Development; Doctor of Policy, Planning, and Development; Doctor of Philosophy in Public Policy and Management; and Doctor of Philosophy in Urban Planning and Development must have a bachelor's degree or its equivalent from an accredited educational institution. In recognition of the increasing diversity of capabilities required as the theories and practices of policy, planning, and development evolve, students from a variety of undergraduate and graduate backgrounds are encouraged to apply.

Applicants for admission will be expected to have completed a broad range of undergraduate courses in addition to their academic major or professional concentration. Generally, this will be reflected in completion of courses from the following fields: English; economics (basic theory); political science, history or sociology; physical or natural science; art or philosophy. In addition, mathematics (algebra, calculus, probability theory) and a course in statistics are strongly recommended.

Application for Admission

Admission to graduate programs in the Price School of Public Policy is highly selective and competitive. Preference is given to those with a record of high educational achievement and personal qualities favoring success in the fields of planning or development. Applicants must have achieved superior grades during undergraduate and any graduate education. A grade point average of at least 3.0 (A = 4.0) is normally expected as well as satisfactory scores on the Graduate Record Examinations (GRE). The GRE and GMAT are neither accepted nor required for the DPPD or executive MHA programs. Students applying for admission to the Master of Nonprofit Management and Leadership, Master of Urban Planning, Master of Planning and Development Studies or the Master of Real Estate Development program may submit results from the Graduate Management Administration Test (GMAT). MRED applicants may also submit results from the Law School Admission Test (LSAT). In exceptional cases, an applicant who has not met these scholarship requirements may be admitted with conditions of admission.

For specific information on admission requirements and application procedures, contact the Price School of Public Policy, Office of Recruitment and Admissions, at (213) 740-0550. Certificate in Transportation Systems applicants should apply to the USC Viterbi School of Engineering. For additional information, contact the school at (213) 740-0587.

Transfer Credit

The Degree Progress Department determines whether work done elsewhere is available for consideration for credit toward the USC degree. That office requires official transcripts of all course work done before entering USC. A Graduate Transfer Credit Statement of these official transcripts, done after a student has been admitted to regular status at USC, will indicate which units are available for transfer. These courses do not apply toward the degree unless, and until, the student's major department approves and submits transfer credit to the Degree Progress Department in the Office of Academic Records and Registrar.

Application of any available transfer credits toward a graduate degree will be determined by the director of the particular degree program, based on the semester units available for transfer as shown on the Transfer Credit Statement.

These general guidelines are followed by the admissions evaluator and by faculty members: (1) the work must be completed at an accredited graduate school; (2) the grade must be B or better; (3) the work must be a fair and reasonable equivalent to current USC course work at the graduate level which fits into the logical program for the degree; (4) the units are not more than seven years old at the time of admission to their master's program (or 10 years old for a doctoral program); (5) the units must reflect current knowledge in the field; and (6) the work must be completed prior to admission to the USC program.

USC does not give transfer credit for life experience, credit by examination, noncredit extension courses or thesis course supervision.

Please consult with your degree director before enrolling in courses outside of USC. In many of the Price School's master's degree programs, only courses taken outside of USC prior to admission may be applied to your degree.

Waiver of Course Content

The school recognizes that some applicants may have covered the material contained in core courses or courses required for a particular specialization. Under these circumstances, one particular course requirement may be waived, allowing the student to complete a more advanced course in the same area. Students who have a background in a particular area of study may be allowed to substitute other courses. In these situations students do not receive unit credit but are permitted to take course work, which does not repeat earlier academic experiences.

Waiver of content is usually given only in the case of previous academic study of the subject, not in the case of experiential background in the area.

Students who believe they are eligible for content waiver decisions must petition the faculty of the school, providing evidence of the previous work through transcripts, syllabi and other pertinent material. Contact the school's Student Affairs Office for information.

Master of Science in Health Systems Management Engineering

This program is jointly sponsored by the Epstein Industrial and Systems Engineering Department and the Price School of Public Policy, and administered by the Epstein Industrial and Systems Engineering Department. For more information, see Health Systems Management Engineering (MS).

Graduate Professional Labs

USC's Price School of Public Policy offers professional consulting-like experience for graduate students in its core master's degree programs. Participants are presented with a challenging professional assignment and a well-defined client and terms of reference. Students typically work in teams to produce a professional report and related materials that are presented to the client at the close of the assignment. The terms of reference for the lab vary each year depending upon the client, the instructor and the setting, among other considerations.

In principle, these professional labs may be held anywhere, either in Los Angeles, elsewhere in the United States or abroad.

The Price School professional laboratory teaches students to integrate scholarly knowledge with professional practice. Likewise, it helps participants make the transition from the classroom back to a "real world" setting. In the case of international labs, participants also gain a deeper and more direct understanding of how the culture of professional practice can vary from one setting to the next. Through the Price School professional laboratory students build their credentials and experience while also extending their network of professional contacts.

These professional labs are intended primarily for graduate students in public administration, urban planning, real estate development, public policy and health administration. A distinctive feature of the professional laboratory is that it is intended as an integrative professional experience across the school, so that students from any of these programs may participate fully.

Each summer the Price School offers one or more international labs/workshops. Recent international labs have been held in China, Brazil, Germany, Morocco, Italy and Vietnam. All students are encouraged to take at least one international lab course.

Exchange Program

The Price School International Exchange Programs are one-semester exchange programs with a host institution in Germany or South Korea during either the fall or spring semester. These programs provide opportunities for students to acquire knowledge and skills necessary to become successful leaders in a global market. Students complete a maximum of 12 units at the host institution. All instruction is in English; proficiency in a foreign language is not required. Courses completed are graded credit/no credit on the student's USC transcript. The courses are selected from a list approved by the Price School of Public Policy. Students must work with their program administrator to understand how the courses will return to their degree.

Graduate Certificate Programs

Certificate in Health Systems Operations

This 17-unit graduate certificate is jointly sponsored by the Epstein Industrial and Systems Engineering Department and the Price School of Public Policy (Master of Health Administration program), and administered by the Epstein Industrial and Systems Engineering Department. See the Industrial and Systems Engineering Department for course requirements.

Non-Credit Programs Offered by the Center for International Training and Development

Management Effectiveness Program

This is a four-week intensive training program in the art and science of management. The program is designed to enhance leadership effectiveness and the development of a management generalist perspective.

International Executive Development Laboratory

This five-week laboratory focuses on issues in executive leadership, strategic management, environmental analysis, international finance and economics, computer-based project planning, and implementation of planned change strategies.

Dual Degree Programs

A dual degree program is an academic option that allows a student to enroll in two graduate programs simultaneously. Application must be made to both schools, and if accepted to both, the student pursues a specially designed program that combines selected courses from the two academic units. Students are required to seek advisement from both schools. The student will have the opportunity to acquire the knowledge and skills from two fields of study.

The dual degree program enables the student to integrate a closely related field with planning or development. The purpose of the dual program is to provide an enriched educational experience; accordingly, concurrent course work in the two fields is required.

Since the unit requirements of dual degrees depend upon the mutual transfer of units between the two academic units, no other

transfer of credits will be allowed.

Students who decide, at any point, to earn only one of the two degrees must meet all the regular requirements for earning that degree alone.

Students in Master of Urban Planning dual degree programs must fulfill the comprehensive examination and appropriate internship requirements except where noted otherwise.

Master of Heritage Conservation/Master of Urban Planning

See the Master of Heritage Conservation/Master of Urban Planning (MHC/MUP) for degree requirements.

Master of Urban Education Policy/Master of Public Policy

See the Master of Urban Education Policy/Master of Public Policy (PhD/MPP) for degree requirements.

Master of Urban Planning/Master of Advanced Architectural Studies

The Master of Urban Planning/Master of Advanced Architectural Studies dual degree program facilitates highly related cross-disciplinary studies in architecture and in urban planning at the master's level. This program offers students interested in developing a career in urban design an opportunity to make more substantial commitments in both disciplines and to achieve a more coherent and extensive knowledge in the design of built environments and public policy. This dual degree program normally requires five semesters in residence.

Qualified students who are admitted to the graduate programs in both the School of Architecture and the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program. Such students must already possess a five-year professional degree in architecture.

Requirements

Requirements for completion of the dual degree program are 72 units, including 36 units in architecture and 36 units in planning. See the USC School of Architecture for course requirements.

Master of Urban Planning/Master of Business Administration

See the Master of Business Administration/Master of Urban Planning (MBA/MUP) for degree requirements.

Master of Urban Planning/Master of Arts, Curatorial Practices and the Public Sphere

See the Master of Urban Planning/Master of Arts, Curatorial Practices and the Public Sphere (MUP/MA) for degree requirements.

Master of Urban Planning/Master of Landscape Architecture

The dual degree option in urban planning and landscape architecture (in the USC School of Architecture) trains professionals in policy and design, and to be competent with design problems at different scales, but with a distinctly urban focus. Candidates must be independently admitted to the Master of Urban Planning and Master of Landscape Architecture programs. The dual degree program normally requires between five and seven semesters in residence.

Requirements

Completion of the dual degree requires 24 units of courses in urban planning, 10 units of thesis option I or II and either 32 units of landscape architecture (for those students admitted with advanced standing); 48 units of landscape architecture (for those students admitted with advanced placement); or 74 units of landscape architecture (for those students admitted to the three-year curriculum). See USC School of Architecture for course requirements.

Juris Doctor/Master of Real Estate Development

See the USC Gould School of Law for degree requirements.

Master of Real Estate Development/Master of Business Administration

See the Master of Business Administration/Master of Real Estate Development (MBA/MRED) for degree requirements.

Regulations Concerning a Second Master's Degree

For rules governing a second master's degree, see the Requirements for Graduation page. In accordance with these policies, transfer credits will be granted only on the basis of a written petition to the MPA program coordinator and on the basis of credits recognized by USC in a Transfer Credit Statement.

Teaching Opportunities

Students may want to prepare for teaching as well as for public service. By careful planning in the upper division of the undergraduate degree and during the graduate years, requirements for a bachelor's degree, a master's degree and the university recommendation for a community college instructorship may be met without unnecessary duplication of effort and waste of time. Those interested in teaching should consult advisers in both the USC Price School of Public Policy and the USC Rossier School of Education before beginning upper-division and graduate work.

Public Administration Professional Sequence with the Viterbi School of Engineering

Regulations governing the Master of Science in Civil Engineering permit some candidates for this degree to take 12 units outside the School of Engineering. Those who wish to do so may take 12 units in public administration. Two courses in this sequence must be selected from among PPD 500, PPD 501a, PPD 501b, PPD 540, PPD 541, PPD 545, PPD 546. One course in this sequence must be selected from among PPD 542, PPD 557, PPD 666. PPD 541 requires PPD 502x and statistics as prerequisites. PPD 546 should be taken last if elected.

Joint Degree Program

Master of Arts in Long Term Care Administration

This program is designed to prepare competent individuals to administer the long term care needs of America's elderly population. It is jointly offered by the Davis School of Gerontology, the Marshall School of Business, and the Price School of Public Policy. For information see the USC Leonard Davis School of Gerontology.

Doctoral Degrees

The USC Price School of Public Policy offers the Doctor of Philosophy in Public Policy and Management (PhD), the Doctor of Philosophy in Urban Planning and Development (PhD) and the Doctor of Policy, Planning, and Development (DPPD). The PhD degrees are designed to prepare individuals for university level teaching and research. The DPPD degree is intended to develop a high level of conceptual and research competence for professional leadership in planning and development. The DPPD is administered by the Price School of Public Policy; the PhD programs are administered by the Graduate School and the faculty of the Price School of Public Policy. PhD students must consult The Graduate School section of this catalogue for regulations and requirements pertaining to its degrees. Students should also consult the Academic Policies section of this catalogue.

Completion of the requirements for all these degrees is assumed to take a minimum of three years of approved graduate study and research beyond the bachelor's degree. For the PhD student, a minimum of 24 graduate units completed in residence on the University Park Campus in Los Angeles is required. DPPD students are required to complete a minimum of 24 units at the University Park Campus. Full-time study is represented by enrollment in 6 units during the semester. Usually the school and the student's qualifying exam committee insist on a clear and mutually understood commitment of time and energy by the student to ensure significant involvement in the

doctoral learning experience. For university policies regarding continuous enrollment, leave of absence and readmission, see the Requirements for Graduation page.

Application and Admission

Admission to graduate standing for the PhD or DPPD is recommended by the school's admissions committee acting under guidelines established by the Graduate School as outlined in the Graduate School section and the Graduate Admission section. In addition to those guidelines, DPPD students are expected to have a minimum of five years of substantial relevant experience. Students intending to apply should direct questions about the program and all materials for the admission application to Doctoral Programs, Office of Student Affairs, RGL 111, Price School of Public Policy, University of Southern California, University Park, Los Angeles, CA 90089-0626.

The deadline for applications for admission to the PhD and DPPD programs is December 1. Applications for admission are made once each year for fall semester admission.

The admission decision for PhD students is made using criteria that include verification that the applicant has a bachelor's degree from an accredited college or university, has maintained a high grade point average in the last 60 units of undergraduate work, and has earned a competitive score on the verbal and quantitative portions of the Graduate Record Examinations (GRE). Other elements of the applicant's educational and experiential background are also evaluated, including performance in other advanced degrees. DPPD applicants must also provide evidence of at least five years of practical administrative or other relevant experience. The GRE and GMAT scores are neither accepted nor required for the DPPD program.

Each applicant should submit the following: (1) one copy of official transcripts of all previous college and university work (be sure that these official transcripts show an awarded degree where appropriate); (2) copies of GRE scores; (3) a 1,000-word essay discussing the applicant's background and reasons for wanting to pursue a PhD degree and identifying his or her personal, educational and professional goals; (4) an up-to-date résumé, including academic and professional accomplishments; (5) three letters of recommendation, two from previous instructors, the other from an instructor or from a professional supervisor or colleague. The letters should indicate the applicant's academic and professional accomplishments and potential; (6) a completed USC Graduate Admission Application, along with the nonrefundable application fee; (7) a writing sample of approximately 1,000 words (in addition to the applicant essay); and (8) a completed Price School of Public Policy Supplemental Graduate Application. International applicants are asked to submit additional information. Applicants should carefully choose, and clearly state, the degree objective (PhD or DPPD) for which they are applying, since different sets of admissions criteria exist for each of them.

Transfer Credits

The application of any available transfer credits toward a graduate degree at USC will be determined by the faculty and the dean of the Price School of Public Policy, based on the semester units available for transfer as shown in the Transfer Credit Statement (determined by the USC Office of Academic Records and Registrar). Refer to Admission with Advanced Standing for more information.

Deferral of Enrollment

Admission to the university is granted for a specified semester, and it is expected that students will begin their programs during that semester. The school will normally allow students to defer their enrollment up to one year from the admission semester. Students who wish to defer enrollment should notify the school in writing no more than 30 days after the beginning of the semester of admission. Students who do not inform the school in a timely manner of their intent to defer enrollment may be required to reapply for admission.

Please note that more stringent regulations apply to international students. See the Admission and Orientation section of this catalogue.

Admission to Candidacy

Acceptance to graduate standing does not in itself imply that the student is admitted or will be admitted to candidacy for an advanced degree. Application for admission as a candidate for an advanced degree is a separate and subsequent step. See The Graduate School section of this catalogue.

Admission of International Students

All international applicants for admission to doctoral programs should submit materials to Doctoral Programs, Recruitment and Admissions Office, RGL 111, Price School of Public Policy, University of Southern California, University Park, Los Angeles, CA 90089-0626. See the Admission of International Students section of this catalogue.

Screening

PhD students are required to have a 3.3 overall GPA in first-year courses to continue in the program. DPPD students are required to pass a screening procedure after 16 units of course work. The procedure is designed to ensure that only those students who have demonstrated intellectual and scholarly potential continue in the program.

There are differences between the screening process for PhD and DPPD students. Students should consult the relevant faculty director of the doctoral program in which they are enrolled.

Qualifying Exam Committee (for the PhD programs)

A qualifying exam committee assists the student in outlining an academic program leading toward the degree. Students will form an initial qualifying exam committee by the end of the first fall semester. The committee might not yet include the Graduate School representative from outside the Price School, but must include at least three tenure track the Price School faculty members, one of whom is identified as the chair. This committee bears responsibility for counseling the doctoral student, for approving a course schedule and preliminary and qualifying examinations, and for recommending the student for admission to candidacy. After approval of the student's program and proposed time schedule, the program is submitted in writing to the relevant director. This should be accomplished by the beginning of the second year, following successful screening.

The complete qualifying exam committee must be in place no later than the third semester. The chair should have recognized expertise in the qualifying area and should be a regular participant in the qualifying examination committee for that area. The majority of the members of the qualifying exam committee (typically at least three out of five) should be experts in the area in which the student is qualifying and should be regular participants in the qualifying examination committee. The remaining members should have a clear interest in this area with the exception of the outside member whose primary responsibility is to serve as the representative of the Graduate School, ensuring the university's commitment to the equitable treatment of all students and that the highest quality education standards are upheld.

Students will formalize their relationship with their committees through the development of a work plan that specifies all courses, degree progress, seminar attendance and what was learned from these sessions as well as a research plan that articulates major research questions being explored. At the end of the first year of study, the qualifying exam committee chair reviews and approves the work plan. At the end of the second year, the full qualifying exam committee reviews the work plan and the second year paper.

Bachelor's Degree

Public Policy (BS)

The Bachelor of Science in Public Policy is an interdisciplinary major that prepares students for graduate study and/or professional careers by engaging them in the analysis of society's political, social and economic issues. The major

introduces students to theoretical foundations and practical applications through a set of cross-cutting introductory courses and specialized courses in one of four tracks: health policy and management, public policy and law, philanthropy, nonprofits and social innovation, or public policy and data analytics. Students will be introduced to analytical and research tools relevant for and connected to professional practice, as exemplified by consultative class projects and the mandatory internship.

Pre-Major Requirements

Students must complete the pre-major requirements. A minimum grade of C, 2.0 (A = 4.0), must be earned in each of the pre-major courses. All pre-major requirements must be taken for a letter grade.

- ECON 203g Principles of Microeconomics Units: 4
- MATH 117g Introduction to Mathematics for Business and Economics Units: 4

Core Curriculum (30 Units)

- PPD 225 Public Policy and Management Units: 4
- PPD 240g Citizenship and Public Ethics Units: 4
- PPD 300 Social Justice Issues in Public Policy and Urban Planning Units: 4
- PPD 301 PPD Practices: Internship Seminar Units: 2
- PPD 303 Statistics for Policy, Planning, and Development Units: 4
- PPD 315 Analytic Foundations for Public Policy Units: 4
- PPD 373 Public Policy and Planning Analysis Units: 4
- PPD 431 Undergraduate Policy, Planning, and Development Studio Units: 4

Tracks

Students select one track for degree emphasis; they take 28 units from the track selected. Each track includes five required courses and two elective courses with the exception of the Public Policy and Data Analysis track, which has four required courses and three elective courses. During advisement, students will be given a list of recommended elective courses particularly appropriate for the chosen track. Students may work with their adviser for approval to take track electives outside of the courses listed to meet their academic needs. The required courses for each track are listed below followed by track elective options.

Health Policy and Management Track

Required Track Courses (28 units: 20 required, 8 electives)

- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4
- PPD 357 Government and Business Units: 4
- PPD 413 Administration of Health Care Organizations Units: 4
- PPD 415 Health Policy Units: 4

Track Electives (Select two)

- GERO 416 Health Issues in Adulthood Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- LAW 403 Mental Health Law Units: 4
- PPD 314 Public Policy and Law Units: 4
- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 320 Organizational Behavior in Public Administration Units: 4
- PPD 403 Management Analysis I Units: 4
- PPD 404 Empirical Methods for Public Policy Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 478 Social Innovation Units: 4

Philanthropy, Nonprofits and Social Innovation Track

Required Track Courses (28 units: 20 required, 8 electives)

- PPD 353 Philanthropy and Social Change Units: 4
- PPD 371 The Nonprofit Sector and the Public Interest Units: 4
- PPD 402 Management of Public and Nonprofit Organizations Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 478 Social Innovation Units: 4

Track Electives (Select two)

- BUCO 485 Business Communication Management for Nonprofits Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 320 Organizational Behavior in Public Administration Units: 4
- PPD 372m Public Service in an Urban Setting Units: 4
- PPD 382 International Development Units: 4
- PPD 404 Empirical Methods for Public Policy Units: 4

Public Policy and Law Track

Required Track Courses (28 units: 20 required, 8 electives)

- PPD 313 Finance of the Public Sector Units: 4
- PPD 314 Public Policy and Law Units: 4
- PPD 342 Crime and Public Policy Units: 4
- LAW 300 Concepts in American Law Units: 4

or

- POSC 340 Constitutional Law Units: 4
- LAW 200w Law and Society Units: 4

or

- PPD 357 Government and Business Units: 4

Track Electives (Select two)

- ECON 434 Economic Analysis of Law Units: 4
- LAW 310w Global Justice for Mass Atrocities and Genocide Units: 4
- LAW 403 Mental Health Law Units: 4
- LAW 404 Law and Psychology: Examining the Criminal Justice Process Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 371 The Nonprofit Sector and the Public Interest Units: 4
- PPD 382 International Development Units: 4
- PPD 404 Empirical Methods for Public Policy Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 439 Housing and Community Development Units: 4
- PPD 478 Social Innovation Units: 4
- PPD 485m U.S. Immigration Policy Units: 4

For the two track requirements that consist of a choice (POSC 340 or LAW 300 and LAW 200w or PPD 357), the courses not used to satisfy these requirements may be taken as electives.

Public Policy and Data Analytics Track

Required Track Courses (28 units: 16 required, 12 electives)

- PPD 313 Finance of the Public Sector Units: 4
- PPD 404 Empirical Methods for Public Policy Units: 4
- PPD 430 Urban Informatics Units: 4

Track Electives (Select 12 units):

- ECON 303 Intermediate Microeconomic Theory Units: 4
- DSCI 250 Introduction to Data Science Units: 4
- DSCI 352 Applied Machine Learning and Data Mining Units: 4
- DSCI 429 Security and Privacy Units: 4
- PPD 314 Public Policy and Law Units: 4
- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 342 Crime and Public Policy Units: 4
- PPD 357 Government and Business Units: 4
- PPD 358 Urban and Regional Economics Units: 4

- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 382 International Development Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 415 Health Policy Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
  or
- PPD 439 Housing and Community Development Units: 4
  If not used to satisfy the core track requirement, either PPD 427L or DSCI 250 may be selected as an elective.

Cross-cutting Topics Course

Students will be required to take 4 units of a cross-cutting topics course. It is taken preferably junior year after completion of the core curriculum. Students may select a course from the list below. If a student uses a course to satisfy a requirement or elective that has already been taken in the track requirements, it can not be double-counted as the cross-cutting course. The cross-cutting course must be a different course.

- PPD 313 Finance of the Public Sector Units: 4
- PPD 314 Public Policy and Law Units: 4
- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 342 Crime and Public Policy Units: 4
- PPD 353 Philanthropy and Social Change Units: 4
- PPD 357 Government and Business Units: 4
- PPD 371 The Nonprofit Sector and the Public Interest Units: 4
- PPD 400 Topics in Public Policy and Urban Studies Units: 4
- PPD 404 Empirical Methods for Public Policy Units: 4

Additional Requirements

Capstone

All students will take 4 units of a capstone experience during their senior year. This may be fulfilled by taking PPD 431 Undergraduate Policy, Planning, and Development Studio (4) or PPD 497a Senior Thesis, PPD 497b Senior Thesis (2-2). Students wishing to enroll in PPD 497a, PPD 497b must have a 3.7 GPA in PPD courses and an overall 3.5 GPA.

Internships

Public Policy majors are required to complete 140 hours of internship by enrolling in PPD 301 PPD Practices: Internship Seminar or the Washington, D.C., Semester internship. Internships are matched as closely as possible to the student's interests and skills.

PPD 301 and the internship in a position provide numerous opportunities to develop and formulate future career goals, as well as to gain personal and professional experience while completing the undergraduate degree.

Honors

Price School honors are available at graduation to qualified PPD majors and result in a special designation of departmental honors on a student's transcript. Achievement of PPD honors requires a 3.7 GPA in PPD major courses and a 3.5 overall GPA as well as nomination by the professor in the capstone experience. In addition, students must earn an A in their capstone course (PPD 497a, PPD 497b or PPD 431).

Washington, D.C., Semester

The Washington, D.C., Semester program provides an intensive semester of confrontation with the political center of the nation and its complex components. The program offers opportunities for behind-the-scenes work in national government agencies and related organizations, combined with an academic environment and the chance to explore, share and learn with a group of fellow students.

Real Estate Development (BS)

Price School students are trained to look at the interaction between people and place and the consequences for our communities. The Bachelor of Science in Real Estate Development explores the broader context of real estate allowing students to launch their careers by grasping the full structure of the industry and its role in society. The foundational core courses integrate the many disciplines that are the basis for real estate education, including accounting, economics and business finance. The real estate core classes taken through the Price School focus on real estate principles, financial analysis, market analysis, land use policy, urban design and the history of cities. Students also select electives to complement their interests from either the Price School or closely related disciplines. Throughout, the students' education will be connected to professional practice, as exemplified by the mandatory internship. Finally, the major is structured to provide students with sufficient elective credits to explore minors or other programs at USC so they can broaden their education to better prepare themselves for the next stage of their lives.

Double Major

Students who wish to pursue the Bachelor of Science in Real Estate Development as a second major must satisfy all university requirements for a second major and complete 32 units unique to the Real Estate Development major.

Pre-major requirements (8 units)

- ECON 203g Principles of Microeconomics Units: 4
- MATH 117g Introduction to Mathematics for Business and Economics Units: 4

Foundational Core (22 units)

- ACCT 410x Foundations of Accounting Units: 4
- BUAD 215x Foundations of Business Finance Units: 4 or
- RED 325 Introduction to Finance in Cities Units: 4
- PPD 245g The Urban Context Units: 4 *
- PPD 303 Statistics for Policy, Planning, and Development Units: 4
- RED 200 Introduction to Real Estate Units: 4
- RED 201 Real Estate Career Seminar Units: 2

Note:

**May double count as general education.*

Real Estate Core (24 units)

- RED 362 Real Estate Development Fundamentals Units: 4
- RED 375 Real Estate Development Analysis Units: 4
- RED 417 History of Planning and Development Units: 4
- RED 425 Designing Livable Communities Units: 4
- RED 435 Analyzing Real Estate Markets Units: 4
- RED 437 Advanced Finance and Investment for Real Estate Development Units: 4

Additional Requirements

Real Estate Electives (11-12 units)

Students select 11-12 units of course work from the Price School or in related fields. Elective classes must be approved by the Price School academic adviser.

Capstone (4 units)

Students will complete four units of a capstone experience during their senior year. This may be fulfilled by taking PPD 431 Undergraduate Policy, Planning, and Development Studio (4) or PPD 497a Senior Thesis, PPD 497b Senior Thesis (2-2). Students wishing to enroll in PPD 497a, PPD 497b must have a 3.7 GPA in Price School courses and an overall 3.5 GPA.

Internship (1 unit)

Students are required to complete 140 hours of while concurrently enrolled in RED 301 Real Estate Internship Seminar. Internships are matched as closely as possible to the

student's interests and skills. RED 301 and the internship provide opportunities to develop and formulate future career goals, as well as to gain personal and professional experience while completing the undergraduate degree.

Honors

Price School honors are available at graduation to qualified students and result in a special designation of departmental honors on a student's transcript. Achievement of Price School honors requires a 3.7 GPA in Price School major courses, a 3.5 overall GPA, as well as nomination by the professor of the capstone experience. In addition, students must earn an A in their capstone course (PPD 431 or PPD 497a, PPD 497b).

Urban Studies and Planning (BS)

The Bachelor of Science in Urban Studies and Planning is an interdisciplinary major that prepares students for graduate study and careers as change agents in the urban world. The major introduces students to theoretical foundations and practical applications through a set of introductory courses and develop expertise through electives. Students will learn analytical techniques for urban sustainability, methods for stakeholder engagement, approaches for poverty alleviation, and the role of the built environment and geographic data in city problem solving. Environmental analysis and sustainability, Geographic Information Systems, statistics, urban design, applied field research, and the mandatory internship are a sample of the courses and tools used to educate our students and to better prepare them for their professional careers or graduate studies.

The program requires a minimum of 128 units.

Pre-major Requirements

Students must complete the pre-major requirements. A minimum grade of C, 2.0 (A=4.0), must be earned in each of the pre-major courses. All pre-major requirements must be taken for a letter grade.

- ECON 203g Principles of Microeconomics Units: 4
- MATH 117g Introduction to Mathematics for Business and Economics Units: 4

Core Curriculum

- PPD 240g Citizenship and Public Ethics Units: 4
- PPD 245g The Urban Context Units: 4
- PPD 300 Social Justice Issues in Public Policy and Urban Planning Units: 4
- PPD 301 PPD Practices: Internship Seminar Units: 2
- PPD 303 Statistics for Policy, Planning, and Development Units: 4

Urban Studies and Planning Core (20 units)

- PPD 227 Urban Planning and Development Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
- PPD 430 Urban Informatics Units: 4
- RED 417 History of Planning and Development Units: 4
- RED 425 Designing Livable Communities Units: 4

Urban Studies and Planning Electives (16 units)

Students in this major select 16 units of electives. Students may petition to take elective outside of the list below.

- PPD 250m Cities in the Developing World Units: 4
- PPD 306 Visual Methods in Policy, Management, Planning and Development Units: 4
- PPD 357 Government and Business Units: 4
- PPD 358 Urban and Regional Economics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 364 Technology and the City Units: 4
- PPD 382 International Development Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 416 Food Policy and Planning Units: 2
- PPD 420 Environmental Impact Assessment Units: 4
- PPD 421 Land Use, Environment, and Housing in Developing Countries Units: 4
- PPD 422 Transportation and Technology and the Future of Mobility Units: 4
- PPD 438 Local Economic Development Units: 4
- PPD 439 Housing and Community Development Units: 4
- PPD 478 Social Innovation Units: 4
- RED 362 Real Estate Development Fundamentals Units: 4

Additional Requirements

Cross-cutting Topics Courses

Students will be required to take 4 units of cross-cutting topics courses (PPD 400), preferably in junior year after they have completed the core curriculum.

Capstone

All students will take 4 units of a capstone experience during their senior year. This may be fulfilled by taking PPD 431 Undergraduate Policy, Planning, and Development Studio (4) or PPD 497a Senior Thesis, PPD 497b Senior Thesis (2-2). Students wishing to enroll in PPD 497a, PPD 497b must have a 3.7 GPA in PPD courses and an overall 3.5 GPA.

Internships

Urban Studies and Planning majors are required to complete 140 hours of internship by enrolling in PPD 301 PPD Practices: Internship Seminar or the Washington, D.C., Semester internship. Internships are matched as closely as possible to the student's interests and skills.

PPD 301 and the internship in a position provide numerous opportunities to develop and formulate future career goals, as well as to gain personal and professional experience while completing the undergraduate degree.

Honors

Price School honors are available at graduation to qualified PPD majors and result in a special designation of departmental honors on a student's transcript. Achievement of PPD honors requires a 3.7 GPA in PPD major courses and a 3.5 overall GPA as well as nomination by the professor in the capstone experience. In addition, students must earn an A in their capstone course (PPD 497a, PPD 497b or PPD 431).

Washington, D.C., Semester

The Washington, D.C., Semester program provides an intensive semester of confrontation with the political center of the nation and its complex components. The program offers opportunities for behind-the-scenes work in national government agencies and related organizations, combined with an academic environment and the chance to explore, share and learn with a group of fellow students.

Minor

Construction Planning and Management Minor (Public Policy)

This program covers the most current theories and practice of construction planning and management. The program provides a valuable adjunct credential to professional school students pursuing careers in business administration, public administration, environmental studies, and other areas; and a unique opportunity for professional focus to students in the USC Dornsife College of Letters, Arts and Sciences.

Construction activities are complex. In contemporary society, effective planning and management of these activities requires specialized knowledge of the technical, economic and political environment. This program couples the knowledge of how construction activities are organized with a broader understanding of the urban system in which construction projects are embedded. With the exception of statistics, all of the required courses are within the Department of Civil Engineering and the Price School

of Public Policy. Any USC undergraduate who has completed the equivalent of two full-time semesters in good standing is eligible to pursue the minor program. This minor program is rigorous enough to serve as an introductory credential for students subsequently electing to pursue advanced studies in development, urban planning, construction management or allied fields.

See the Construction Planning and Management Minor in the Department of Civil Engineering for course requirements.

Education Policy Minor

Education is one the largest expenditures of state and local governments, and educational costs continue to rise. Yet many are dissatisfied with the performance of the education system—both the low levels of achievement relative to our international peers and the considerable opportunity and achievement gaps that separate racial/ethnic and socioeconomic groups. As governments face increasingly tight budgets, they are turning to new and novel policies and interventions to address our educational challenges.

The 20-unit minor is designed to equip students with both substantive and methodological skills relating to the analysis of education policy. Students gain from the expertise of faculty in the Sol Price School of Public Policy and the USC Rossier School of Education. The program's content courses introduce students to the most pressing policy issues in education today.

Required Courses (20 units)

- EDUC 431 Education Policy in the United States Units: 4
- EDUC 432 Inequality in Education Units: 4
- PPD 225 Public Policy and Management Units: 4
- PPD 303 Statistics for Policy, Planning, and Development Units: 4
- PPD 315 Analytic Foundations for Public Policy Units: 4

Health Administration Minor

This 20-unit minor in health administration provides students with a background in administration and management issues in the field of health care and the skills necessary to pursue health-related management opportunities in the for-profit, nonprofit and governmental sectors.

Required Courses (12 Units)

- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4
- PPD 413 Administration of Health Care Organizations Units: 4

Electives (8 units)

- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 320 Organizational Behavior in Public Administration Units: 4
- PPD 403 Management Analysis I Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 414 Community Health Policy and Planning Units: 4

Health Policy Minor

This 16-unit minor in health policy provides students with a background in the policy issues and challenges globally, nationally and locally related to quality, cost and access to health care. Students in this minor will acquire an understanding of these issues and the skills required to influence health policy.

Required Courses (12 Units)

- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4
- PPD 415 Health Policy Units: 4

Electives (4 Units)

- GERO 416 Health Issues in Adulthood Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 422 AIDS in Society Units: 4
- LAW 403 Mental Health Law Units: 4
- PPD 357 Government and Business Units: 4
- PPD 414 Community Health Policy and Planning Units: 4

Law and Public Policy Minor

The minor in law and public policy draws upon four fields of study: public policy and management, law, economics and political science. It provides students with an understanding of the political and economic contexts in which laws are made as well as how legal institutions shape policy formulation. Students learn to analyze the consequences of policy and alternatives; the roles played by government, business and nonprofit organizations in public decision making; and the legal bases for various areas of public policy.

Students minoring in law and public policy take 20 units, including the gateway class, PPD 225 Public Policy and Management, and one elective. The latter enables the student to focus on a specific area of law.

Required Courses

- POSC 340 Constitutional Law Units: 4
- PPD 225 Public Policy and Management Units: 4
- PPD 314 Public Policy and Law Units: 4
- PPD 315 Analytic Foundations for Public Policy Units: 4

And one of the following:

- ECON 434 Economic Analysis of Law Units: 4
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- LAW 200w Law and Society Units: 4
- LAW 300 Concepts in American Law Units: 4
- LAW 403 Mental Health Law Units: 4
- POSC 345 International Law Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 432 Politics of Local Criminal Justice Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4

Nonprofits, Philanthropy and Volunteerism Minor

This four-course minor enables students to learn about the nonprofit sector — its organizations, philanthropy and voluntary action. The three-course core provides: (1) an overview of the nonprofit sector and philanthropy and its role in the United States, including its historical and theoretical foundations, its various components and its relation to public policy; (2) a focus on voluntary action and service as one means for social change and problem-solving; and (3) insights into the management of nonprofit organizations. Students select an elective that extends their understanding to the role of nongovernmental organizations in international affairs or to the role of public relations for nonprofits.

This minor is intended for students who plan (1) to work in a nonprofit or charitable organization, whether it is a large organization such as United Way, a small social service agency, an environmental advocacy group, a museum or a religious organization, (2) to participate with nonprofits as a volunteer throughout their lives or (3) pursue further graduate work in a service-related profession.

Required Courses

- PPD 371 The Nonprofit Sector and the Public Interest Units: 4
- PPD 402 Management of Public and Nonprofit Organizations Units: 4
- PPD 478 Social Innovation Units: 4

Electives (select one)

- BUCO 485 Business Communication Management for Nonprofits Units: 4

- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 353 Philanthropy and Social Change Units: 4
- PPD 372m Public Service in an Urban Setting Units: 4
- PR 455 Public Relations for Non-Profit Organizations Units: 4

Real Estate Development Minor

This minor provides students with an overview of the field of real estate development - its principles, the urban context and history, finance, as well as the opportunity to select an elective. The minor requires 20 units, including four core courses and 4 units of electives. The minor is intended for any student with an interest in a career in real estate.

Core (16 units):

- RED 200 Introduction to Real Estate Units: 4
- PPD 227 Urban Planning and Development Units: 4 or
- PPD 245g The Urban Context Units: 4
- RED 362 Real Estate Development Fundamentals Units: 4
- FBE 400x Introduction to Real Estate Finance and Development Units: 4 or
- RED 375 Real Estate Development Analysis Units: 4

Electives (4 units):

- PPD 358 Urban and Regional Economics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 364 Technology and the City Units: 4
- PPD 422 Transportation and Technology and the Future of Mobility Units: 4
- PPD 439 Housing and Community Development Units: 4
- RED 351 Land Use Regulation Units: 4
- RED 398 Shaping Cities Through Real Estate Units: 2, 3, 4
- RED 417 History of Planning and Development Units: 4
- RED 425 Designing Livable Communities Units: 4
- RED 435 Analyzing Real Estate Markets Units: 4
- RED 469 Mixed Use Development Process Units: 4

Total Units: 20

Urban Sustainable Planning Minor

The 20-unit minor in urban sustainable planning focuses on the application of public policy, urban planning and public management to the analysis and solution of urban problems. It draws upon the interdisciplinary faculty and programs of the Price School of Public Policy and includes foundational courses that introduce students to the nature of urban phenomena and the analysis and solution of urban problems. The minor also introduces students to the professional and academic fields of either urban planning and development or public policy and public management. In addition, based on their specific interests, students have the opportunity to explore in greater depth three areas and approaches of urban problem-solving. This minor is appropriate for students interested in expanding their understanding of the fields of urban planning and public policy and management as potential professional careers as well as increasing their comprehension of the analysis and solution of urban problems.

Required Core Courses (12 units)

- PPD 245g The Urban Context Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
- RED 425 Designing Livable Communities Units: 4

Electives (8 units)

- PPD 227 Urban Planning and Development Units: 4
- PPD 358 Urban and Regional Economics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 438 Local Economic Development Units: 4
- PPD 439 Housing and Community Development Units: 4
- RED 417 History of Planning and Development Units: 4

Master's Degree

Dollinger Master of Real Estate Development (MRED)

The Master of Real Estate Development program is a carefully integrated program that brings together the three main elements of real estate development: design, finance and policy. It is a one-year full-time or two-year evening executive program of study designed to provide students with the knowledge and skills they require to compete successfully in the development industry. The curriculum encompasses eight areas of study with which developers must be conversant, including real estate law, economics, finance, market analysis, negotiation, planning, architecture and engineering. Courses are taught by full-time faculty members from the Price School of Public Policy. In addition, practicing developers, lawyers, planners and other professionals make regular contributions to the course of study, helping students link learning to practice.

Curriculum Requirements

The program of graduate study for the professional degree requires successful completion of the core curriculum (36 units), elective courses (8 units) and a comprehensive examination. Students must complete a total of 44 units.

Core Curriculum

The core comprises 13 lecture-seminar courses that combine lectures, projects, case analyses, and exercises which allow students to experience all facets of the developer's tasks and problems. The integrative project, RED 575, provides problem solving exercises and the evaluation of actual development situations. Courses emphasize various design, regulatory and fiscal problems associated with urban development and the developer's role in improving development standards in the industry.

Core Courses

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 544 Real Estate Capital Markets Units: 2
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3
- RED 547 Project Management and Construction Units: 2
- RED 551 The Approval Process Units: 4
- RED 562 Legal Issues in Real Estate Development Units: 4
- RED 573 Design History and Criticism Units: 2
- RED 574 Building Typologies Units: 2
- RED 575L Community Design and Site Planning Units: 2, 3, 4
- RED 598 Real Estate Product Development Units: 2, 3, 4

Additional Requirements

Eight units of elective course work are required for the Master of Real Estate Development. These courses may be taken in the schools of Public Policy, Architecture, Business, Law and the Department of Civil Engineering. Admission to some classes requires advanced prerequisites and is subject to availability and approval of the instructor.

Comprehensive Examination

Successful completion of a comprehensive written and oral examination is required of all students seeking the Master of Real Estate Development degree. The examination explicitly covers the core courses. It is normally administered late in the spring semester by a faculty committee appointed by the dean. Students who fail the examination once may take it again within one year. The examination may not be repeated more than once.

General Requirements

Residence and Course Load

The Master of Real Estate Development may be completed on either a full-time or part-time basis. Both options begin in the summer session in June. The full-time program requires 11 months of study. The evening executive option is completed over a two-year period. Students are also expected to participate fully in all extracurricular activities associated with the Master of Real Estate Development program, including the weekly speaker series.

Students who wish to take a leave of absence for a semester or longer must request it from the dean in writing; such leaves may be granted for up to one year.

Students must have an approved laptop computer as required by instructors and must demonstrate calculator and spreadsheet skills.

Time Limit

The time limit within which students in the program must complete the requirements for the Master of Real Estate Development is governed by the following regulations:

All requirements for the Master of Real Estate Development must be completed within five calendar years from the first course at USC applied toward the degree.

University regulations prohibit the acceptance of credits for courses taken toward a Master of Real Estate Development degree more than seven years after the date they were successfully completed.

Grade Point Average Requirement

While enrolled in the program, a student must maintain a grade point average of at least 3.0 for all courses taken toward the degree.

Probation and Disqualification

Any student with a cumulative grade point average of below 3.0 for all courses taken in the program will be placed on academic probation. A student may be disqualified to continue toward a graduate degree if the student has been on academic probation for two consecutive semesters. Whether or not on academic probation or warning, a student may be disqualified at any time from continuing in the program if the dean of the school, after consultation with the faculty, determines that the student is deficient in academic achievement or in another qualification required for the attainment of the Master of Real Estate Development degree.

Course Exemptions and Transfer of Credits

Courses taken toward other degree programs, if determined by the dean to be equivalent to courses in the curriculum, may be accepted for subject credit only. All students are required to complete 44 units while enrolled in the Master of Real Estate Development program. The acceptance of previous course work for subject credit will enable the student to take additional elective courses.

Health Administration (Executive MHA)

The Executive MHA Program offers clinical and management professionals an opportunity to advance their careers in health care and to more effectively improve health services within their communities. Mid- to senior-level professionals who have the ambition and potential to serve as industry leaders in the highly dynamic and competitive health care environment are encouraged to consider the Executive MHA degree. The Executive MHA is geared to those who have demonstrated capabilities, yet who will benefit from expanded skills and competencies that will enable them to lead.

Participants sharpen their business acumen by gaining exposure to and in-depth knowledge of the latest theories and the best in contemporary health management practice. A practical, problem-solving approach ensures that skills can immediately be applied on the job.

Requirements for Admission

Applicants for the Executive Master of Health Administration apply directly to the program. A minimum of five years of experience with progressively greater levels of responsibility in health care or a related field is required for entry into the Executive MHA program. Applicants must have earned a bachelor's degree from an accredited college or university. A minimum grade point average of 3.0 in undergraduate course work is required. Allowances may be made when justified by exceptional work experience and letters of recommendation.

Prerequisites

Accounting

A basic competence in accounting is required for the Executive MHA program. The accounting prerequisite must be satisfied before enrolling in HMGT 565 Managing the Organization's Financial Health. This prerequisite may be met in one of three ways: (1) completing the non-credit Executive MHA accounting workshop with a passing score; (2) demonstrating prior work experience or (3) completing prior course work at an accredited academic institution in accounting and finance.

Curriculum

The Executive MHA offers a hybrid online/in-residence executive education program that will prepare the graduate to meet career objectives. The program provides students with the flexibility to meet program requirements while maintaining full-time administrative positions, but also emphasizes the importance of an integrated approach to executive education. In addition to the synchronous and asynchronous learning modules included in each course, students will participate in five-day, in-residence sessions at the University Park Campus twice during the program. The first in-residence session will occur before the midpoint of the program, and the second session will be a capstone experience in the last semester of the program. The Executive MHA degree program does not require a supervised field placement (residency) in a health care organization.

The curriculum of the EMHA is organized around five themes: thriving in transformational times through innovative leadership; delivering cost-effective care in an era of value-based purchasing; providing efficient management and administration; developing and implementing strategies to enhance patient safety and quality of care; and demonstrating organizational and clinical effectiveness through health information technology. These integrated themes and the associated content provide graduates with a comprehensive approach that expands their understanding of the key principles and applications necessary to function in a senior administrative leadership role.

Required Courses (36 Units)

- HMGT 512 Information Technology and Patient Engagement Units: 2
- HMGT 520 Leading People and Health Care Organizations Units: 4
- HMGT 540 Health Economics, Financing and Reimbursement Units: 4
- HMGT 565 Managing the Organization's Financial Health Units: 4
- HMGT 570 Strategic Management Units: 4
- HMGT 575 Managing and Improving Health Units: 4
- HMGT 600 Managing Risk Units: 2
- HMGT 601 Operations Management for Accountability Units: 4
- HMGT 602 Operational Efficiency Processes in Health Care Organizations Units: 2
- HMGT 603 Developing and Monitoring of Quality and Patient Safety Outcomes Units: 2
- PPD 511 Health Information Systems Units: 2
- PPD 518 Quality of Care Concepts Units: 2

Additional Requirements

Participants in the executive program gain practical skills. Emphasis is given to executive decision-making; development of sound planning, analytical and leadership capabilities; and strong interpersonal communication. More specifically, Executive MHA graduates will achieve advanced competency in disciplines which include economics and finance, health care regulation, business development, operations, strategic analysis and management, organizational design, quality and outcomes assessment and information management. Our graduates will model effective leadership and management in a rapidly evolving health care environment.

The core faculty is drawn from the USC Price School of Public Policy and includes senior, experienced faculty, along with nationally renowned academic specialists and health care experts. The opportunity to interact with health care's leading thinkers, policymakers and practitioners is an essential component of the Executive MHA program.

The Executive MHA office is located in Ralph and Goldy Lewis Hall, Room 307, Price School of Public Policy, (213) 740-2984, email emha@usc.edu.

Health Administration (MHA)

The issues surrounding the delivery and financing of health services have an enormous impact on individuals and the communities in which we live. The health care industry now accounts for more than 15 percent of the U.S. economy. Fast-moving developments in technology, economics, ethics, finance, policy, management and globalization are driving changes in the health sector. Effective health leadership requires an understanding of governance systems and the complex interplay between the public, private and nonprofit sectors as well as the dual imperatives of both the clinical and business facets of health care delivery. As the health care system changes, career opportunities abound. The field has a tremendous need for leaders, managers and analysts — in hospitals, health plans, physician practices, health-related enterprises, community health organizations, social advocacy groups, and regulatory and legislative agencies.

The Price School of Public Policy's multidisciplinary nature, with degree programs in public policy, public administration, urban planning, and international policy, adds breadth that distinguishes USC's MHA degree, providing students with an understanding of the larger social context in which the health sector is embedded and how it intersects and interacts with other social policy issues.

The Price School programs in health management and policy offer two degree options — the Master of Health Administration and the Executive Master of Health Administration. These degrees position the student to acquire the knowledge, skills and applied experience to shape health policy and lead health organizations. Requirements for the Executive MHA differ from those of the traditional MHA and are found on the program page.

The Master of Health Administration builds a solid foundation emphasizing managerial, analytical and public policy skills for those entering the health field, while the Executive Master of Health Administration deepens professional skills and permits those already working in the health field to advance to higher levels of leadership.

The MHA curriculum incorporates five major areas of competence: management/operations/leadership; health policy analysis; health finance; health information technology; and, health care quality. Each student will be exposed to these core areas and will specialize in two of them. The program prepares students for management positions in hospitals; managed care systems; physician groups; ambulatory care systems, government agencies concerned with health care policy, planning, quality assurance and regulation; and private firms involved in health care consulting, finance, performance assessment and evaluation.

Requirements for Admission

General

Applicants must have a bachelor's degree from an accredited college or university. Applicants may take courses on limited standing pending formal admission to the master's degree program.

Applicants with bachelor's degrees must have a minimum grade point average of 3.0 in their undergraduate course work and a score of at least 500 on the verbal and at least 500 on the quantitative sections of the GRE. Deviations from these minimums will be allowed when justified by exceptional work experience, letters of recommendation or improvement in academic performance during the third and fourth years of undergraduate study.

Prerequisites

Statistics

A basic competence in descriptive and inferential statistics is also required for the MHA program. The statistics prerequisite must be satisfied prior to enrollment. This prerequisite may be met in one of two ways: (1) entering students must have passed an undergraduate inferential statistics class, with a grade of "B" or better, at an approved university within three years of matriculation, or (2) completing PPD 504 Essential Statistics for Public Management with a grade of "C" or better (this course credit may not count toward the MHA degree).

Limited Status Students (Preadmission)

Students taking courses who have not been admitted to the school are designated limited status students. These students may be waiting for part of their application package materials to arrive; or they may be investigating whether an MHA may be right for them.

To be considered for limited status reenrollment, interested students need to complete the Price School of Public Policy Limited Student Application for Enrollment form and submit official or unofficial copies of their transcripts from their bachelor's degree granting institution. Students with a 3.0 grade point average (A = 4.0) may enroll in up to 8 units of graduate courses in the Price School of Public Policy.

Price School of Public Policy Limited Student Application for Enrollment forms may be obtained from the Admissions Office, USC Price School of Public Policy, University of Southern California, RGL 111, Los Angeles, CA 90089-0626, telephone (213) 740-6842. Limited students may only enroll during the in-person registration period (the week before classes begin).

Limited status students may apply only 8 units of appropriate graduate work toward the MHA after admission. Units beyond these first 8 must be petitioned for through the school. Students on limited status are encouraged to complete the application and admission process before completing those first 8 units.

Certificate Program

Information regarding the Certificate Program in Health Management and Policy Programs can be found on the Graduate Certificates page.

Curriculum

Curriculum for the MHA includes 48 units (40 required units and 8 elective units). In addition, a supervised field placement (residency) in a health service organization is required. The MHA degree is designed to be completed in two years of full-time study, but can be extended for those who work while going to school. Evening classes and classes that meet in an intensive, workshop format of two to four sequential days of training are designed to accommodate working professionals.

Required Core (40 Units)

- PPD 506 Introduction to Microeconomics: Applications in Health Units: 2
- PPD 509 Problems and Issues in the Health Field Units: 4

- PPD 510a Financial Management of Health Services Units: 4
- PPD 511 Health Information Systems Units: 2
- PPD 512 Health Administration Residency Seminar Units: 2
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 514 Economic Concepts Applied to Health Units: 4
- PPD 515 Strategic Management of Health Organizations Units: 4
- PPD 516 Financial Accounting for Health Care Organizations Units: 4
- PPD 517 Concepts and Practices in Managing Health Care Organizations Units: 2
- PPD 518 Quality of Care Concepts Units: 2
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4

Electives

In addition to the 40 required units, students are required to take 8 units of electives. Elective courses will be taken in two of the five specialization areas: management/operations/leadership; health policy analysis; health finance; health information technology; and health care quality. The two specializations will be selected by the student with the advice and written consent of the MHA program director and faculty adviser.

Residency

The MHA student is required to complete a 1,000 hour residency at a health care organization, generally during the second year of study. This residency may be reduced, but must include at least 500 hours, depending on the health care experience of the student. The residency is designed to provide the student with practical administrative experience that complements program course work.

International Public Policy and Management (IPPM)

The International Public Policy and Management (IPPAM) Program offers a Master of International Public Policy and Management (IPPM). The degree is designed for managers, planners and analysts involved in social sector programs who want to strengthen their management skills and further develop their policy analysis capabilities. For professionals working in the social sectors, IPPAM offers an opportunity to deepen their conceptual understanding of the forces driving change in their sectors and to develop an analytical approach for accessing and reshaping social policy. The program is well-suited for mid-career professionals working in the social sectors, such as physicians, nurses and pharmacists in the health professions; educators and administrators in the teaching professions; government regulators, managers and staff; community organizers, aid workers and others working in the NGO sector; and reporters and others in the news professions interested in covering social issues.

This program is specifically designed for international students and U.S. students who wish to work in international settings, including the Pacific Rim, Latin America and countries in other regions with evolving social systems.

Students are required to complete a minimum of 32 units. All students must fulfill core requirements (18 units) in fundamental policy analysis and management disciplines and an additional 14 units in an area of concentration chosen by the student. The core requirements include: PPD 501a Economics for Policy, Planning and Development; PPD 542 Policy and Program Evaluation; PPD 569 Applied International Policy Analysis and Management Project; PPD 570 Applied Statistics for Planning, Policy and Management; and PPD 571 International Public Policy and Management Seminar.

Students select an area of concentration in which they complete a set of recommended elective courses. Each concentration allows students to pursue in depth one or more areas of particular relevance to their career goals. The concentration areas enable students in the interdisciplinary IPPAM program to establish a second "home" in one of the school's programs, such as health administration or urban planning. Students are required to consult with IPPAM faculty advisers to choose elective courses from a recommended list of courses relevant to the IPPM degree.

Through the integrated curriculum, participants gain practical skills, which are developed within an appropriate conceptual context. Many of the courses and applied projects integrate examples and data from the student's home countries. Program graduates will have achieved advanced competency in disciplines that include public sector economics, applied methods for public policy analysis, evaluation and management.

Core faculty are drawn from the Price School of Public Policy and include senior, experienced faculty along with leading practitioners and experts in applied fields such as community development, international trade policy, health care policy, and so forth. In addition to the participation of distinguished visiting scholars as guest lecturers in class sessions, the program features an international seminar on public policy and management with guest lectures by policy makers. The opportunity to interact with leading scholars, policy makers, and practitioners from the United States and abroad is an essential component of the program.

The program begins in mid-June with intensive English language workshops and the course in applied statistics. The language workshop can be waived for students with 250+ computer-based TOEFL scores or 600+ paper-based TOEFL scores, or a score of 6.5 on the IELTS exam with no less than a score of 6 on each band score. In the fall semester, international students transition into the regular program consisting of required courses and electives in their chosen concentration area. Some international students may be required to enroll in additional English language workshops depending on how they score on required English exams. Most students can expect to complete the program in 13 months. The intensive nature of the program is designed for full-time students who take a leave from work while enrolled in the program. This approach minimizes the amount of time that professionals must be away from their full-time careers to pursue an advanced degree.

Applicants should have at least a bachelor's degree from an accredited university and three to seven years of significant professional experience. The IPPAM Program office is located in the Price School of Public Policy, Von KleinSmid Center, Room 253, phone (213) 740-0547, fax (213) 821-1331, email ippam@usc.edu.

Leadership (Executive ML)

The Executive Master of Leadership Program offers professionals from a variety of fields including public administration, public policy, planning, law enforcement, transportation and other public, nonprofit and business organizations, with at least five years of professional experience, the opportunity to build leadership skills at five levels: individual, team, organizational, community and institutional. The program design offers participants insight into the mechanisms that facilitate effective personal and organizational networks, as well as collaborative problem-solving strategies and practices.

The program follows a cohort model for the four required core courses. The degree curriculum has three distinguishing features: a design to connect ethics with leading through core values; an interdisciplinary and multidisciplinary problem-solving approach; and transformational leadership that connects the public, private and nonprofit sectors.

Requirements for Admission

Applicants for the Executive Master of Leadership apply directly to the program. A minimum of five years of experience with progressively greater levels of responsibility is required for entry into the program.

Candidates for admission must have earned a bachelor's degree from an accredited college or university with a minimum 3.0 grade point average. Exceptions to the minimum GPA requirement may be made when justified by exceptional work experience and letters of recommendation.

Applicants must submit a standard USC graduate application and fee along with official transcripts from all undergraduate and graduate institutions attended. Letters of recommendation, a current resume, an essay and an interview will also be required.

Degree Requirements

Students are required to complete 28 units of graduate work — 16 units of required core courses and 12 units of electives.

Required Core Courses (16 Units)

- PPD 640 Leadership Foundations: Competencies and Core Values Units: 4
- PPD 641 Leading Individuals, Groups and Teams Units: 4
- PPD 642 Strategic Leadership of Organizations Units: 4
- PPD 643 Leading Transformations Across Sectors: Integrative Seminar Units: 4

Electives

In addition to these 16 required units, students are required to take 12 units of electives.

Elective courses will be selected in consultation with the faculty adviser based on the student's individual learning/development plan. Students will choose these electives in order to concentrate in a particular area of study. The following are examples of concentrations that are available: public management, nonprofit policy and management, urban planning, transportation, public policy and political management. The Price School of Public Policy offers a wide range of electives to students each semester. In addition to these 16 required units, students are required to take 12 units of electives. Elective courses will be selected in consultation with the faculty adviser based on the student's individual learning/development plan. Students will choose these electives in order to concentrate in a particular area of study. The following are examples of concentrations that are available: public management, nonprofit policy and management, urban planning, transportation, public policy and political management. The Price School of Public Policy offers a wide range of electives to students each semester.

Master of Public Administration with Seoul National University

This graduate program offers students a unique opportunity to develop skills and expertise in the field of public administration from a U.S. and Korean perspective. The program is designed and offered in partnership with Seoul National University (SNU). Students spend a year at USC Price and a year at Seoul National University and earn the MPA degree.

Admissions

Students wishing to pursue the dual MPA degree will have to apply to both SNU GSPA and USC Price separately and fulfill both institutions' admissions criteria independently. Please see the Price Website for further information.

Sample Program - Price Students

Year One - USC (24 Units)

- PPD 503 Economics for Public Policy Units: 4 *or*
- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 504 Essential Statistics for Public Management Units: 2
- PPDE 505 Professional Workshop in Public Administration Units: 2
- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4

  Electives: one 4-unit management elective and one 4-unit analytics elective

Year Two - SNU (19 Units)

M2856.000100* Theories of Global Public Administration, or
M2856.000600 Economics and Public Administration Units: 3
Electives Units: 6
PPD 546 ** Capstone in Public Administration Units: 4

**Price students would take either PPD 540 or PPD 503 in their first year, and then would take the equivalent SNU GSPA course for the other one in their second year.*
***The capstone course is taken in the last semester at Price.*

Sample Program - SNU Students

Year One - SNU (18 Units)

M2856.000100 Theories of Global Public Administration Units: 3
M2856.000300 Social Research Methods of Public Administration Units: 3
Electives Units: 6
Independent study (thesis preparation) Units: 6

Year Two - USC (24 Units)

- PPD 503 Economics for Public Policy Units: 4 or
- PPD 540 Fundamentals of Public Administration Units: 4
- PPDE 505 Professional Workshop in Public Administration Units: 2
- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4

  Electives: including one management elective and one analytic elective

Variations from the above:

Price students could take both the PPD 540 and PPD 503 courses in either their first year or their second year, instead of one of the two in each year.

GSPA students could take Economics and Public Administration in their first year rather than in their second year at Price, and they could take PPD 540 in their second year at Price rather than in their first year.

Price students could take Social Research Methods of Public Administration at GSPA in their second year instead of their analytic elective at USC in their first year, and GSPA students could take Policy and Program Evaluation (PPD 542) at Price in their second year instead of Social Research Methods of Public Administration in their first year.

Nonprofit Leadership and Management (MNLM)

The Master of Nonprofit Leadership and Management (MNLM) program is designed to prepare students to distinguish themselves as leaders in the nonprofit sector whether managing nonprofits, advocating for social change or developing and implementing innovation solutions to social problems.

Degree Requirements

Students are required to complete 40 units of graduate work, with 30 units of core organized under three areas: theory and context, leadership and management, and analytical skills and 10 elective units based on their interests.

Required Core Courses

- PPD 503 Economics for Public Policy Units: 4
- PPD 542 Policy and Program Evaluation Units: 4 *
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4
- PPDE 680 Board Governance and Leadership Units: 2
- PPDE 681 Fund Development for Nonprofit Organizations Units: 4
- PPDE 682 Capstone in Nonprofit Leadership and Management Units: 4

  **PPD 502 is a prerequisite for PPD 542.*

Electives

Students complete 10 units of electives based on their interest and in consultation with their adviser.

Planning and Development Studies (MPDS)

The Master of Planning and Development Studies degree is designed for mid-career professionals in planning, development or related disciplines who desire to update and/or redirect their professional skills and careers. The program is very flexible, allowing students to pursue areas of expertise that they find valuable in their present or future careers. Entering students must have a minimum of five years of planning, development or related professional work experience.

Curriculum Requirements

The Master of Planning and Development Studies program requires completion of 28 units. Basic degree requirements consist of two core courses; 16 units in a concentration area approved by an adviser; and an integrative seminar course during which the student completes a written and oral comprehensive examination.

Required Courses

- PPD 611 Policy Issues in Planning and Development Units: 4
- PPD 612 Research and Analytical Techniques Units: 4
- PPD 638 Integrative Seminar Units: 4 (normally in the last semester in conjunction with the comprehensive examination)

Concentration Area(s)

Students elect a concentration area from one of three already defined or, with prior approval by an adviser, design a concentration from Price School of Public Policy courses and USC graduate courses. A minimum of eight units must be Price School of Public Policy courses. The three defined concentration areas are:

Community Economic Development

Select 16 units from the following courses:

- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 623 Community Development and Site Planning Units: 4
- PPD 624 Local Economic Development: Theory and Finance Units: 4
- PPD 625 Planning and Economic Development Finance Units: 4
- PPD 626 Public/Private and Mixed Enterprises Planning Units: 2, 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3

Environmental Policy and Planning

Select 16 units from the following courses:

- PLUS 600 Environmental Goods in Planning and Development Units: 4
- PLUS 633 Seminar in Comparative Housing Policy and Urban Planning Programs Units: 4
- PPD 531L Planning Studio Units: 4, 8, 12
- PPD 617 Urban Demography and Growth Units: 4
- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4
- PPD 620 General Plans Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPD 622 Seminar in Urban Development Units: 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- PPD 634 Institutional and Policy Issues in Transportation Units: 4
- PPD 712 Seminar in Public Policy Units: 4

International Planning and Development

Select 16 units from the following courses:

- PLUS 631 Seminar in Physical Planning and Design in Developing Countries Units: 4
- PLUS 632 National Urban Policy in Developing Countries Units: 4
- PLUS 633 Seminar in Comparative Housing Policy and Urban Planning Programs Units: 4
- PLUS 635 Urban Finance Units: 4
- PLUS 640 International Urban Development Units: 4
- PPD 626 Public/Private and Mixed Enterprises Planning Units: 2, 4
- RED 583 International Development Opportunities Units: 2
- RED 585 Comparative International Development Workshop Units: 2, 3, 4

Integrative Seminar and Comprehensive Examination

Successful completion of a comprehensive examination is required of all students seeking the Master of Planning and Development Studies degree. The integrative seminar course (PPD 638) and comprehensive exam should be taken during the semester of intended graduation. During the seminar class, students identify a practice-oriented problem covering the core courses and concentration area, which ideally is sponsored by a planning and/or development office or firm. The student will: (1) prepare a professional-quality document; (2) present the solution to a faculty committee with invited sponsor guests; and (3) have an oral defense. Students who fail the examination may take it again within one year, but it may only be repeated once.

General Requirements

Residence and Course Load

The Master of Planning and Development Studies may be completed in one academic year of 12 units in the fall and spring semesters and the four-unit integrative seminar/comprehensive examination the following summer semester.

At least 18 units of graduate study must be done in residence at the University Park Campus, the USC State Capital Center or at an approved off-campus study center.

Time Limit

Students in the program must complete all requirements for the Master of Planning and Development Studies within five calendar years from the beginning of the semester in which the student was admitted to the program.

Grade Point Average Requirement

While enrolled in the program, a student must maintain a grade point average of at least 3.0 (A = 4.0) for all courses taken toward the degree.

Probation and Disqualification

Any student with a cumulative grade point average below 3.0 for all courses taken in the program will be placed on academic probation. A student whose semester grade point average is below 3.0, but whose cumulative grade point average is 3.0 or higher, will be placed on warning.

A student may be disqualified to continue toward a graduate degree if the student has been on academic probation for two consecutive semesters. Whether or not on academic probation or warning, a student may be disqualified at any time from continuing in the program if the dean of the school, after consultation with the faculty, determines the student is deficient in any degree requirement.

Course Exemption and Transfer of Credits

Credit for graduate work may be transferred from approved graduate schools as determined by the USC Degree Progress Department in the Office of Academic Records and Register on recommendation of the dean of the school. Not more than four units of graduate work, with grades of B or better, can be transferred for credit toward the Master of Planning and Development Studies degree.

The following courses, or their equivalents, may not normally be transferred for unit credit from other institutions: PPD 611, PPD

612 and PPD 638. Undergraduate work may not be transferred into the degree program for unit credit.

Some applicants for admission to the school will have been engaged in work in planning, development or closely related activities. Although this experience should be beneficial to the students involved, it may not be considered equivalent to academic education.

Public Administration (MPA)

Admission

The Master of Public Administration programs are under the jurisdiction of the Price School of Public Policy. All admissions decisions are made by the school, following guidelines set by the university. See the Admission section of this catalogue.

All questions about the programs and all materials required for admission should be submitted to: MPA Programs, Admissions Office, RGL 111, University Park, University of Southern California, Los Angeles, CA 90089-0626.

Admission to each of these programs is determined by the faculty and admissions committees connected with those areas. Application packages should be sent directly to the program office.

Applications

The admission decision is made using criteria which include verification that the applicant has completed a bachelor's degree from an accredited college, has maintained a B average in undergraduate course work and has earned an acceptable score on the verbal and quantitative portions of the Graduate Record Examinations (GRE) or the Graduate Management Admissions Test (GMAT). Other elements of the applicant's educational and experiential background are also evaluated. International students whose native language is not English must also submit a Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) score.

Each candidate should submit the following to the school: (1) official transcripts of all previous college and university work, showing an awarded degree where appropriate; (2) copies of GRE or GMAT scores; (3) an essay answering questions on the admission questionnaire provided by the school; (4) an up-to-date resume which includes academic and professional accomplishments; (5) three or more letters of evaluation from previous instructors and from professional associates who can attest to the applicant's potential; (6) completed USC Graduate Admission Application, along with the nonrefundable processing fee; and (7) completed Price School of Public Policy Supplemental Graduate Application.

International applicants may be asked to supply additional information. See the Graduate Admission section of this catalogue.

Deadlines

Applications for admission are evaluated monthly. Those students who are also applying for financial aid, or who must meet other deadlines for admission, should submit application materials early enough to allow the admissions decision to be made in advance of those other deadlines.

The admissions process generally takes about four to six weeks after all necessary materials have been submitted.

Pre-Service/In-Service Designation

Most MPA students are classified as pre-service or in-service students at the time of admission. Pre-service students are those who enter the program with less than two years of professional work experience. In addition to course work, pre-service students complete an internship. Students pursuing a dual degree program are not classified as pre-service or in-service. Appeals for reclassification of this designation must be submitted during the first semester of enrollment.

International Students

Students applying for graduate programs should send applications and appropriate documents to the MPA Programs Admissions Office, which processes all such applications.

Admission

A student is accepted for admission only for the semester indicated on the letter of admission. If the student desires to enter at another time, or if the student cannot arrive on campus in time for the semester in which he or she was admitted, the student must contact the MPA Programs Admissions Office in writing. That office will contact the Office of International Admissions.

Students who do not enroll for the semester indicated on the letter of admission cannot be guaranteed admission to a later session. They will need to work with the MPA Programs Admissions Office to determine procedures to follow.

Registration Requirements

International students on student visas must be registered as full-time students as arranged by the Office of International Services. Doctoral students must carry a load of at least 6 units to be considered full-time students. A full-time graduate load is eight units. Such students are not eligible to be considered students without formal registration and may be in violation of immigration laws when not properly registered.

International students who have questions about registration requirements should contact the Office of Recruitment and Student Affairs.

Admission Status

MPA applicants may be permitted to take courses before the admission process is completed or they may be admitted before certain conditions have been met; each student must, however, attain regular status (standing) admission to the school prior to or upon completion of 8 graduate units.

Limited Status Students (Preadmission)

Students taking courses who have not been admitted to the school are designated limited status students. These students may be taking courses to meet prerequisites; they may be waiting for part of their application package materials to arrive; or they may be investigating whether an MPA is the best choice for them.

To be considered for limited status enrollment, interested students need to complete the Price School of Public Policy Limited Student Application for Enrollment form and submit official or unofficial copies of their transcripts from their bachelor's degree granting institution. Students with a 3.0 grade point average (A = 4.0) may enroll in up to 12 units of graduate courses in the Price School of Public Policy.

Price School of Public Policy Limited Student Application for Enrollment forms may be obtained from the Admissions Office, Price School of Public Policy, University of Southern California, RGL 111, Los Angeles, CA 90089-0626; (213) 740-6842. Limited students may only enroll during the in-person registration period (the week before classes begin).

Limited status students may apply only 12 units of appropriate graduate work toward the MPA after admission. Units beyond these first 12 must be petitioned for through the school. Students on limited status are encouraged to complete the application and admission processes before completing those first 12 units.

PhD Candidates

PhD students who pass the qualifying examinations and complete the MPA course requirements or their equivalent during their course work at USC may, with the recommendation of the coordinator of the MPA program, apply for and receive the MPA degree.

MPA Curriculum

The MPA course requirements are designed to address current and future professional competencies for accomplishment; to establish a sequence of basic required courses; and to maximize student choice and depth in specialized studies. The curriculum requires 40 units for completion (41 for pre-service students). Pre-service students, that is, those who have less than 25 months' employment experience in a professional level position, are also required to take an internship that includes a one-unit seminar.

Core Courses

The core courses cluster along two themes: political institutions and organizations and analytics for public administration.

Institutions and Organizations (10 units)

- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPDE 505 Professional Workshop in Public Administration Units: 2 *or*
- PPDE 506 Professional Residency in Public Administration Units: 1 *and*
- PPDE 507 Capstone Residency in Public Administration Units: 1

Analytics (10 units)

- PPD 503 Economics for Public Policy Units: 4
- PPD 504 Essential Statistics for Public Management Units: 2
- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Electives (16 units)

Students will pursue 16 units of electives, 8 of which are chosen from a list of courses that extend their competencies in institutional/organizational management and analytic reasoning. They may take these from the Price School, or select related courses from other schools at USC. They are encouraged to cluster their electives around particular areas of interest while also maximizing opportunities to obtain graduate certificates.

Students who are pursuing a certificate program may petition to subsitute certificate-related course(s) for the analytic and/or management elective with approval by the director of the program.

Analytic Elective (4 units)

Students will select one four-unit elective course from the following list:

- PPD 542 Policy and Program Evaluation Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 557 Modeling and Operations Research Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4

Management Elective (4 units)

Students will select one four-unit elective course from the following list:

- PPD 672 Collaborative Governance Units: 4
- PPD 673 Strategic Planning in the Public Sector Units: 4
- PPDE 648 Performance Management Units: 4

Capstone

Students complete the capstone which integrates the competencies attained in the core and electives courses as students complete a policy or management analysis for an organizational client.

- PPD 546 Capstone in Public Administration Units: 4

Internship

Pre-service students (those with fewer than 25 months employment in a professional level position) are required to complete at least 300 hours of an internship and an internship seminar (PPD 543). MPA students may enroll in the internship seminar during their first semester. Students are encouraged but not required to complete their internship hours in conjunction with the internship seminar.

Thesis Option

Thesis option, PPD 594a Master's Thesis (2 units), PPD 594b Master's Thesis (4 units), may be taken as part of the elective category. Information regarding the thesis contract is available from the MPA director. All theses and dissertations submitted in fulfillment of requirements for graduate degrees must conform to university regulations with regard to form and method of preparation.

Additional Requirements

PPD 540 must be taken in the first semester or within the first 12 units and PPD 546 must be taken in the final semester or the last 12 units of the student's program.

Public Policy (MPP)

In our dynamic global society, talented professionals who contextualize, analyze and shape policy with an eye for the public good are vitally important. The USC Price Master of Public Policy program prepares students to become these essential leaders. Our program is organized around three broad areas: policy processes and analysis, economics and quantitative analysis. With an emphasis on social justice and innovation, students' comprehensive studies will be immersive, spanning a variety of disciplines and culminating in a unique year-long practicum.

The MPP degree is offered at the University Park Campus only.

Requirements for Admission

Potential for distinguished academic and professional achievement is the principal criterion for admission to the Master of Public Policy program. In assessing an application, the admission committee evaluates:

- past performance and future promise as evidenced by grades, work experience, community service, etc.
- commitment to educational and career goals, as demonstrated particularly in the writing sample

In general, successful applicants will have at least a 3.0 undergraduate grade point average (GPA).

Students are admitted to the fall semester. Students applying are encouraged to submit applications prior to December 15 in order to receive full scholarship consideration. Since the admission review process does not include an interview, submitted materials should present student qualifications clearly and completely.

Prerequisites

All entering students must have a bachelor's degree from an accredited institution and are required to demonstrate proficiency in foundational statistical methods. The statistics prerequisite can be satisfied in one of two ways:

Statistics or Econometrics Course Taken Prior to Enrollment in the MPP

Completion of a college-level statistics or econometrics course with a grade of "B" or better within three years of matriculation. At minimum, prior coursework must have included essential topics in descriptive and inferential statistics such as measures of central tendency and dispersion, confidence intervals, and hypothesis testing. If relevant statistical coursework was completed more than three years prior, a waiver may be granted based on the level of statistical training completed and the degree to which currency with this material was maintained through subsequent professional use.

PPD 504 Essential Statistics for Public Management

If a student has not completed a college-level statistics course with a grade of "B" or better within three years of matriculation, they will need to complete a summer course prior to starting the MPP program. USC offers PPD 504 Essential Statistics for Public Management each summer; a grade of "C" or better in PPD 504 is sufficient to satisfy the statistics prerequisite. Students may instead choose to satisfy the requirement by completing a qualifying statistics course at another institution prior to enrolling at USC. If the course is completed outside of USC, it must be taken for a grade and the student must earn a grade of "B" or better. Regardless of which course is used to meet the prerequisite requirement, the units associated with the course will not be used toward the 48 required degree units.

Pre-semester MPP Labs

The Professional Fundamentals and Statistics/STATA Labs provide an introduction to the program, acclimate students to skills that will be further developed in their first-semester courses and help to create a genuine camaraderie within the first-year student cohort. Entering MPP students are required to participate in the

Statistics/STATA Lab as well as the Professional Fundamentals Lab. The labs meet the week prior to the start of the fall semester. The Professional Fundamentals Lab will lead directly into PPD 554 Foundations for Policy Analysis, while the Statistics/STATA Lab will provide initial exposure to the statistical software that will be utilized extensively in PPD 558 Multivariate Statistical Analysis.

Degree Requirements

The Master of Public Policy degree requires 48 units of graduate work, with 20 units of core courses, the 4-unit Policy Analysis Practicum and 24 additional elective units divided between management, analytic and specialization areas.

Required Core Courses

- PPD 503 Economics for Public Policy Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 560 Methods for Policy Analysis Units: 4

Policy Analysis Practicum

- PPD 561a Policy Analysis Practicum Units: 1
- PPD 561b Policy Analysis Practicum Units: 3
  *Note: *During a student's final two semesters of the program, the Policy Analysis Practicum is required as a component of the program's 48 units of course work. The practicum is an opportunity for students to apply their skills to a current problem for an actual client. Enrollment in the practicum requires successful completion of all core coursework.*

Electives

Students complete 4 units of management electives, 8 units of analytic electives and 12 units of specialization electives. Students may take up to 12 elective units outside of the Price School of Public Policy with written approval from the chair of the MPP program.

Management Elective (Choose 4 Units)

- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 654 Information Technology Management in the Public Sector Units: 4
- PPD 656 Political Management: Theory and Applied Techniques Units: 4
- PPD 662 Intergovernmental Management: State Perspective Units: 4
- PPD 673 Strategic Planning in the Public Sector Units: 4
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Analytic Elective (Choose 8 Units)

- COMM 650 Survey Construction and Validation Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 587 Risk Analysis Units: 4
- PPD 647 Finance of the Public Sector Units: 4
- PPDE 636 Urban Spatial Ethnography and Critical Cartography Units: 4
- PPDE 660 Environmental Policy Design and Analysis Units: 4
- PPDE 661 Methods for Equity Analysis Units: 4
- PPDE 665 Economic Models and Applications for Impact Analysis Units: 4
- PPDE 668 Applied Econometrics for Program Evaluation Units: 4
- PPDE 671 Economic Analysis of Education Policy Units: 4
- PPDE 672 An Exploration of the Intelligence Community - from Policy to Cyber Espionage Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Public Policy Data Science (MS)

datascience.usc.edu

Big data is revolutionizing the way many agencies operate, particularly with respect to governance transparency and accountability, law enforcement, transportation and housing policy. Big data is changing strategies for crime-fighting, defense, national intelligence, social programs and finance and operations of agencies. The Master of Science in Public Policy Data Science is a multi-disciplinary program offered jointly between the USC Sol Price School of Public Policy and the Data Science Program in the department of Computer Science at the Viterbi School of Engineering, and will provide a curriculum that will make degree recipients appealing to the employers of the 21st century.

Statistics Prerequisite

All entering students must have a bachelor's degree from an accredited institution and are required to demonstrate proficiency in foundational statistical methods. The statistics prerequisite can be satisfied in one of two ways:

Statistics or Econometrics Course Taken Prior to Enrollment in the MPP

Completion of a college-level statistics or econometrics course with a grade of "B" or better within three years of matriculation. At a minimum, prior course work must have included essential topics in descriptive and inferential statistics such as measures of central tendency and dispersion, confidence intervals, and hypothesis testing. If relevant statistical course work was completed more than three years prior, a waiver may be granted based on the level of statistical training completed and the degree to which currency with this material was maintained through subsequent professional use.

PPD 504 Essential Statistics for Public Management

If a student has not completed a college-level statistics course with a grade of "B" or better within three years of matriculation, they will need to complete a summer course prior to starting the MPP program. USC offers PPD 504 Essential Statistics for Public Management each summer; a grade of "C" or better in PPD 504 is sufficient to satisfy the statistics prerequisite. Students may instead choose to satisfy the requirement by completing a qualifying statistics course at another institution prior to enrolling at USC. If the course is completed outside of USC, it must be taken for a grade and the student must earn a grade of "B" or better. Regardless of which course is used to meet the prerequisite requirement, the units associated with the course will not be used toward the 36 required degree units.

Pre-semester MPPDS Labs

The Professional Fundamentals Lab provides an introduction to the program, acclimates students to skills that will be further developed in their first-semester courses, and help to create a genuine camaraderie within the first-year student cohort. Entering MPPDS students are required to participate in the Professional Fundamentals Lab. The lab takes place the week prior to the start of the fall semester. The Professional Fundamentals Lab will lead directly into PPD 554 Foundations of Policy Analysis. Entering MPPDS students are also required to participate in the Statistics/STATA Lab in January. The Statistics/STATA Lab meets the week prior to the start of the spring semester. The Statistics/STATA Lab will provide initial exposure to the statistical software that will be utilized extensively in PPD 558 Multivariate Statistical Analysis.

Public Policy Courses

Core Courses (12 units):

- PPD 503 Economics for Public Policy Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4

Elective Course

Select one from the following:

- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 560 Methods for Policy Analysis Units: 4
- PPDE 668 Applied Econometrics for Program Evaluation Units: 4

Data Science Courses

Core Courses (12 units):

- DSCI 510 Principles of Programming for Data Science Units: 4
- DSCI 549 Introduction to Computational Thinking and Data Science Units: 4
- DSCI 550 Data Science at Scale Units: 4

Note:

Students with a computer science background will have the option of replacing DSCI 510, DSCI 549, and DSCI 550 with DSCI 551, DSCI 552, and DSCI 553.

Elective Course

Select one from the following:

- DSCI 551 Foundations of Data Management Units: 4
- DSCI 552 Machine Learning for Data Science Units: 4
- DSCI 553 Foundations and Applications of Data Mining Units: 4
- DSCI 554 Data Visualization Units: 4
- DSCI 555 Interaction Design and Usability Testing Units: 4
- DSCI 556 User Experience Design and Strategy Units: 4

Capstone

Students will complete a capstone experience and project through enrollment in DSCI 560.

- DSCI 560 Data Science Professional Practicum Units: 4

Urban Planning (Executive MUP Online)

The USC Price Executive Master of Urban Planning (EMUP) degree is built to respond to the needs of the professionals who are rising leaders in urban planning, urban policy and development. The curriculum is designed to train professionals committed to crossing boundaries, and to educating persons who seek synergy between the public objectives and business aspects of planning.

The core of the EMUP revolves around the interlocking themes of urban economics, citizen participation and governance, urban design and site analysis, and data analytics and visualization. The degree does not train narrow experts in any of those four areas. Instead, the degree trains professionals who will be leaders in fields where the interplay of those themes is essential to private sector development, public sector planning and policy, and the goals of non-profit entities.

The target audience is experienced professionals in fields allied with urban planning and public policymaking, where place is a central feature: community development and redevelopment, real estate development, architecture, urban design, law, public policy, economic development, and infrastructure.

The degree is designed to be completed by working professionals in four semesters of part-time study. The degree will be 24 units, taken over four semesters. Each semester is 5 units of online course work. There are also two four-day in-person intensives.

For admission information, please go to the USC Price Website.

Required Courses (24 Units)

Students will take 12 courses for this program.

- PLUS 660 Economics of a Productive Development - A Public/Private Perspective Units: 3
- PLUS 661 Politics and Process of Urban Development Units: 2
- PLUS 662 Planning and Development Case Study Units: 1
- PLUS 663 Designing Livable Environments I Units: 1
- PLUS 664 Urban Political Economy and Urban Development Units: 2
- PLUS 665 Economics for a Productive City Units: 3
- PLUS 667 Effective Engagement with Stakeholders Units: 3
- PLUS 668 Big Data for Planning and Development Units: 2
- PLUS 669 Designing Livable Environments II Units: 1
- PLUS 670 Communicating Data for Planning and Development Units: 1
- PLUS 671 Leading a Collaborative City Units: 4
- PLUS 672 Integrating Concepts for Action Units: 1

Urban Planning (MUP)

The Master of Urban Planning (MUP) degree trains students to be leaders and innovators in all aspects of urban planning. Students study the traditional elements of urban planning while being immersed in innovative and emerging themes. Students will study normative approaches to social justice, equity, and inclusion in planning practice, data resources, and visualization techniques that are transforming cities, and methods for crafting place-based approaches to societies most pressing issues.

Planners are engaged in evaluating and guiding community and urban development at geographic scales, ranging from the local American neighborhood to the global village utilizing the public, private and nonprofit sectors. Cities worldwide are being transformed by technology, mass movements of populations and demographic transitions, environmental challenge, rapid economic change, and questions of distribution and justice. Planners play a central role as analysts, conveners, forward-thinkers, and innovators.

The MUP curriculum provides a core of knowledge around five themes – (1) the interaction of planning theory and history with normative questions of justice, (2) the use of research, data, and evidence to inform the public good, (3) the economics of urban areas, including the economics of environmental externalities and cost benefit analysis, (4) the legal context for planning, and (5) the built environment and urban design. In all cases, students are immersed in study that includes comparative approaches and examples from international examples, training students to be globally adept. A goal of the MUP curriculum is to prepare planners to practice anywhere in the world.

The Planning Accreditation Board of the American Planning Association and the Association of Collegiate Schools of Planning accredit the MUP program.

All persons pursuing the MUP will complete core courses which present basic theories, techniques and methods.

Concentrations are available in six areas: arts and culture; design of the built environment; economic development; environmental planning and analysis; housing and real estate development; and mobility and transportation planning. A concentration in any of these areas qualifies graduates for a wide range of private, public and nonprofit sector careers with government agencies, consulting firms, corporations, utilities, international technical assistance programs, nonprofit and special interest organizations and joint public-private ventures.

Core Curriculum (16 units):

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 528 Physical Planning: Urban and Community Design Units: 2
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4

Concentrations (16 units)

There are six concentrations available in the Master of Urban Planning program. Each concentration has a required gateway and method course for 8 units and students select 8 units of concentration electives.

Arts and Culture Concentration

In post-industrial societies, arts and culture play an increasingly important role economically, socially, and environmentally. In Arts and Culture Planning students will prepare for positions in cultural affairs offices, nonprofit advocacy and program providers, economic development organizations, and political offices. Students will consider such concepts as cultural economy, creative placekeeping and placemaking, and cultural heritage as they learn to assess and spatially analyze community dynamics and work with disparate types of art interventions with those skills related to community engagement and improvement.

Gateway Course:

- PPDE 641 Art and the City Units: 4

Methods Course:

- PPDE 636 Urban Spatial Ethnography and Critical Cartography Units: 4

Concentration Electives (8 units):

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 585 Visual Storytelling and Entrepreneurship in Media Units: 2
- ARTL 502 Issues in the Arts and the Contemporary World Units: 2
- ARTL 504 Arts and the Community: Current Practice and New Visions Units: 2
- PPD 623 Community Development and Site Planning Units: 4
- PPDE 631 Public Space: Theory, Policy, and Design Units: 4
- PPDE 633 Communicating City Design: Positions and Representations Units: 2
- PPDE 638 Race, Arts, and Placemaking Units: 4

Design of the Built Environment Concentration

In contemporary settings, planning and construction typically do not begin with a blank slate. Rather, new structures are inserted into an existing built environment, which must be respected for its historical heritage and its contributions to the new. Design of the Built Environment offers students the opportunity to prepare for practice in urban design as well as for community planners addressing issues of health and environmental justice through design. Students will acquire skills to assess, plan, and design spaces using sophisticated methods as well as the ability to spatially analyze stressors within the built environment that inhibit residents' quality of life.

Gateway Course:

- PPD 644 Shaping the Built Environment Units: 4

Methods Course:

- PPD 627 Design Skills for Urban Planners Units: 4

Concentration Electives (8 units):

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- PPD 530 Historical Analysis of Urban Form and Planning Practice Units: 2
- PPD 615 Comparative Urbanization, Development, and Inequality Units: 4
- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4
- PPD 623 Community Development and Site Planning Units: 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- PPDE 631 Public Space: Theory, Policy, and Design Units: 4
- PPDE 635 Housing and Land Use in Rapidly Urbanizing Regions Units: 4
- PPDE 644 Land Use and Transportation Planning Units: 4

Environmental Planning and Analysis Concentration

Metropolitan areas are the source of most of our environmental quality problems, such as air and water pollution, species and habitat problems, and greenhouse gas emissions. Planning and design of our cities and communities play a critical role in both pollution and exposure to its damages. How and where we site housing, commercial centers, or trash dumps helps to determine how much pollution is generated and who is affected. This concentration addresses issues of environmental justice, sustainable urban design, public health, and climate change. Students will learn methods for analyzing environmental impacts, relationships between exposure and health, urban vulnerabilities to climate change effects, and the role of urban planning and public policies in achieving more sustainable and livable urban environments.

Gateway Course:

- PPDE 640 Environmental Planning and Analysis Units: 4

Methods Course:

- PPDE 634 Methodology, Methods and Tools for Urban Sustainability Units: 2, 3, 4 (4 units required)

Concentration Electives (8 units):

- PPD 615 Comparative Urbanization, Development, and Inequality Units: 4
- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 620 General Plans Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPD 627 Design Skills for Urban Planners Units: 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- PPD 692 Transportation and the Environment Units: 4
- PPD 694 Coastal Policy and Planning Units: 4
- PPDE 635 Housing and Land Use in Rapidly Urbanizing Regions Units: 4
- PPDE 637 Urban Mass Transit Units: 4

Housing and Real Estate Development Concentration

A well-housed, economically healthy community is an essential part of residents' quality of life. Cities and towns worldwide are experiencing housing crises that range from severe affordability problems, insecure and informal land tenure, social inequities, and sub-standard housing quality. In Housing and Real Estate Development students will prepare for practice as housing analysts, planners, policy-makers, or developers. Students will learn needs estimation, the fundamentals of urban development and land markets, and a set of specific problems related to gentrification and neighborhood change, filtering, and the structure of affordable housing development projects and policies. Careers include policy positions in all levels of government, work with affordable or market-rate housing developers, and advocacy groups.

Gateway Course:

- PPDE 639 Housing Dynamics for Policy and Planning Units: 4

Methods Course:

- PPD 625 Planning and Economic Development Finance Units: 4

Concentration Electives (8 units):

- PPD 616 Participatory Methods in Planning and Policy Units: 4
- PPD 617 Urban Demography and Growth Units: 4
- PPD 622 Seminar in Urban Development Units: 4
- PPD 624 Local Economic Development: Theory and Finance Units: 4
- PPD 626 Public/Private and Mixed Enterprises Planning Units: 2, 4 (4 units required)
- PPD 639 Introduction to Community and Economic Development Units: 4

- PPDE 635 Housing and Land Use in Rapidly Urbanizing Regions Units: 4
- RED 510 Real Estate Practice and Principles Units: 4
- RED 511 Foundations of Real Estate Analysis Units: 4
- RED 512 Real Estate Project Analysis Units: 4

Economic Development Concentration

Economic development focuses on core activities of workforce development, strategies for job generation, and methods for improving the fiscal well-being of local areas. Specific topics include the technology sector, arts and culture sector, advanced manufacturing, and logistics related to trade through the ports. Students in the Economic Development concentration will learn the fundamentals of urban economies, the causes and consequences of economic decline, strategies of subsidy and tax revenue use, strategies of public/private partnerships, incubators, micro-financing, and other entrepreneur and small business development strategies. To support their analytic work, they will also acquire skills of demographic and economic analysis, and spatial analysis of local economies. Students' skills will equip them to work in either the public or private sector.

Gateway:

- PPD 639 Introduction to Community and Economic Development Units: 4

Methods Course:

- PPD 625 Planning and Economic Development Finance Units: 4

Concentration Electives (8 units):

- PPD 622 Seminar in Urban Development Units: 4
- PPD 624 Local Economic Development: Theory and Finance Units: 4
- PPD 626 Public/Private and Mixed Enterprises Planning Units: 2, 4 (4 units required)
- PPDE 635 Housing and Land Use in Rapidly Urbanizing Regions Units: 4
- RED 510 Real Estate Practice and Principles Units: 4
- RED 511 Foundations of Real Estate Analysis Units: 4
- RED 512 Real Estate Project Analysis Units: 4

Mobility and Transportation Planning Concentration

Transportation is essential to urban life. The movement of both people and goods is a fundamental determinant of land use and urban form, as well as of quality of life. These movements take place by motorized vehicles (cars, trucks, trains, buses), bicycles, and walking, all of which are studied in this concentration. Transportation is being disrupted by technology in ways that have not occurred in a century, and students in this concentration will learn how to lead innovation in rapidly evolving public, private, and non-profit settings. Transportation and urban mobility students will acquire skills related to transportation analysis, travel behavior, environmental impacts of mobility, spatial analysis, land use and transportation relationships, and design of sustainable transportation strategies and policies.

Gateway:

- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Methods Course:

- PPD 633 Methods and Modeling Tools for Transportation Planning Units: 4

Concentration Electives (8 units):

- PPD 557 Modeling and Operations Research Units: 4
- PPD 589 Port Engineering: Planning and Operational Analysis Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPD 630 Urban Economic Analysis Units: 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- PPD 635 Principles of Transportation Systems Analysis Units: 4
- PPD 692 Transportation and the Environment Units: 4
- PPDE 637 Urban Mass Transit Units: 4
- PPDE 644 Land Use and Transportation Planning Units: 4

Planning Studios (4 units)

Planning studios are an integral part of the curriculum of the Price School of Public Policy, providing the essential educational link between academic education and preparation for professional practice. The planning studios require that students learn to work together as a team by applying their respective capabilities and knowledge to a real-world common problem and to produce a professional project. Students must complete 4 units of planning studios.

- PPD 531L Planning Studio Units: 4, 8, 12

Capstone (4 units)

All Master of Urban Planning students must complete PPD 629 Capstone in Urban Planning (4 units).

- PPD 629 Capstone in Urban Planning Units: 4

Free Electives (8 units)

Total Units: 48

Additional Requirements

Internship

Students working toward the Master of Urban Planning degree must complete an internship of at least 10 weeks duration and 400 hours in an organization engaged in planning or a closely related activity. Students must submit a report to the director of career services describing and evaluating the internship experience. Arrangements must also be made for an evaluative report of the internship by the student's supervisor submitted directly to the academic adviser. The internship is not for unit credit.

Students often fulfill their internship while working part-time in a planning-related job during their course of study in the program or in the summer between the two academic years. If a student has had equivalent career experience prior to admission to the program, the department chair may waive the internship requirement on the recommendation of the student's academic adviser.

The Price Office of Career Services actively works with school alumni and area planning organizations to assist students in obtaining appropriate internships. Numerous internship opportunities are available in the greater Los Angeles area. The student is responsible for securing the internship and fulfilling the requirement.

Directed Research

With the advice of the faculty, a student may elect to enroll in directed research as an elective. Working directly with a faculty member, the student pursues an interest or problem appropriate to the student's program of study.

The faculty member supervising the student must approve the final product of directed research. The final product may be a written report, article, graphic formulation, physical model, mathematical-statistical analysis, computer output or film — depending on the most appropriate expression of the research undertaken.

General Requirements

Residence and Course Load

The Master of Urban Planning normally requires two academic years of full-time study. Courses are also scheduled to allow completion on a part-time basis.

At least 36 units of graduate-level study must be done in residence at USC. The residency requirement may not be interrupted without prior permission from the Price School of Public Policy. Students accepted into the program with academic deficiencies will require a correspondingly longer time to complete their course work. Students seeking the degree on a part-time basis must take at least one course each semester.

Students must be enrolled at USC for the fall and spring semesters each year until all degree requirements have been met. Students who find it necessary to be excused from a semester of registration must request a leave of absence from the Academic Programs Office by the last day to drop/add courses of the semester in question; such leaves may be granted for up to one year. For additional information refer to USC policies governing continuous enrollment, readmission, and leaves of absence in the Academic Policies section of this catalogue.

Time Limits

All requirements for the Master of Planning must be completed within five calendar years from the beginning of the semester in which the student was admitted to the program. University regulations prohibit the acceptance of credits for courses taken toward the Master of Planning degree more than seven years after the date they were successfully completed.

Grade Point Average Requirement

While enrolled in the program a student must maintain a grade point average of at least a 3.0 for all courses taken toward the degree.

Probation and Disqualification

Any student with a cumulative grade point average below 3.0 for all courses taken in the program will be placed on academic probation. A student whose semester grade point average is below 3.0, but whose cumulative grade point average is 3.0 or higher, will be placed on academic warning.

A student may be disqualified to continue toward a graduate degree if the student has been on academic probation for two consecutive semesters. Whether or not on academic probation or warning, a student may be disqualified at any time from continuing in the program if the dean of the school, after consultation with the faculty, determines that the student is deficient in academic achievement or in another qualification required for the attainment of the Master of Urban Planning degree.

Course Exemptions and Transfer of Credits

Graduate work by transfer may be accepted from approved graduate schools as determined by the USC Articulation Office upon recommendation of the dean of the school. Not more than 12 units of graduate work, with grades of B or better may be transferred for credit to the Master of Planning degree.

The following courses, or their equivalents, cannot normally be transferred for unit credit from other institutions: PPD 522, PPD 523, PPD 528, PPD 529, PPD 531L, PPD 534, PPD 629, PPD 594a, PPD 594b, PPD 594z. Undergraduate work will not be credited for advanced or graduate standing. Students may petition to receive subject credit for these courses; but unit requirements must be met through the completion of additional electives.

Some applicants for admission to the school have been engaged in work in planning, development or closely related activities. Although this experience may have been beneficial to the students involved and may satisfy the internship requirement, it may not be considered equivalent to academic education.

Dual Degree

Master of Health Administration/Master of Science in Gerontology (MHA/MS)

Gerontology and health administration students can specialize in health care administration (profit and nonprofit) through the dual degree with the USC Leonard Davis School of Gerontology and the USC Price School of Public Policy's Health Administration Program. Students in the dual degree program must be admitted by both academic units and complete 78 units of post-graduate academic work.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Total units: 36

Health Administration Requirements

- PPD 506 Introduction to Microeconomics: Applications in Health Units: 2
- PPD 509 Problems and Issues in the Health Field Units: 4
- PPD 510a Financial Management of Health Services Units: 4
- PPD 512 Health Administration Residency Seminar Units: 2
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 514 Economic Concepts Applied to Health Units: 4
- PPD 515 Strategic Management of Health Organizations Units: 4
- PPD 516 Financial Accounting for Health Care Organizations Units: 4
- PPD 517 Concepts and Practices in Managing Health Care Organizations Units: 2
- PPD 518 Quality of Care Concepts Units: 2
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 601 Management of Long-Term Care Organizations Units: 4

Total units: 42

Additional Requirements

Statistics: The statistics requirement for dual degree students is the same as those that apply to the Master of Health Administration.

Program Adaptation: The USC Davis School of Gerontology will waive GERO 589 because students enrolled in this program will have a primary professional focus in health administration. Students enrolled in the dual degree are not required to take PPD 511 (as opposed to the stand alone MHA degree students) because they develop the necessary proficiencies related to their career goals in long term care administration through other courses such as GERO 550, GERO 591 and GERO 593. In addition, PPD 601 is required for the dual degree (and not the stand alone MHA program) because most of these students will work in long-term care facilities and this course is critical for success in that market.

Students in the MHA stand alone program are required to complete a 1,000 hour residency at a health care organization, generally during the second year of study. Students in the dual degree program may be waived from this requirement with enrollment in GERO 591 which is a supervised experiential learning experience. Student in this situation may then waive PPD 512 and will take 2 units of Price electives for this dual degree. Any course substitutions are done by petition on an individual basis and should be part of a carefully developed course of study. The USC Price School of Public Policy should be consulted concerning this program of study.

Master of Public Administration/Master of Arts, Jewish Nonprofit Management (MPA/MA)

The Master of Public Administration/Master of Arts in Jewish Nonprofit Management (MPA/MA) has been developed, in cooperation between the USC Price School of Public Policy and the Zelikow School of Jewish Nonprofit Management at HUC-JIR, to prepare those students who want to pursue a career in Jewish nonprofit management. Students in this dual degree program develop policy and leadership practices that support a strategic understanding of how the application of financial and program resources shape a community's future. The MA in Jewish

Nonprofit Management program is project based. Through paid field internships in Jewish organizations and consulting projects, students apply what is learned in the classroom in a real world experience that develops their professional expertise.

Students must complete 68 units of course work, 34 in Public Administration and a minimum of 34 credits in Jewish Nonprofit Management. There is an opportunity to spend either 12 months in Sacramento, California, or Washington, D.C. At these sites, students attend classes while serving internships in the offices of politicians, lobbyists or other advocates.

Students must meet admission requirements and be admitted by both the Price School of Public Policy and the Zelikow School of Jewish Nonprofit Management.

Curriculum Requirements

The program begins in June of each year and continues for the next 24 months. Students are expected to work out individual course plans with advisers from each school.

In addition to applying to the Price School of Public Policy, those interested in the program should contact Melissa Garai at the Zelikow School at (213) 765-2173 or visit the Website at *ZSJNM.HUC.edu*, for more information about its requirements.

Public administration course work may be taken in Los Angeles or Sacramento. In Sacramento, a student will complete the Price core and elective courses, will take independent study with an HUC professor, and will serve in an internship while enrolled in HUC fieldwork classes.

Public Administration Requirements

- PPD 503 Economics for Public Policy Units: 4
- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 546 Capstone in Public Administration Units: 4
- PPDE 505 Professional Workshop in Public Administration Units: 2

Electives

One management elective (4 units) and 8 additional elective units are required for a total of 12 units.

Management Elective

Choose one:

- PPD 675 Nonprofit Management and Leadership Units: 4 or
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4

Additional Electives

Choose 8 units:

- PPD 684 Leadership Development in the Public and Nonprofit Sectors Units: 2
- PPD 685 Human Resources Management in Public and Non-Profit Sectors Units: 2
- PPDE 646 Grant Writing Practicum Units: 2
- PPDE 649 International Development NGOs: Theory, Policy and Management Issues Units: 4

  Note: Substitutions may be requested by petition to the graduate adviser in the Price School of Public Policy

Additional Requirements

Fieldwork Requirement

Throughout the program, students are expected to serve in supervised internships. Fieldwork is administered cooperatively by the faculties of the Zelikow School of Jewish Nonprofit Management and the Price School of Public Policy.

Program Adaptation

Students enrolled in the dual degree are not required to take PPD 504 or an analytic elective in the MPA program (as opposed to the stand alone MPA degree students) because they develop the necessary proficiencies in research methods (including relevant statistical analysis material) in the courses offered in the Zelikow School of Jewish Nonprofit Management (CS 900A Capstone and CS 900B Capstone). Students in the dual degree may elect an alternative 4 units within the Price School.

Master of Public Administration/Master of Science in Gerontology (MPA/MS)

The Master of Public Administration/Master of Science in Gerontology (MPA/MS) dual degree offers students interested in management of agencies and institutions the opportunity to gain in-depth knowledge of the administrative and organizational processes and management skills necessary for the effective delivery of services to older persons.

In the MPA/MS dual degree, students spend their first year taking the required courses in the USC Leonard Davis School of Gerontology. The research course, GERO 593 Research Methods and the capstone course GERO 555 Integrating Gerontology: A Multidisciplinary Approach, are taken in the USC Leonard Davis School of Gerontology. The student begins courses in the Price School of Public Policy during the second semester of the first year.

Two versions of this dual degree are available, one with a general orientation and one with an emphasis on health services administration. Students must apply to both schools and, if accepted to both, participate in a specially designed program combining course work from both schools.

Curriculum requirements for the general focus dual degree are detailed in the USC Leonard Davis School of Gerontology section of this catalogue. Students are encouraged to seek advisement as they plan their actual programs, since curriculum changes may occur.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- Gerontology elective Units: 4

Total units: 40

Public Administration Requirements

- PPD 503 Economics for Public Policy Units: 4
- PPD 504 Essential Statistics for Public Management Units: 2
- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 546 Capstone in Public Administration Units: 4
- PPDE 505 Professional Workshop in Public Administration Units: 2
- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Electives

Students select one analytic elective course (4 units).

NOTE: *Electives in Public Administration need to be selected from approved analytic electives (see MPA requirements). Any substitutions must be approved by the graduate adviser in the Price School of Public Policy.*

Total units: 28

Additional Requirements

Program Adaptation

For the MS in Gerontology, 12 units of electives are waived as well as GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program have a primary professional focus in public administration. For the Master of Public Administration, 12 units of gerontology courses are used as the substantive specialization.

Master of Public Administration/Master of Social Work (MPA/MSW)

The Master of Public Administration/Master of Social Work (MPA/MSW) dual degree offers students interested in careers as administrators of social agencies the opportunity to prepare for social work while developing the administrative capabilities necessary in the public sector.

The MPA/MSW requires two calendar years of full-time study. The first academic year is devoted to the standard social work first year curriculum. During the second year, the curriculum combines social work and public administration course work. The curriculum for both summers will be in public administration.

Students can enter this program only with the written consent of both schools. Students who apply initially to the USC Suzanne Dworak-Peck School of Social Work must declare their intention to pursue the MPA/MSW dual degree at the time of their application. If admission is approved, such students will be admitted to the dual degree program. Social work students selecting this program are required to select the Community Organization, Planning and Administration concentration in their second year program.

Students must complete 82 units (54 in social work and 28 in public administration).

Social Work (54 Units)

Contact the USC Suzanne Dworak-Peck School of Social Work for Social Work requirements.

Public Administration (28 Units)

- PPD 503 Economics for Public Policy Units: 4
- PPD 504 Essential Statistics for Public Management Units: 2
- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 546 Capstone in Public Administration Units: 4
- PPDE 505 Professional Workshop in Public Administration Units: 2
- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Note:

**PPD 545 is not required as students in this dual take SOWK 506 Human Behavior and the Social Environment, which covers similar content.*

Electives

Students take 8 units of electives (one management and one analytic).

Electives in Public Administration need to be selected from approved management and analytic electives (see MPA requirements). Any substitutions must be approved by the graduate adviser in the Price School of Public Policy.

Master of Public Health/Master of Urban Planning (MPH/MUP)

The Master of Public Health/Master of Urban Planning (MPH/MUP) dual degree is designed for individuals who envision a career that combines urban planning and public health disciplines. This dual degree combines the knowledge of urban planning with an understanding of health from a population perspective. It will provide training for planning, evaluating and guiding healthy community and urban development, and will enable graduates who seek to be agents of change within the profession to assume leadership roles in planning and in public health at the local, state and national levels. The degree requires 32 MUP units and 34 MPH units for a total of 66 units required for the dual degree.

Urban Planning Requirements

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 528 Physical Planning: Urban and Community Design Units: 2
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12 (4 units required)
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 629 Capstone in Urban Planning Units: 4

Concentrations

There are six concentrations available in the Master of Urban Planning program. They are as follows: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Please see the Master of Urban Planning section of the catalogue for the concentration descriptions and course lists.

Internship

Dual degree students, like all other MUP students, must fulfill an internship requirement. Students will take 200 hours of planning internship placement in addition to 1 unit in PM 596 and 1 unit in PM 597. See below for further internship details for this dual degree.

MPH Core Requirements

- PM 502 Foundations of Public Health Units: 4
- PM 503 Practice of Public Health Units: 4
- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 596 Practicum in Public Health Units: 1
- PM 597 Capstone in Public Health Units: 1

MPH Concentration Core Requirements

Students may choose one of two concentrations in the MPH program: Community Health Promotion and Health Services and Policy. Students are required to complete the concentration core requirements (16 units) specific to their chosen concentration of study. Relevant courses taken in the Price School of Public Policy will be counted toward the MPH concentration elective requirement required by non-dual degree students.

Students will complete a total of 34 units specific to the MPH program.

MPH Practicum Requirement

For PM 596, students will complete an internship specific to meet the competencies of the students' chosen concentration. Dual degree students will enroll in this 1-unit course and complete a 150-hour placement. The other 150 hours would be waived because students will spend 200 hours during their planning internship, acquiring additional relevant practical experience. (Note: This is consistent with the established dual degree programs with medicine, pharmacy, social work and clinical psychology).

Units required to complete program: 66

Master of Public Policy/Juris Doctor (MPP/JD)

The Price School of Public Policy and the USC Gould School of Law offer a dual degree that enables qualified students to earn both a Juris Doctor and a Master of Public Policy in approximately four years of study.

The dual degree allows students to acquire a blend of the analytic skills of public policy and an understanding of legal institutions and processes. This combination of knowledge is well suited for law students who want to affect the policy-making

process and craft legislation to aid in the achievement of public policy goals. It is equally appropriate for prospective policy analysts who are interested in law and public policy.

Students must apply to, and be accepted by, both schools. They may be accepted to the dual degree at the time of their acceptance to the law school or at the beginning of their second year of law school. Dual degree students spend the first year of the program completing the required first year of law school. The remaining units of law school courses and the required 36 units of core MPP courses are taken by students in the second through fourth years.

Students are required to complete 114 units of course work, 78 units in the law school and 36 units in the Price School of Public Policy. To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC after the first year. In addition, the MPP program has a statistics prerequisite. Please see the MPP degree in the Price School of Public Policy section of the catalogue for the requirements.

Prerequisites

All entering students must have a bachelor's degree from an accredited institution and are required to demonstrate proficiency in foundational statistical methods. The statistics prerequisite can be satisfied in one of two ways:

Statistics or Econometrics Course Taken Prior to Enrollment in the MPP

Completion of a college-level statistics or econometrics course with a grade of "B" or better within three years of matriculation. At minimum, prior course work must have included essential topics in descriptive and inferential statistics such as measures of central tendency and dispersion, confidence intervals, and hypothesis testing. If relevant statistical course work was completed more than three years prior, a waiver may be granted based on the level of statistical training completed and the degree to which currency with this material was maintained through subsequent professional use.

PPD 504 Essential Statistics for Public Management

If a student has not completed a college-level statistics course with a grade of "B" or better within three years of matriculation, they will need to complete a summer course prior to starting the MPP program. USC offers PPD 504 Essential Statistics for Public Management each summer; a grade of "C" or better in PPD 504 is sufficient to satisfy the statistics prerequisite. Students may instead choose to satisfy the requirement by completing a qualifying statistics course at another institution prior to enrolling at USC. If the course is completed outside of USC, it must be taken for a grade and the student must earn a grade of "B" or better. Regardless of which course is used to meet the prerequisite requirement, the units associated with the course will not be used toward the 114 required degree units.

Pre-semester MPP Labs

The Professional Fundamentals and Statistics/STATA Labs provide an introduction to the program, acclimate students to skills that will be further developed in their first-semester courses and help to create a genuine camaraderie within the first-year student cohort. Entering MPP students are required to participate in the Statistics/STATA Lab as well as the Professional Fundamentals Lab. The labs meet the week prior to the start of the fall semester. The Professional Fundamentals Lab will lead directly into PPD 554 Foundations of Policy Analysis, while the Statistics/STATA Lab will provide initial exposure to the statistical software that will be utilized extensively in PPD 558 Multivariate Statistical Analysis.

Required MPP Courses (24 units)

- PPD 503 Economics for Public Policy Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 560 Methods for Policy Analysis Units: 4
- PPD 561a Policy Analysis Practicum Units: 1
- PPD 561b Policy Analysis Practicum Units: 3

Management Elective (4 units):

4 units of a management elective

- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 654 Information Technology Management in the Public Sector Units: 4
- PPD 656 Political Management: Theory and Applied Techniques Units: 4
- PPD 662 Intergovernmental Management: State Perspective Units: 4
- PPD 673 Strategic Planning in the Public Sector Units: 4
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Analytic Elective (8 units):

- COMM 650 Survey Construction and Validation Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 587 Risk Analysis Units: 4
- PPD 647 Finance of the Public Sector Units: 4
- PPDE 636 Urban Spatial Ethnography and Critical Cartography Units: 4
- PPDE 660 Environmental Policy Design and Analysis Units: 4
- PPDE 661 Methods for Equity Analysis Units: 4
- PPDE 665 Economic Models and Applications for Impact Analysis Units: 4
- PPDE 668 Applied Econometrics for Program Evaluation Units: 4
- PPDE 671 Economic Analysis of Education Policy Units: 4
- PPDE 672 An Exploration of the Intelligence Community - from Policy to Cyber Espionage Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

MPP Unit Requirement: 36 units

Master of Public Policy/Master of Urban Planning (MPP/MUP)

The Master of Public Policy/Master of Urban Planning dual degree program gives students the opportunity to develop a depth of analytic and design skills with which to effectively address the problems of urban communities. The dual degree program normally requires six semesters in residence.

Requirements

Completion of the dual degree requires 72 units.

Prerequisites

All entering students must have a bachelor's degree from an accredited institution and are required to demonstrate proficiency in foundational statistical methods. The statistics prerequisite can be satisfied in one of two ways:

Statistics or Econometrics Course Taken Prior to Enrollment in the MPP

Completion of a college-level statistics or econometrics course with a grade of "B" or better within three years of matriculation. At minimum, prior course work must have included essential topics in descriptive and inferential statistics such as measures of central tendency and dispersion, confidence intervals, and hypothesis testing. If relevant statistical coursework was completed more than three years prior, a waiver may be granted based on the level of statistical training completed and the degree to which currency with this material was maintained through subsequent professional use.

PPD 504 Essential Statistics for Public Management

If a student has not completed a college-level statistics course with a grade of "B" or better within three years of matriculation, they will need to complete a summer course prior to starting the

MPP program. USC offers PPD 504 Essential Statistics for Public Management each summer; a grade of "C" or better in PPD 504 is sufficient to satisfy the statistics prerequisite. Students may instead choose to satisfy the requirement by completing a qualifying statistics course at another institution prior to enrolling at USC. If the course is completed outside of USC, it must be taken for a grade and the student must earn a grade of "B" or better. Regardless of which course is used to meet the prerequisite requirement, the units associated with the course will not be used toward the 72 required degree units.

Pre-semester MPP Labs

The Professional Fundamentals and Statistics/STATA Labs provide an introduction to the program, acclimate students to skills that will be further developed in their first-semester courses and help to create a genuine camaraderie within the first-year student cohort. Entering MPP students are required to participate in the Statistics/STATA Lab as well as the Professional Fundamentals Lab. The labs meet the week prior to the start of the fall semester. The Professional Fundamentals Lab will lead directly into PPD 554 Foundations of Policy Analysis, while the Statistics/STATA Lab will provide initial exposure to the statistical software that will be utilized extensively in PPD 558 Multivariate Statistical Analysis.

Public Policy Courses

Students take 40 units in the MPP program.

- PPD 503 Economics for Public Policy Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 560 Methods for Policy Analysis Units: 4
- PPD 561a Policy Analysis Practicum Units: 1
- PPD 561b Policy Analysis Practicum Units: 3

Analytic Electives (8 units)

- COMM 650 Survey Construction and Validation Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 587 Risk Analysis Units: 4
- PPD 647 Finance of the Public Sector Units: 4
- PPDE 636 Urban Spatial Ethnography and Critical Cartography Units: 4
- PPDE 660 Environmental Policy Design and Analysis Units: 4
- PPDE 661 Methods for Equity Analysis Units: 4
- PPDE 668 Applied Econometrics for Program Evaluation Units: 4
- PPDE 671 Economic Analysis of Education Policy Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4
- PPDE 672 An Exploration of the Intelligence Community - from Policy to Cyber Espionage Units: 4
- PPDE 665 Economic Models and Applications for Impact Analysis Units: 4

Management Elective (4 units):

- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 654 Information Technology Management in the Public Sector Units: 4
- PPD 656 Political Management: Theory and Applied Techniques Units: 4
- PPD 662 Intergovernmental Management: State Perspective Units: 4
- PPD 673 Strategic Planning in the Public Sector Units: 4
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Public Policy Elective

Students select 4 units of public policy electives under the guidance of the program administrator or chair of the program.

Urban Planning Courses

Students in this dual degree will take 32 units of urban planning coursework. Students must select one of the six available concentrations and select a gateway and methodology course associated with the concentration. Please see the Master of Urban Planning section of the catalogue for the concentration options.

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 528 Physical Planning: Urban and Community Design Units: 2
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12 4 units required
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 629 Capstone in Urban Planning Units: 4

Concentration Courses (8 units)

Students choose one of the six available concentrations in the MUP program: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students are required to complete the concentration gateway and methodology requirements (8 units) specific to their selected concentration of study. Please see the Master of Urban Planning section of the catalogue for the concentration options.

Students in the dual MUP/MPP program do not need to take an additional 8 units of concentration electives as in the standalone MUP program due to the required electives in the MPP. Through advisement, students are encouraged to select elective courses that meet their interests and educational goals.

Additional Requirements

Internship

Dual degree students, like all other MUP students, must fulfill the internship requirement.

Master of Real Estate Development/Juris Doctor (MRED/JD)

The Juris Doctor/Master of Real Estate Development dual degree program provides the opportunity for in-depth study of legal issues and real estate development. The increasingly regulatory environment developers work within demands that professionals in the real estate industry have a strong understanding of the legal system. Lawyers who plan to specialize in real estate law will benefit from a thorough understanding of the development process, including financial, planning, marketing and design issues. Application must be made to both the USC Gould School of Law and the USC Price School of Public Policy. This program normally requires three years (including one summer) of full-time study in residence to complete.

Requirements for completion of the dual degree program are 112 units, including 78 units in law and 34 units in planning and development. To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs.

Law School

- LAW 502 Procedure I Units: 2, 3, 4
- LAW 503 Contracts Units: 2, 3, 4
- LAW 504 Criminal Law Units: 3
- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 507 Property Units: 2, 3, 4
- LAW 508 Constitutional Law: Structure Units: 2, 3, 4, 5
- LAW 509 Torts I Units: 2, 3, 4
- LAW 512 Law, Language and Values Units: 2, 3, 4
- LAW 515 Legal Research, Writing and Advocacy I Units: 2, 3
- LAW 516 Legal Research, Writing and Advocacy II Units: 2

- LAW electives including fulfillment of the upper division writing requirement and skills course Units: 45

Real Estate Development

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 544 Real Estate Capital Markets Units: 2
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3
- RED 547 Project Management and Construction Units: 2
- RED 551 The Approval Process Units: 4
- RED 573 Design History and Criticism Units: 2
- RED 574 Building Typologies Units: 2
- RED 575L Community Design and Site Planning Units: 2, 3, 4
- RED 598 Real Estate Product Development Units: 2, 3, 4
- Elective from the Price School of Public Policy Units: 2

Additional Requirements

Students are required to complete a comprehensive examination administered by faculty members from both the law school and the Price School of Public Policy.

Students are required to complete a comprehensive examination administered by faculty members from both the law school and the Price School of Public Policy.

Students must have an approved laptop computer as required by instructors and must demonstrate calculator and spreadsheet skills.

Master of Real Estate Development/Master of Business Administration (MRED/MBA)

The Master of Real Estate Development/Master of Business Administration dual degree program enables students to expand their skills in planning, land development, marketing, decision sciences, accounting, management, finance and economics. The program is targeted for students who have a clear career goal of becoming real estate developers but who lack formal training in business. The program normally requires two years (including summers) of full-time study in residence to complete.

Requirements

A total of 82 units is required. Required courses include: all required courses in an MBA program; FBE 565 Economics of Urban Land Use: Feasibility Studies (3 units); FBE 588 Advanced Real Estate Law (3 units); graduate business electives sufficient to bring the total units completed in the USC Marshall School of Business to at least 48; and Policy, Planning, and Development courses (34 units). Dual degree students may not count courses taken outside the USC Marshall School of Business toward the 48 units. Students must have an approved laptop computer as required by instructors and must demonstrate calculator and spreadsheet skills.

Real Estate Development

- PPD 500 Intersectoral Leadership Units: 2
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 544 Real Estate Capital Markets Units: 2
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3
- RED 547 Project Management and Construction Units: 2
- RED 551 The Approval Process Units: 4
- RED 573 Design History and Criticism Units: 2
- RED 574 Building Typologies Units: 2
- RED 575L Community Design and Site Planning Units: 2, 3, 4
- RED 598 Real Estate Product Development Units: 2, 3, 4
- Elective from the Price School of Public Policy Units: 4

Additional Requirements

Comprehensive Examination: Students are required to complete a comprehensive examination administered by faculty members from both the Marshall School of Business and the Price School of Public Policy.

Master of Urban Planning/Master of Arts, Curatorial Practices and the Public Sphere (MUP/MA)

The Master of Urban Planning/Master of Arts, Curatorial Practices and the Public Sphere offers an unusually rich opportunity for students interested in developing a new knowledge base to become successful professionals working in the arena of organizing art projects in urban public space, planning and community development. Los Angeles and the facilities at USC provide a unique learning laboratory to educate a more competitive professional with a better understanding of both the administration of public art and issues of urban planning. This dual degree requires 58 units for completion, 26 in Roski and 32 in urban planning in Price.

Required Roski Courses

The following Roski courses are required for the degree (26 units):

- ART 515 Visiting Artist and Scholar Seminar Units: 2 (4 units required)
- CRIT 510 History and Theory of Art and Exhibitions Units: 4
- CRIT 512 Art and Curatorial Visits Units: 2
- CRIT 555 Methods of Curating: Introduction to Curatorial Practicum Units: 4
- CRIT 556 Curatorial Practicum: Individual/Group Projects Units: 4
- CRIT 557 Curatorial Practicum: Group Project Summation Units: 4
- CRIT 594a Master's Thesis Units: 2
- CRIT 594b Master's Thesis Units: 2

Required Urban Planning Courses

The following Planning courses are required for the degree (24 units):

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 528 Physical Planning: Urban and Community Design Units: 2
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 531L Planning Studio Units: 4, 8, 12 (4 units required)
- PPD 629 Capstone in Urban Planning Units: 4

Concentration Courses (8 units)

There are six concentrations available in the Master of Urban Planning program: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Please see the Master of Urban Planning section of the catalogue for the concentration descriptions and course lists.

Additional requirements for the dual degree

There are 400 hours of internship required for the degree, usually pursued in the summer of the second year (fifth and final semester).

Master of Urban Planning/Master of Public Administration (MUP/MPA)

The Master of Urban Planning/Master of Public Administration dual degree program is designed for the study of the relationships between planning and public administration. Administrative skills, budgeting and fiscal analysis, a knowledge of operations

services of local governments, and formulation and conduct of planning operations within the context of municipal management are required. This dual degree program normally requires five semesters in residence.

Requirements

Requirements for completion of the dual degree program are 64 units, including 32 units in public administration (including 8 units of management and analytic electives) and 32 units in urban planning.

Public Administration

- PPD 503 Economics for Public Policy Units: 4
- PPD 504 Essential Statistics for Public Management Units: 2
- PPDE 505 Professional Workshop in Public Administration Units: 2
- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- PPD 546 Capstone in Public Administration Units: 4
- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Electives

Students select one management elective (4 units) and one analytic elective (4 units) for a total of 8 units. Please see the Master of Public Administration for course options.

Urban Planning

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 528 Physical Planning: Urban and Community Design Units: 2
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12 (4 units required)
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 629 Capstone in Urban Planning Units: 4

Concentrations

There are six concentrations available in the Master of Urban Planning program. They are as follows: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Please see the Master of Urban Planning section of the catalogue for the concentration descriptions and course lists.

Master of Urban Planning/Master of Real Estate Development (MUP/MRED)

The Master of Urban Planning/Master of Real Estate Development dual degree program enables students to expand their skills in planning, land development, market analysis, finance and economics. Exposure to both fields becomes an educational as well as a professional asset for careers in either real estate development or urban planning. This dual degree program normally requires five semesters, including one summer, in residence.

Requirements

A total of 74 units is required for the dual degree, all from within the Price School of Public Policy.

Urban Planning Core

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 531L Planning Studio Units: 4, 8, 12 (4 units required)
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4

Concentrations

There are six concentrations available in the Master of Urban Planning program. They are as follows: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Please see the Master of Urban Planning section of the catalogue for the concentration descriptions and course lists.

Real Estate Core

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 544 Real Estate Capital Markets Units: 2
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3
- RED 547 Project Management and Construction Units: 2
- RED 551 The Approval Process Units: 4
- RED 562 Legal Issues in Real Estate Development Units: 4
- RED 573 Design History and Criticism Units: 2
- RED 574 Building Typologies Units: 2
- RED 575L Community Design and Site Planning Units: 2, 3, 4
- RED 598 Real Estate Product Development Units: 2, 3, 4

Additional Requirements

Electives: 14 additional units of elective courses taken within the Price School of Public Policy.

Students in this dual degree do not take the Urban Planning capstone but are required to complete the MRED comprehensive examination.

The internship requirement is waived for students who enter the program with professional experience in either planning, real estate or a related field.

Program Adaptation: MUP/MRED dual degree students may waive PPD 529 because RED 562 covers similar material. PPD 528 may also be waived for this dual because MRED students take three design courses which cover similar material (RED 573, RED 574 and RED 575L). Students in this dual also do not need to take PPD 629 (the MUP Capstone) as they will be required to take the MRED comprehensive exam.

Master of Urban Planning/Master of Social Work (MUP/MSW)

The dual degree program between the USC Suzanne Dworak-Peck School of Social Work and the USC Price School of Public Policy offers unique opportunities for students who want to devote their professional careers to social policy, social planning or social services delivery. Students with a dual degree will have broader employment options beyond those in traditional planning or social work.

The schedule of courses allows students to experience direct service in the first year so that course work planning is supplemented by a knowledge of consumers, service delivery, etc. Courses for both schools are taken simultaneously, intermingling social work and planning content. Two years of field practicums in social work provide in-depth exposure to social service issues from both planning and direct service perspectives, thus satisfying some of the planning laboratory/workshop requirements and eliminating the need for a separate planning internship requirement.

Requirements

Requirements for completion of the MSW/MUP degree are 83 units including 51 units in social work and 32 units in urban planning. Students must select a community organization, planning and administration concentration in the second year of their social work program.

Social Work

Contact the USC Suzanne Dworak-Peck School of Social Work for Social Work requirements.

Urban Planning

- PPD 522 Planning Theory and History for a Just Society Units: 4
- PPD 523 Urban and International Development Units: 4
- PPD 528 Physical Planning: Urban and Community Design Units: 2
- PPD 529 Planning Law and Legal Frameworks of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12 (4 units required)
- PPD 534 Data, Evidence, and Communication of the Public Good Units: 4
- PPD 629 Capstone in Urban Planning Units: 4

Concentrations

There are six concentrations available in the Master of Urban Planning program. They are as follows: Arts and Culture, Design of the Built Environment, Environmental Planning and Analysis, Housing and Real Estate Development, Economic Development, and Mobility and Transportation Planning. Students must select a concentration gateway and methodology course (4 units each, 8 units total). Dual degree students do not need to take concentration electives as they will complete elective units in Social Work. Please see the Urban Planning (MUP) entry in the catalogue for the concentration descriptions and course lists.

Additional Requirements

Dual degree students, like all other MUP students, must fulfill the internship requirement.

Urban Education Policy/Public Policy (PhD/MPP)

The Doctor of Philosophy in Urban Education Policy/Master of Public Policy dual degree offers students interested in careers in Educational Policy rigorous training in education, policy research and analysis. Students emerging with this dual degree will apply in-depth knowledge of policy processes, content and analysis to critical questions of contemporary education policy.

The PhD/MPP requires five calendar years of full-time study. The first academic year is devoted to MPP classes, the second to PhD classes, completion of the MPP practicum in the third year, PhD qualifying exam in the fourth year and the PhD dissertation in the fifth year.

Students can enter this program one of two ways: (1) apply simultaneously to both programs and state their intent to be admitted to the dual degree program; or (2) apply to the PhD during the first semester as an MPP student. If admission is approved by each school, students will be admitted to the dual degree program.

Student must complete 84 units (48 from the PhD in Urban Education Policy and 36 from the Master of Public Policy).

Degree Requirements for the PhD

The PhD in Urban Education Policy, adapted for the dual degree, requires a minimum of 48 units of course work, comprising the following elements: Core Block (16 units), Concentration Block (15 units), Research Block (12 units), and Dissertation Proposal and Dissertation Block (5 units).

Degree Requirements for the MPP

The Master of Public Policy, adapted for the dual degree, requires a total of 36 units, as listed below.

Prerequisites

All entering students must have a bachelor's degree from an accredited institution and are required to demonstrate proficiency in foundational statistical methods. The statistics prerequisite can be satisfied in one of two ways:

Statistics or Econometrics Course Taken Prior to Enrollment in the MPP

Completion of a college-level statistics or econometrics course with a grade of "B" or better within three years of matriculation. At a minimum, prior course work must have included essential topics in descriptive and inferential statistics such as measures of central tendency and dispersion, confidence intervals, and hypothesis testing. If relevant statistical course work was completed more than three years prior, a waiver may be granted based on the level of statistical training completed and the degree to which currency with this material was maintained through subsequent professional use.

PPD 504 Essential Statistics for Public Management

If a student has not completed a college-level statistics course with a grade of "B" or better within three years of matriculation, they will need to complete a summer course prior to starting the MPP program. USC offers PPD 504 Essential Statistics for Public Management each summer; a grade of "C" or better in PPD 504 is sufficient to satisfy the statistics prerequisite. Students may instead choose to satisfy the requirement by completing a qualifying statistics course at another institution prior to enrolling at USC. If the course is completed outside of USC, it must be taken for a grade and the student must earn a grade of "B" or better. Regardless of which course is used to meet the prerequisite requirement, the units associated with the course will not be used toward the 84 required degree units.

Pre-semester MPP Labs

The Professional Fundamentals and Statistics/STATA Labs provide an introduction to the program, acclimate students to skills that will be further developed in their first-semester courses and help to create a genuine camaraderie within the first-year student cohort. Entering MPP students are required to participate in the Statistics/STATA Lab as well as the Professional Fundamentals Lab. The labs meet the week prior to the start of the fall semester. The Professional Fundamentals Lab will lead directly into PPD 554 Foundations of Policy Analysis, while the Statistics/STATA Lab will provide initial exposure to the statistical software that will be utilized extensively in PPD 558 Multivariate Statistical Analysis.

- PPD 503 Economics for Public Policy Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 560 Methods for Policy Analysis Units: 4
- PPD 561a Policy Analysis Practicum Units: 1
- PPD 561b Policy Analysis Practicum Units: 3
- PPDE 668 Applied Econometrics for Program Evaluation Units: 4

Electives

Students in the dual degree program will complete 8 units of analytic electives.

- COMM 650 Survey Construction and Validation Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 587 Risk Analysis Units: 4
- PPD 647 Finance of the Public Sector Units: 4
- PPDE 636 Urban Spatial Ethnography and Critical Cartography Units: 4
- PPDE 660 Environmental Policy Design and Analysis Units: 4
- PPDE 661 Methods for Equity Analysis Units: 4
- PPDE 665 Economic Models and Applications for Impact Analysis Units: 4
- PPDE 672 An Exploration of the Intelligence Community - from Policy to Cyber Espionage Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Additional Requirements

Program Adaptation

Students in the dual degree are not required to take the 4-unit management elective or the 12-unit specialization elective requirement from the MPP program. The management electives

normally taken in the standalone MPP are not an appropriate fit for students pursuing this dual degree and their probable career paths. Instead they are required to take PPDE 668 and 8 units of analytic course work/electives, and because they will specialize in educational policy, they will obtain the relevant expertise through the Rossier course work.

Students also do not take the 12-unit Cognate Block and 3 units of the 15-unit Research Block from the PhD program because the scope of these block requirements are interdisciplinary in nature or research-oriented, and as such are naturally suited to combine with the MPP.

Students work with their adviser to make the best selection of elective course work to align with their educational and career goals.

Graduate Certificate

City/County Management Certificate

The graduate Certificate in City/County Management is for students interested in acquiring the foundational training needed to pursue a career in public service leadership and provides students with the necessary knowledge, training and skills development that will ensure their professional success as a future city/county manager.

The Certificate in City/County Management consists of 16 units of graduate course work.

Required Courses (16 Units)

- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 651 Seminar in the Administration of Local Government Units: 4
- PPD 672 Collaborative Governance Units: 4

Additional Requirements

Admission Requirements and Application Procedures

Applicants for the Certificate in City/County Management who are currently enrolled in a graduate program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the program administrator.

Applicants for the Certificate in City/County Management who have not matriculated at USC must make a formal application for admission to the certificate program; provide transcripts of all college work, a resume and one letter of recommendation.

Please contact the USC Price Office of Admissions at uscprice@usc.edu for more information.

Health Management and Policy Programs Certificate

The Health Management and Policy Programs of the Price School of Public Policy offers certificate programs in specialized areas of health care administration. The certificates are designed to provide practitioners with means for improving or updating their knowledge and experience in a challenging and professionally relevant course of study. Certificates are offered in Administration of Long Term Care Programs and Management of Ambulatory Care Systems. Applicants for the certificate programs must make formal application for admission to the certificate program, provide transcripts of all college work, supplemented by three letters of recommendation, including one from a former instructor, a resume and a personal statement describing their career goals and the relationship of the certificate to those ends.

It is expected that applicants to the certificate programs should have graduated from a recognized college with an approximate grade point average of B in the last 60 units of college work. Non-graduates may be admitted if the director believes that there is evidence to suggest that the applicant is capable of graduate level work.

Successful completion of the certificate will not be a deciding factor in the admission decision for the degrees offered by the Health Management and Policy Programs or the Price School of Public Policy.

Ambulatory Care

The Ambulatory Care program requires 20 units of graduate credit including a 16-unit core and a four-unit specialized seminar in the area of the certificate concentration.

Core courses (16 units) are:

- PPD 509 Problems and Issues in the Health Field Units: 4
- PPD 510a Financial Management of Health Services Units: 4 or
- PPD 516 Financial Accounting for Health Care Organizations Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4 or
- PPD 557 Modeling and Operations Research Units: 4
- one elective

One specialized seminar as follows (four units):

- PPD 600 Management of Managed Care Organizations Units: 2
- PPD 601 Management of Long-Term Care Organizations Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4

Certificate in Administration of Long Term Care Programs

The Certificate in Administration of Long Term Care Programs requires 16 units of course work

The required courses are

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 518 Quality of Care Concepts Units: 2
- PPD 601 Management of Long-Term Care Organizations Units: 4
- PPD 510a Financial Management of Health Services Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Note:

The program can be completed via distance learning.

Additional Requirements

Completing a certificate program does not constitute completion of or admission to the Master of Health Administration (MHA) or Executive Master of Health Administration (EMHA) degree programs nor will it be a deciding factor in the admission decision to those programs. Students in the MHA program, however, may qualify for award of these certificates if they complete the applicable course requirements.

Homeland Security and Public Policy Certificate

This graduate certificate program provides students with a foundation in homeland security and public policy. It is designed to provide expertise to individuals working in the field with an interest in refining their risk and security analysis skills as well as others with interest in the field. The certificate develops risk analysis skills and provides students with the knowledge needed to understand the issues surrounding the increasingly important issues of homeland security and public policy.

Applicants for the Certificate in Homeland Security and Public Policy who are currently enrolled in a graduate program at USC in

good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program which may be obtained from the student services adviser.

Applicants for the Certificate in Homeland Security and Public Policy who have not matriculated at USC must make a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

The certificate in homeland security and public policy consists of 15–16 units of graduate course work depending on the courses selected.

Required Core Course (8 units)

- PPD 683 Homeland Security and Public Policy Units: 4
- PPD 587 Risk Analysis Units: 4

Choose two of the following (7-8 units):

- PPD 503 Economics for Public Policy Units: 4
- PPDE 670 American Contemporary Homegrown Violent Extremism Units: 4
- PPDE 672 An Exploration of the Intelligence Community - from Policy to Cyber Espionage Units: 4
- PPD 557 Modeling and Operations Research Units: 4 or
- ISE 562 Decision Analysis Units: 3

International Policy and Planning Certificate

The Graduate Certificate in International Policy and Planning strengthens students' understanding of global policy, planning and public management issues underscoring comparative differences in policy approaches and governance institutions across countries, builds a core foundation of knowledge about the governing institutions and agreements that operate on a global level, and prepares students for working in international organizations. The professions of graduate students in the Price School (public administration, public policy, urban planning, health policy and management, and real estate development) are globalizing. To analyze and understand the impact of globalization on their chosen field and to be competitive in a global context, emerging leaders in these professions should be conversant in thinking and operating on a global scale. Earning this certificate better prepares students for the professional demands of the globalized era.

The Certificate in International Policy and Planning consists of 14 units of graduate course work.

Required Courses (8 units)

Core Courses (8 units)

- PPD 677 International Development Administration Units: 4

Plus one of the following (4 units):

- PPD 531L Planning Studio Units: 4, 8, 12
- PPD 532L International Planning and Development Laboratory Workshop Units: 4, 5, 6, 7, 8
- PPD 613a Policy, Planning, and Development International Laboratory Units: 1
- PPD 613b Policy, Planning, and Development International Laboratory Units: 3

Note:

**If students select PPD 613a and PPD 613b, both must be completed.*

Elective Courses (6 units)

Students select at least 6 units of elective courses. The elective courses may be taken from within the Price School of Public Policy course offerings or other USC units. The electives will be selected from three topic areas: international development; urbanization, policy issues and sustainability; and global health. The electives will be selected in consultation with and approved by the faculty adviser for the certificate program. The electives should be chosen such that the combination of core classes and electives produces a well-rounded and rigorous preparation for professional practice in a globalized context.

Additional Requirements

Admission Requirements and Application Procedures

Applicants for the Certificate in International Policy and Planning who are currently enrolled in a graduate program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the program administrator.

Applicants for the Certificate in International Policy and Planning who have not matriculated at USC must make a formal application for admission to the certificate program; provide transcripts of all college work, a resume and one letter of recommendation.

Please contact the USC Price Office of Admissions at uscprice@usc.edu for more information.

Nonprofit Management and Policy Certificate

This graduate certificate program provides students with a foundation in nonprofit management and policy. The certificate develops nonprofit management skills and provides students the knowledge needed to understand the increasing importance of nonprofits in society and their role in forming and influencing public policy.

Applicants for the Certificate in Nonprofit Management and Policy who are currently enrolled in a graduate program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the student services adviser.

Applicants for the Certificate in Nonprofit Management and Policy who have not matriculated at USC must make a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

The certificate in nonprofit management and policy consists of 16 units of graduate course work.

Core Courses (12 Units)

- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 687 Strategic Management in the Nonprofit Sector Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4

Additional Requirements

Elective Course

Students select 4 elective units. The elective course(s) may be taken from within the Price School of Public Policy course offerings or other USC units. The elective selection must be approved by the faculty adviser for the certificate program.

Up to 10 units of the certificate may be applied to both the certificate and the core requirements or electives in the Master of Public Administration program. Up to 12 units may be applied toward both the certificate and the core or electives in the Master of Public Policy program.

The Master of Public Administration director will provide advisement.

Political Management Certificate

This graduate certificate program provides students with a foundation in political management. It is designed to provide expertise for students who wish to work in public policy advocacy, in political relations, with elected officials and with the public, nonprofit or private sectors.

Applicants who are currently enrolled in a graduate program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program which may be obtained from the student services adviser.

Applicants who have not matriculated at USC must make a formal application for admission to the certificate program, as well as provide transcripts of all college work, a resume and one letter of recommendation.

The Certificate in Political Management consists of 14–16 units of graduate course work depending on the courses selected.

Core Course (4 Units)

- PPD 658 Advocacy in Public Administration Units: 4

Foundation Course (2-4 Units)

Select one:

- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 684 Leadership Development in the Public and Nonprofit Sectors Units: 2
- PPD 672 Collaborative Governance Units: 4

Choose Two of the Following (8 Units)

- PPD 616 Participatory Methods in Planning and Policy Units: 4
- PPD 656 Political Management: Theory and Applied Techniques Units: 4
- PPD 657 Political Leadership in Public Organizations Units: 4
- PPD 693 Communicating Public Policy Units: 4

Note:

Up to 10 units of the certificate may be applied toward both the certificate and to the core requirements or electives in the Master of Public Administration. Up to 12 units may be applied toward both the certificate and toward core or electives in the Master of Public Policy or Master of Planning.
The director of the graduate programs in public policy and management will provide advisement.

Public Financial Management Certificate

Complex social and economic climates - at the national, state, and local level - make sound public financial management essential to the fiscal sustainability and growth of communities everywhere. This graduate certificate program provides students with the skills to analyze financial information, assess public sector finance systems, prepare and manage budgets, and ensure the financial accountability of public organizations.

Required Courses

Complete each of the following courses (12 units):

- PPD 503 Economics for Public Policy Units: 4
- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 647 Finance of the Public Sector Units: 4

Elective Courses

Complete one of the following (4 units):

- PPD 624 Local Economic Development: Theory and Finance Units: 4
- PPD 625 Planning and Economic Development Finance Units: 4
- PPD 652 Financial Administration in Local Government Units: 4

Note

Course substitutions are permitted with advanced approval of the program director. Any of the above courses taken to satisfy normal degree requirements count also toward this certificate requirements up to the university's maximum double counting rules.

Public Management Certificate

This program provides students with a solid foundation of training and skills in management. Individuals who need training in public administration but who are unable to enroll for the Master of Public Administration (MPA) degree may find this certificate program of particular interest. Key to the program's success is the close integration of the academic curriculum and the application of skills and theory to managerial work assignments. Students may enroll at any time throughout the year.

The program consists of four courses:

- PPD 540 Fundamentals of Public Administration Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 545 Public and Nonprofit Organizational Behavior Units: 4
- and one elective selected from any 500-level offering in the Price curriculum.

Public Policy Certificate

This graduate certificate program provides students with a foundation in public policy analysis. It is designed to provide expertise in public policy to individuals who do not want to pursue the Master of Public Policy degree. Potential students include those who are pursuing another degree and want to complement that work with a specialization in public policy, as well as qualified students holding a bachelor's degree who have not matriculated at USC. The certificate develops policy analytic skills and their integration with a policy issue area of interest to the student.

Applicants for the Certificate in Public Policy who have not matriculated at USC must make a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

The program consists of 16 units of graduate course work.

Core Courses (12 Units)

- PPD 503 Economics for Public Policy Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4

Choose one course from a policy area (4 Units)

There are many policy issues courses from which to choose (e.g., health, nonprofit, transportation, environment, housing).

The Master of Public Policy director will provide advisement.

Real Estate Development Certificate

This graduate certificate program provides students with a foundation of the key elements of real estate development. It is designed to provide these foundations for non-Master of Real Estate Development students who wish to obtain this knowledge to complement their graduate program of study as well as their careers. For admissions information, visit the Price School Website.

The certificate in real estate development consists of 12 units of graduate course work: RED 510, RED 511, and RED 512.

Social Innovation Certificate

Persistent social problems such as concentrated poverty, environmental degradation, and income inequality demand innovative new solutions to addressing these issues and improving the quality of life for all members of society. This certificate prepares future social innovators to design innovative policy solutions, create social enterprises and develop new financial tools to speed the pace of social innovation.

Students will take 13-15* units of course work depending on the electives chosen. There are two required courses (7 units) and students select two elective courses.

*Total unit value depends on elective courses selected.

Required Courses

- BAEP 591 Social Entrepreneurship Units: 2, 3
- PPDE 580 Social Innovation Units: 4

Electives (Student Select Two)

*Students select two electives. Price courses are 4 units. Marshall courses are 3 units. Therefore, the total unit value completed for the certificate will vary depending on the courses selected.

- BAEP 564 Investing in Impact Ventures Units: 3
- MOR 555 Designing High Performance Organizations Units: 3
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3
- PPD 665 Contemporary Issues in Philanthropy Units: 4
- PPD 688 Business and Public Policy Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPDE 683 Social Finance and Development Units: 4

Social Justice Certificate

The graduate certificate in Social Justice is for students interested in understanding the set of factors that contribute to a broad range of disparities (or inequities) and the challenges that exist when managing, planning and policy making among diverse populations. The course work in this certificate focuses on the theories and analytic tools that are needed to assess issues in social justice.

The certificate in Social Justice consists of 12 units of graduate course work.

Core Courses (8 units)

Students will take two core courses.

- PPDE 664 Seminar in Social Justice and Public Policy Units: 4
- PPD 616 Participatory Methods in Planning and Policy Units: 4
  or
- PPDE 661 Methods for Equity Analysis Units: 4

Elective Course

Students select one 4-unit elective course from the following:

- AMST 560 Readings on Race and Ethnicity Units: 4
- AMST 580 Readings in Cultural Studies Units: 4
- COMM 653 Research, Practice and Social Change Units: 4
- PPD 606 Urban Health Policy Units: 4
- PPD 616 Participatory Methods in Planning and Policy Units: 4 *
- PPD 617 Urban Demography and Growth Units: 4
- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 628 Urban Planning and Social Policy Units: 4
- PPD 686 U.S. Immigration Policy Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPDE 636 Urban Spatial Ethnography and Critical Cartography Units: 4
- PPDE 661 Methods for Equity Analysis Units: 4 *
- PPDE 663 Media for Policy Change Units: 4
- SOCI 642 Sex and Gender in Society Units: 4

Note:

* Students will take PPD 616 or PPDE 661 as their methodology course for the certificate. They may select the alternate course to satisfy the elective requirement but can not double count either course for this program.

Sustainable Policy and Planning Certificate

This graduate certificate program provides students with a foundation in policy and planning issues in sustainability and the environment. The certificate develops analytic and methodological skills and provides students the knowledge to understand the increasing importance of issues surrounding the environment and sustainability in policy and planning.

For admissions information, please visit the Price website. The Department of Urban Planning and Spatial Analysis will provide advisement.

The Certificate in Sustainable Policy and Planning consists of 12-15 units of graduate course work:

Required Courses (8 units)

Students take PPDE 634 and either PPDE 660 or PPDE 665.

- PPDE 634 Methodology, Methods and Tools for Urban Sustainability Units: 2, 3, 4 (4 units required)
- PPDE 660 Environmental Policy Design and Analysis Units: 4 or
- PPDE 665 Economic Models and Applications for Impact Analysis Units: 4

Elective Courses (4-7 units)

Students select 4 to 7 units of electives.

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3 *
- ENE 502 Environmental and Regulatory Compliance Units: 4 *
- ENE 505 Energy and the Environment Units: 4 *
- GEOL 525 The Science of Climate Change Units: 4
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3 *
- PPD 587 Risk Analysis Units: 4
- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPD 692 Transportation and the Environment Units: 4
- PPD 694 Coastal Policy and Planning Units: 4
- PPDE 632 Sustainable Cities Units: 4
- PPDE 640 Environmental Planning and Analysis Units: 4
- PPDE 644 Land Use and Transportation Planning Units: 4

Note:

**If students select 3-unit courses, they will take 6-7 units of electives. Others will take 4.*

Transportation Planning Certificate

With more people living in cities and urban areas than ever before, transportation systems and planning are critical to managing sustainability and the demands of a rapidly growing population.

The Certificate in Transportation Planning is an interdisciplinary program administered by the USC Sol Price School of Public Policy. Combining transportation planning with transportation policy and project management, this certificate program is especially appropriate for students intending to pursue careers as transportation professionals who will design or implement transportation policies and plans, whether within government agencies, the private sector or with non-profit organizations.

The certificate consists of 12 units of course work.

Required Courses (8 units)

- PPD 633 Methods and Modeling Tools for Transportation Planning Units: 4
- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Elective Courses (4 units)

Students select one elective course from the list below.

- PPD 557 Modeling and Operations Research Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPDE 630 Community Health Planning Units: 4
- PPDE 637 Urban Mass Transit Units: 4
- PPDE 640 Environmental Planning and Analysis Units: 4
- PPDE 644 Land Use and Transportation Planning Units: 4

Doctoral Degree

Policy, Planning, and Development (DPPD)

The USC Price Doctor of Policy, Planning, and Development offers established professionals in the public, private and nonprofit sectors a high level academic experience to enhance their leadership capabilities, to develop their capacities in social change and innovation, and to extend their knowledge of policy, administration, planning and development. Through their interaction with Price faculty and advanced practitioners, including members of their cohort, participants in the program will become more adaptive agents of change as they address the most complex and challenging governance problems of our times.

The goals of the DPPD are: to create a unique educational environment that will forge advanced professionals into a cadre for effective social, political and economic change; to develop professionals who can apply new policy, planning and administrative tools to design and implement new and integrative public policies; to establish and impart a new set of problem-solving paradigms for examining and altering decision making; and to equip professionals with sophisticated analytical tools and a sharper global and cultural awareness.

The DPPD offers a rigorous curriculum, an applied approach and an interdisciplinary course of study that provides knowledge, practice-based skills, and research capabilities for today's leaders. Moreover, the program prepares advanced professionals to provide change leadership in social innovation, particularly in urban communities. Doctoral candidates will specialize in a particular domain, one often cutting across disciplinary boundaries, that enables students to align their research and doctoral thesis with their professional and intellectual interests.

Applicants are expected to hold a master's degree in planning, public policy, public administration, leadership, real estate development or a closely related field. Applicants without master's degrees in other fields will be expected to complete foundation courses prior to entering the degree core courses in consultation with the appropriate degree director. Those admitted without advanced standing complete a total of 60 units.

Prerequisite

Applicants are required to have a basic competence in descriptive and inferential statistics. This prerequisite may be met in one of two ways: (1) entering students must have passed a college level inferential statistics class, with a grade of "B" or better, at an approved university within three years of matriculation or (2) take PPD 502 Statistical Foundations for Public Management and Policy and complete with a grade of "B" or better. If students select to take PPD 502, the units associated with this class may not be used toward the DPPD degree.

Professional Advisory Committee

By the end of the second year of study, the student will form a three-member Professional Advisory Committee consisting of three persons. The chair of the committee will be a full-time USC Price faculty member (tenured, tenure-track or full-time teaching or research faculty member). However, other committee members may include either faculty or professionals in the field of the student's area of interest. This committee will oversee the student's program to its conclusion. One member of the committee needs to be a tenure-track or tenured professor at USC.

Curriculum Requirements

The DPPD program is administered by the Price School of Public Policy. A minimum of 60 units of course work beyond the baccalaureate is required for a doctoral degree including research courses and 4 units of doctoral dissertation. A minimum of 36 units of course work beyond the first graduate degree, exclusive of dissertation units, is required for doctoral degree students admitted with Advanced Standing. If a student enters with a related master's degree, he or she may be admitted with advanced standing and complete a minimum of 40 units.

Foundation Courses (20 units)

Up to 20 units of foundation courses are required for students admitted without advanced standing. These courses may be taken from the school's master's degree programs or, with prior approval, from other USC graduate programs.

Required Courses

Students are required to complete 16 units of required core courses, 4 units of methodology, 16 units of field coursework, and 4 units of professional dissertation (PLUS 694a PLUS 694b PLUS 694c PLUS 694d PLUS 694z).

Core Courses (16 units)

- PLUS 650 Public Policy and Globalization Units: 4
- PLUS 651 Applied Research Design and Inquiry Units: 4
- PLUS 652 Place, Institutions, and Governance Units: 4
- PLUS 653 Leading Change and Innovation in Urban Communities Units: 4

Methodology Course (4 units)

Students select one 4-unit methods course, to be determined and approved by the student's professional advisory committee.

Field of Study (16 units)

In consultation with their faculty adviser and Professional Advisory Committee, students will craft the field of study and identify associated courses related to their professional area of interest. The field may or may not reflect standard academic boundaries and we expect most fields would cut across traditional disciplinary boundaries. Students should take advantage of USC's resources in developing the field, especially taking into consideration the relationship of practice to theory. The field of study should be seen as providing the tools for effective practice in the student's area of interest. Sixteen units of course work are required for the field of study, of which 8 may be taken outside the Price School of Public Policy. Four units of the 16 units of field courses should be directed research with the student's Professional Advisory Committee Chair, to prepare for writing the professional dissertation.

Qualifying Exam

Students will hold a formal defense of their dissertation topic at the end of year three as the qualifying examination. Upon successful completion, students advance to doctoral candidacy and enroll in PLUS 694a, PLUS 694b, PLUS 694c, PLUS 694d and PLUS 694z.

Dissertation (4 units)

The professional dissertation is a research-based study of a policy issue, an administrative process, or other element of professional practice. Students are expected to enroll in PLUS 694a, PLUS 694b, PLUS 694c, PLUS 694d and PLUS 694z in fall and spring semesters for a minimum of four units, typically with their cohort, once they have defended a professional dissertation proposal. PLUS 694a, PLUS 694b, PLUS 694c, PLUS 694d and PLUS 694z will be taken in year four to satisfy this requirement.

Each professional dissertation should be designed to present an innovative or original contribution to the world of practice, and is expected to be a substantial work that satisfies the rigorous standards of academic research and creativity. It is likely that dissertations will cut across various fields and disciplines. The parameters of the professional dissertation are intentionally left open, allowing the project to be produced as solely text, or text in conjunction with film, computer program, design or other multimedia format.

The dissertation is supervised by the student's Professional Advisory Committee. Students must then maintain continuous registration in the PLUS 694a, PLUS 694b, PLUS 694c, PLUS 694d and PLUS 694z series until completion of the professional dissertation. Upon completion of an approved draft of the dissertation, students will present their findings in an open session but the Professional Advisory Committee will be the sole evaluator.

General Requirements

The DPPD is administered by the Price School of Public Policy. At least 24 units must be fulfilled in residence at USC. The total length of study must not exceed six academic years. Policies regarding time limits, leaves of absence, scholarship standing, academic warning and other issues not directly addressed here are consistent with those of the Graduate School.

Public Policy and Management (PhD)

The Price School offers two PhD programs. Both the Doctor of Philosophy (PhD) in Public Policy and Management and the Doctor of Philosophy (PhD) in Urban Planning and Development degree programs are under the jurisdiction of the Graduate School. Students should also refer to Graduate and Professional Education and The Graduate School sections of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by The Graduate School.

This PhD program in the Price School emphasizes a rigorous program of advanced study and research, stressing qualitative or quantitative analysis and the theoretical foundations of their field of study. This program is designed to provide students with the opportunity to develop their own specialization and expertise in their major field while also offering a breadth of knowledge in an especially rich intellectual environment.

Curriculum Requirements

Theoretical Core (11-12 Units)*

- PPD 711 Theoretical Foundation of Public Management Units: 4
- PPD 712 Seminar in Public Policy Units: 4
- PPD 715 Political Economy and Institutional Analysis Units: 4 *

Note:

**Students may petition to substitute PPD 715 with a different theory course derived from a discipline. Examples include MOR 602, ECON 500, etc.*

Methodology (20 units):

- PPD 706 Paradigms of Research and the Design of Inquiry Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4 or
- ECON 513 Practice of Econometrics Units: 4
- PPD 716 Econometrics for Policy, Planning and Management I Units: 4 *
- PPD 717 Econometrics for Policy, Planning and Management II Units: 4 *
- PPDE 668 Applied Econometrics for Program Evaluation Units: 4 *

Note:

**Students may petition to substitute PPDE 668, PPD 716, PPD 717 with different methodology courses with the approval of the faculty adviser or qualifying exam chair (if applicable), and the PhD director. Students with master's degrees and who have taken an equivalent course to PPD 558 may petition to substitute this course requirement with another methodology course.*

Field Courses (12 units)

Students select 12 units of field courses that can be used to develop disciplinary expertise related to specialization interest or additional methodological expertise. Fields are developed with qualifying exam committee approval, can include any combination of the Price School and outside courses and are unique to each student.

Directed Research (4 units)

Students will enroll in four units of directed research during their first year (2 units fall and 2 units spring). This will ensure they get involved in a research experience during their first year with faculty mentors.

- PPD 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Research Seminar (4 units)

Students will take PPD 710a, PPD 710b (2 units each, 4 total units), the Price School research seminar course.

- PPD 710a Research Seminar Units: 2
- PPD 710b Research Seminar Units: 2

Teaching Seminar (2 units)

Students will take one semester of the teaching seminar:

- PPD 700 Teaching Seminar (2 units)

Students entering the doctoral program without a relevant master's degree in public administration or public policy or a related field will be required to complete prerequisites (10-11 units) relevant to their program as determined by their faculty adviser.

Additional Requirements

Admission with Advanced Standing

Students entering the doctoral program with a master's degree from an accredited institution in public management/administration, public policy, planning, or urban development or related field may be admitted with advanced standing to either PhD program. In the Public Policy and Management program, students must complete a minimum of 53-54 units of doctoral classes beyond that graduate degree, exclusive of PPD 794a Doctoral Dissertation, PPD 794b Doctoral Dissertation, PPD 794c Doctoral Dissertation, PPD 794d Doctoral Dissertation, PPD 794z Doctoral Dissertation units, for a minimum of 57-58 semester units. In the Urban Planning and Development program, students must complete a minimum of 54 units of doctoral classes beyond that graduate degree, exclusive of PPD 794a Doctoral Dissertation, PPD 794b Doctoral Dissertation, PPD 794c Doctoral Dissertation, PPD 794d Doctoral Dissertation, PPD 794z Doctoral Dissertation units, for a minimum of 58 semester units. Additional course work may be required if deemed necessary by the student's faculty following the screening examination.

A maximum of 6 units of transfer credit may be applied toward a doctoral degree with advanced standing and with the approval of the faculty adviser or PhD director. Only course work not used to complete the master's degree described above is available for transfer credit. No exceptions are allowed.

Qualifying Exam Committee

Students will form an initial qualifying exam committee by the end of the first fall semester, which officially oversees the development of the student's academic program through the qualifying examination.Students should refer to the Graduate School section regarding the qualifying exam committee and the outside member. The complete qualifying exam committee must be in place no later than the third semester.

Screening Procedures

Students must have a 3.3 overall GPA in first-year courses to continue in the program.

Work Plans

At the end of each spring semester, the student submits an academic work plan for the coming year to his or her qualifying exam committee chair. The plan should include courses, degree progress, seminar attendance and what was learned from those, and a research plan that articulates the major research questions being explored. At the conclusion of year one, the chair reviews and approves the work plan and at the end of year two, the chair reviews the work plan and the second year paper.

Qualifying Examination

The qualifying exam committee prepares a comprehensive written examination covering the fields of study. Following completion of the written portion, the entire committee conducts an oral examination of the student, focusing on material both complementary and supplementary to the written examination but relevant to the field and overall program selected by the student. Upon passing both portions of the qualifying examination, the student becomes a candidate for the Doctor of Philosophy degree. The qualifying exam will occur in the fall semester of year three.

Proposal Defense

Students are expected to have a proposal defense by the end of their third year after passing the qualifying exam.

Doctoral Dissertation

The dissertation is based on original research. The research is supervised by a dissertation committee of three or more faculty members. Students should refer to the Graduate School section regarding the dissertation committe. A two-semester minimum registration in PPD 794a, PPD 794b, PPD 794c, PPD 794d, PPD 794z is required of all candidates. Students must maintain continuous registration until completion of the dissertation.

Defense of the Dissertation

Oral defense of the dissertation before the dissertation committee is usually made on a preliminary draft.

Format for Theses and Dissertations

All theses and dissertations submitted in fulfillment of requirements for graduate degrees must conform to university regulations with regard to format and method of preparation. Regulations for Format and Presentation of Theses and Dissertations is available from the Graduate School Website.

General Requirements

Refer to the Graduate School section in this catalogue for policies regarding time limits, leave of absence, scholarship standing and probation.

Urban Planning and Development (PhD)

The Price School offers two PhD programs. Both the Doctor of Philosophy (PhD) in Public Policy and Management and the Doctor of Philosophy (PhD) in Urban Planning and Development

degree programs are under the jurisdiction of the Graduate School. Students should also refer to Graduate and Professional Education and The Graduate School sections of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by The Graduate School.

The PhD programs in the Price School both emphasize rigorous programs of advanced study and research, stressing qualitative or quantitative analysis and the theoretical foundations of their field of study. The programs are designed to provide students with the opportunity to develop their own specialization and expertise in either major field — public policy and management or urban planning and development — while also offering them a breadth of knowledge in an especially rich intellectual environment.

Curriculum Requirements

The Doctor of Philosophy in Public Policy and Management and the Doctor of Philosophy in Urban Planning and Development are administered by the doctoral committee of the school. The PhD program in Public Policy and Management requires the completion of 64 units of course work, comprising the following elements outlined below:

PhD, Urban Planning and Development

Core Curriculum

Theoretical Core (8 Units)

- PPD 713 Advanced Planning Theory Units: 4
- PPD 714 Advanced Urban Development Units: 4

Methodology (20 units)

- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 706 Paradigms of Research and the Design of Inquiry Units: 4
- PPD 708 Qualitative Methods Units: 4
- PPDE 668 Applied Econometrics for Program Evaluation Units: 4
- One additional methods courses selected with qualifying exam committee approval Units: 4

Note:

Students may petition to substitute PPD 708, PPDE 668 with different methodology courses with the approval of the faculty adviser or qualifying exam chair (if applicable), and the PhD director. Students with master's degrees and who have taken an equivalent course to PPD 558 may petition to substitute this course requirement with another methodology course.

Specialized Field Courses (16 units)

Students take a minimum of four courses to develop their specialized area of study. Courses may be taken in the Price School or other USC units. Students, working with their qualifying exam committees, have considerable flexibility in forming specializations.

Directed Research (2, 2; 4 units total)

Students will enroll in four units of directed research during their first year (2 units fall and 2 units spring). This will ensure they get involved in a research experience during their first year with faculty mentors.

- PPD 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Research Seminar (4 units)

Students will take PPD 710a, PPD 710b (2 units each, 4 total units), the Price School research seminar course.

- PPD 710a Research Seminar Units: 2
- PPD 710b Research Seminar Units: 2

Teaching Seminar (2 units)

Students will take one semesters of the teaching seminar:

- PPD 700 Teaching Seminar Units: 2

Students entering the doctoral program without a relevant master's degree in urban planning or a related field will be required to complete prerequisites (10 units) relevant to their program.

Additional Requirements

Admission with Advanced Standing

Students entering the doctoral program with a master's degree from an accredited institution in public management/administration, public policy, planning, or urban development or related field may be admitted with advanced standing to either PhD program. In the Public Policy and Management program, students must complete a minimum of 53-54 units of doctoral classes beyond that graduate degree, exclusive of PPD 794a Doctoral Dissertation, PPD 794b Doctoral Dissertation, PPD 794c Doctoral Dissertation, PPD 794d Doctoral Dissertation, PPD 794z Doctoral Dissertation units, for a minimum of 57-58 semester units. In the Urban Planning and Development program, students must complete a minimum of 54 units of doctoral classes beyond that graduate degree, exclusive of PPD 794a Doctoral Dissertation, PPD 794b Doctoral Dissertation, PPD 794c Doctoral Dissertation, PPD 794d Doctoral Dissertation, PPD 794z Doctoral Dissertation units, for a minimum of 58 semester units. Additional course work may be required if deemed necessary by the student's faculty following the screening examination.

A maximum of 6 units of transfer credit may be applied toward a doctoral degree with advanced standing and with the approval of the faculty adviser or PhD director. Only course work not used to complete the master's degree described above is available for transfer credit. No exceptions are allowed.

Qualifying Exam Committee

Students will form an initial qualifying exam committee by the end of the first fall semester, which officially oversees the development of the student's academic program through the qualifying examination. Students should refer to the Graduate School section regarding the qualifying exam committee and the outside member. The complete qualifying exam committee must be in place no later than the third semester.

Screening Procedures

Students must have a 3.3 overall GPA in first-year courses to continue in the program.

Work Plans

At the end of each spring semester, the student submits an academic work plan for the coming year to his or her qualifying exam committee chair. The plan should include courses, degree progress, seminar attendance and what was learned from those, and a research plan that articulates the major research questions being explored. At the conclusion of year one, the chair reviews and approves the work plan and at the end of year two, the chair reviews the work plan and the second year paper.

Qualifying Examination

The qualifying exam committee prepares a comprehensive written examination covering the fields of study. Following completion of the written portion, the entire committee conducts an oral examination of the student, focusing on material both complementary and supplementary to the written examination but relevant to the field and overall program selected by the student. Upon passing both portions of the qualifying examination, the student becomes a candidate for the Doctor of Philosophy degree. The qualifying exam will occur in the fall semester of year three.

Proposal Defense

Students are expected to have a proposal defense by the end of their third year after passing the qualifying exam.

Doctoral Dissertation

The dissertation is based on original research. The research is supervised by a dissertation committee of three or more regular USC faculty, at least one of whom must be from outside the Price School of Public Policy. A two-semester minimum registration in PPD 794a, PPD 794b, PPD 794c, PPD 794d, PPD 794z is required of all candidates. Students must maintain continuous registration until completion of the dissertation.

Defense of the Dissertation

Oral defense of the dissertation before the dissertation committee is usually made on a preliminary draft.

Format for Theses and Dissertations

All theses and dissertations submitted in fulfillment of requirements for graduate degrees must conform to university regulations with regard to format and method of preparation. Regulations for Format and Presentation of Theses and Dissertations is available from the Graduate School, Student Union 301, or online at the Graduate School Website.

General Requirements

Refer to the Graduate School section in this catalogue for policies regarding time limits, leave of absence, scholarship standing and probation.

Aerospace Studies

Physical Education Building 112
(213) 740-2670

Administration

Reid Wynans, *Lieutenant Colonel, USAF*

Faculty

Professor: Reid Wynans *(Lieutenant Colonel, USAF)*
Assistant Professors: Nate Barnhart, *(Major, USAF)*; Kaili Morikawa, *(Captain, USAF)*; Jacqueline Salas, *(Captain, USAF)*

The Department of Aerospace Studies offers a three- to four-year program of instruction leading directly to commissioning as an officer in the United States Air Force or United States Space Force. To obtain a commission, qualified students must pass an aptitude test, physical fitness assessment and a medical examination; complete the Aerospace Studies program of instruction and concurrently receive an undergraduate or graduate degree. Credits earned in Aerospace Studies courses may be counted as electives in some degree programs. Those students who qualify for and are selected to enter Air Force pilot training will be given flight instruction upon graduation. Qualified applicants may compete for a variety of Air Force scholarships, some of which pay full tuition, books and associated fees. USC also offers a matching $4,000 annual scholarship for all AFROTC scholarship recipients enrolled at USC full-time. See the Tuition and Fees page for additional scholarship information. Students dual-enrolled as AFROTC cadets are offered competitive opportunities to attend various related symposia and professional development opportunities throughout the year.

Program Requirements

Academic Year Program

This program consists of up to eight semesters of Aerospace Studies academic and Leadership Laboratory courses (AEST 100a, AEST 100b through AEST 400a, AEST 400b) plus a two-week summer field training course. All students, regardless of desire to pursue a military commission, may enroll in the academic courses that focus on such disciplines as Foundations of the United States Air Force, Team and Leadership Fundamentals, and National Security Affairs. The program can be tailored for students who join during their freshman or sophomore years. The open enrollment classes consist of one hour of academics weekly for the AEST 100 and AEST 200 courses and three hours of academics for the AEST 300 and AEST 400 courses. The weekly, two-hour Leadership Laboratory courses are for AFROTC Cadets only.

Summer Training Courses

Field training is offered during the summer at Maxwell Air Force Base in Montgomery, Alabama. Students participate in two weeks of intensive training, normally between their sophomore and junior years.

The major areas of study in the field training course include junior officer leadership training, career orientation, survival training, weapons training, physical training, and base functions as well as the Air and Space Force environments.

Additional summer training courses at locations around the world are available to interested students to build leadership and human relations skills, develop cultural and language proficiency, provide a general orientation in Air and Space Force specialties, and motivate cadets toward an Air or Space Force career. The training opportunities vary each year but may include cultural and language immersion programs, engineering research and apprenticeships, and orientation programs related to other air, space and cyberspace specialties.

Military Science

Physical Education Building 110
(213) 740-1854

Administration

Christopher M. Gin *(Lieutenant Colonel, U.S. Army)*

Faculty

Professor/Commander: Christopher M. Gin *(Lieutenant Colonel, U.S. Army)*

The Department of Military Science provides professional training for students leading to a commission, upon graduation, in the Active Army, Army Reserve or the Army National Guard. Through the Army Reserve Officers' Training Corps Program (AROTC), scholarship benefits include full tuition, fees and book stipends. Scholarships are also available for Guaranteed Reserve Forces Duty. Military science instruction is focused on hands-on leadership development and the practical application of military skills needed to produce America's future leaders. Additionally, military science courses count as electives in many degree programs. MS 101 and MS 102 are open to students who are not enrolled in the program, but have an interest in leadership, management, military history or military training. Enrollment in the Army ROTC program is open to qualified full-time students.

Scholarship Program

The majority of Army ROTC cadets attend USC on Army scholarships. All Army scholarships are merit-based and are not dependent on individual financial need. Scholarships are available for both Active Duty and Guaranteed Reserve Forces Duty. Scholarships are awarded on a competitive basis to qualified applicants for two-, three- or four-year periods depending on the applicant's academic level and program of study. Scholarship cadets receive benefits that cover full tuition, fees and a book stipend, and are available to all majors. See the Tuition and Fees page for additional scholarship information.

Enrolled Cadets

Contracted scholarship and non-scholarship cadets can receive a monthly stipend. Contracted scholarship cadets receive an annual book allowance. All enrolled scholarship and non-scholarship cadets receive uniforms and military science textbooks from the department.

Four-Year Program

The four-year military science curriculum is designed to be part of the student's undergraduate degree program. During the freshman and sophomore years, students receive introductory instruction in the theory of warfare, military history, military leadership and basic military skills. During the junior and senior years, cadets participate in a professional development program with instruction in leadership, management, military justice and advanced military skills.

Three-Year Program

The three-year program is available to qualified sophomore undergraduate students. Students may compress the first two years of the ROTC program by attending two ROTC classes per semester during their sophomore year. Scholarships are available, on a competitive basis, for students with three years remaining toward the completion of their undergraduate degree. Transfer students who meet the same criteria are also eligible for scholarships. Upon acceptance, students then follow the military science program described for the four-year program.

Two-Year Program

The two-year program is available to qualified junior and senior undergraduate students and graduate students who have two years of academic work remaining. Veterans who have achieved junior academic status and meet enrollment criteria are also eligible for this program. Students may receive credit for the first two years of the ROTC program by attending the Army ROTC Basic Camp at Fort Knox, Kentucky, or by previous participation in Junior ROTC (JROTC). Transfer students who meet the same criteria are also eligible for scholarships. Upon acceptance, students then follow the military science program described for junior and senior cadets in the four-year program.

Field Training

Besides the classroom instruction, cadets will have ample opportunity to demonstrate their military and leadership skills during practical application in a field environment throughout the academic year and during the summer, as required. Cadets will hone their fitness skills during designated morning fitness training sessions, participate in one leader laboratory per week, and attend one tactical training exercise per semester at a local military installation. Additionally, qualified cadets will attend a 35-day paid Army ROTC Advanced Camp at Fort Knox, Kentucky, the summer after their junior year.

Adventure Training

Qualified candidates may also receive training in Airborne school, Air Assault school (rappelling from helicopters), Cadet Troop Leadership Training (training in Army units around the world), Northern Warfare school (Arctic survival) and Mountain Warfare school.

Naval Science

Physical Education Building (PED) 101
(213) 740-2663

Administration

Gilbert D. Juarez, BA, MOS, MSS *(Colonel, U.S. Marine Corps), Commanding Officer*

Faculty

Professor: Gilbert D. Juarez, BA, MOS, MSS *(Colonel, U.S. Marine Corps)*
Associate Professor: Joshua N. Ragadio, BA, MEM, EML *(Commander, U.S. Navy)*
Assistant Professors: Andrew P. Bates, BS *(Lieutenant, U.S. Navy)*; Kristen R. Gabel, BS *(Captain, U.S. Marine Corps)*; Christina M. Perez, BS *(Lieutenant, U.S. Navy)*; Nicholas S. Smith, BS *(Lieutenant, U.S. Navy)*

The Department of Naval Science provides professional training for undergraduate students (midshipmen) leading to a commission, upon graduation, as an officer in the United States Navy or the United States Marine Corps. Through the Naval Reserve Officers Training Corps Program (NROTC) program, scholarship students receive full tuition and associated fees, a book stipend, and a subsistence allowance. The university also provides additional funds to NROTC scholarship students to assist with housing costs. Non-scholarship students may apply to participate as members of the midshipman battalion with limited financial assistance, earning a commission upon completion of the baccalaureate degree. Because of the rapid development of highly technical ship systems, aviation and other military equipment, the majority of Navy scholarships are awarded to science and engineering majors; however, limited Navy scholarships and all Marine Corps scholarships are currently available to students pursuing any major offered by the university, as long as they complete basic technical requirements. In addition to university requirements, midshipmen must complete 17-23 units of Naval Science courses, a physical fitness test and three active duty summer training sessions, each about three to six weeks long.

All naval science courses are open to students who are not in the program but have an interest in the Navy and Marine Corps related fields, such as engineering, navigation, amphibious warfare, naval operations, history and leadership.

Program Requirements

Scholarship Program

The majority of naval science students attend the university on Navy or Marine Corps scholarships. Scholarships are awarded primarily on a four-year basis to high school seniors selected in nationwide competition. Two- and three-year scholarship programs are also available through a similar selection process. Scholarship students receive full tuition and associated fees, a $375 book stipend each semester, and a $250-$400 per month (increasing $50 each year in the program) subsistence allowance. The university also provides an additional automatic scholarship of $2,000 per semester for each NROTC scholarship recipient.

College Program

Students may join NROTC as non-scholarship "College Program Basic" students. These students receive uniforms and participate as regular midshipmen in the program but do not receive scholarship, stipend or subsistence funds and do not attend summer training. College Program Basic students must compete for a two- or three-year scholarship or be awarded "College Program Advanced" status in order to continue in the program and receive a commission. College Program Advanced students attend the final summer training session and receive both the book stipend and subsistence funds.

Navy Option

The Navy option prepares midshipmen for service as ensigns in the United States Navy. Navy Option midshipmen must successfully complete First Class summer training in order to earn their commission. This hands-on assignment to a Navy ship or squadron is completed during their final summer training session. Most Navy Option students will be required upon graduation to serve a minimum of five years of active military service. The NROTC program normally commissions ensigns into the following communities: Aviation (pilot or naval flight officer), Submarine Warfare, Surface Warfare, Special Operations (Explosive Ordinance Disposal), Special Warfare (SEALs), or Cyber Warfare Engineer.

Marine Corps Option

The Marine Corps option prepares midshipmen for service as second lieutenants in the United States Marine Corps. Marine

Option Midshipmen must successfully complete Officer Candidate School (OCS) in order to earn their commission. This intensive six-week course is completed during their final summer training session. Marine Corps Option students also participate, on a limited basis, in local field training exercises during the academic year. Most Marine Corps Option midshipmen will be required upon graduation to serve at least four years on active duty. All Marine Corps second lieutenants attend The Basic School (TBS) after graduation where their Military Occupational Specialty will be assigned; however, qualifying Marine Option midshipmen may be granted a guaranteed assignment to the Aviation community on request.

Requirements for Commissioning

Students must meet USC degree requirements in their chosen fields and complete the prescribed Naval Science courses, two courses of English, one course in American history/national security policy and one course in world culture/regional studies. In addition, they must also attend weekly Naval Science Laboratory (NS LAB), drill, and physical training. Navy scholarship students must also include in their programs MATH 125 Calculus I and MATH 126 Calculus II and PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics and PHYS 152L Fundamentals of Physics II: Electricity and Magnetism.

For more detailed program information, go to the USC NROTC website at priceschool.usc.edu/rotc-programs/nrotc/.

USC Suzanne Dworak-Peck School of Social Work

The USC Suzanne Dworak-Peck School of Social Work champions social justice for the well-being of individuals, families and communities through innovative teaching of evidence-informed and practice-based skills, pioneering transformative research, and cultivating leadership for social change.

The USC Suzanne Dworak-Peck School of Social Work offers a Social Work and Juvenile Justice Undergraduate Minor, a Progressive MSW Program and other programs of study leading to the Master of Social Work (MSW), Doctorate of Social Work (DSW) and Doctor of Philosophy (PhD) in Social Work as well as the Master of Science in Nursing (MSN). These programs equip students with a broad background of knowledge about health and social welfare problems, programs, services and policies designed to prevent and address those problems and existing and emergent trends and issues.

Across all programs, students are professionalized and encouraged to develop professional philosophies and approaches that are in harmony with the basic tenets of their chosen professions. At the same time, students share the desire and calling to prevent and mitigate severe social and health problems that challenge the viability of culturally diverse and complex urban settings; to build on the strengths of individuals, families, and communities; and to lead the scholarly search for innovative, efficacious, and just solutions.

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Administration

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Michael Hurlburt, PhD, *Director, Doctoral Programs*
Suzanne Wenzel, PhD, *Associate Dean for Research - Administration*
John Clapp, PhD, *Associate Dean for Research - Faculty Development*
Joshua Watson, EdD, *Assistant Dean, Student Services*
June Wiley, PhD, *Chair, MSW Program*
Ruth Supranovich, EdD, *Director, Field Education*
Sharon O'Neill, JD, DNP, *Director, MSN-FNP Program*

Faculty

Dean and Ernest P. Larson Professor of Health, Ethnicity, and Poverty: Sarah Gehlert, PhD
Chinese-American Golden Age Association/Dr. Frances Wu Endowed Chair: Iris Chi, DSW
Dean's Professor of Social Work and Business: Michàlle E. Mor Barak, PhD
Frances L. and Albert G. Feldman Endowed Professorship in Social Policy and Health: Lawrence Palinkas, PhD
John Milner Professor of Child Welfare: Jacquelyn McCroskey, DSW
Richard M. and Ann L. Thor Professor in Urban Social Development: Suzanne Wenzel, PhD

Professors

Carl Castro, PhD; Iris Chi, DSW; John Clapp, PhD; Yuri Jang, PhD; Jacquelyn McCroskey, DSW; Michàlle E. Mor Barak, PhD; Lawrence Palinkas, PhD; Avelardo Valdez, PhD; Suzanne Wenzel, PhD

Associate Professors

Cleopatra Abdou, PhD; Maria Aranda, PhD; Concepcion Barrio, PhD; Devon Brooks, PhD; Julie Cederbaum, PhD; Alice Cepeda, PhD; Jeremy Goldbach, PhD; Benjamin Henwood, PhD; Michael Hurlburt, PhD; Karen Lincoln, PhD; Ferol Mennen, DSW; Eric Rice, PhD; Dorian Traube, PhD; Shinyi Wu, PhD; Ann Marie Yamada, PhD

Assistant Professors

John Blosnich, PhD; Robynn Cox, PhD; Jordan Davis, PhD; Daniel Hackman, PhD; Elizabeth Kim, PhD; Jungeun Olivia Lee, PhD; Hans Oh, PhD; Monica Perez Jolles, PhD; Rebecca Rebbe, PhD

Clinical and Field Education Professors

Rafael Angulo, MSW; Margarita Artavia, MSW; Judith Axonovitz, MSW; Annalisa Enrile, PhD; Stephen Hydon, EdD; Tyan Parker Dominguez, PhD; Renee Smith-Maddox, PhD

Clinical and Field Education Associate Professors

Rosamaria Alamo, PhD; Estela Andujo, MSW; Juan Araque, PhD; Karra Bikson, PhD; David Bringhurst, PhD; Ruth Cislowski, MSW; Terence Fitzgerald, PhD; Pamela Franzwa, MSW; Kim Goodman, MSW; Suh Chen Hsiao, DPPD; Maria Hu, DSW; Dawn Joosten-Hagye, PhD; Terri Lee, MSW; Jennifer Lewis, PhD; Omar Lopez, MSW; Renee Michelsen, MSS; Sam Mistrano, JD; Sharon O'Neill, JD, DNP; Christina Paddock, MSW; Elizabeth Phillips, PhD; Erik Schott, EdD; Michal Sela-Amit, PhD; Melissa Singh, EdD; Ruth Supranovich, EdD; Vivien Villaverde, MSW; Benita Walton-Moss, PhD; Deborah Waters-Roman, EdD; June Wiley, PhD; Leslie Wind, PhD; Lisa Wobbe-Veit, MSW; Kathleen Woodruff, DNP; Michelle Zappas, DNP

Clinical and Field Education Assistant Professors

Danielle Brown, MSW; Laura Cardinal, MSW; Kerry Doyle, MSW; Umeka Franklin, EdD; Susan Hess, MSW; Janett Hildebrand, PhD; Harry Hunter Jr., PhD; Jane James, JD; Tracie Kirkland, DNP; Stacy Kratz, PhD; Brittani Morris, MSW; Jennifer Parga, MSW; Holly Priebe Sotelo, MSW; Cynthia Sanchez, DNP; Sara Schwartz, PhD

Senior Lecturers

Marco Formigoni, MSW; Laura Gale, EdD; Iris Gonzalez-Thrash, MSW; Robert Hernandez, DSW; Sara McSweyn, MSW; Richard Newmyer, MSW; Aimee Odette, DSW; Cynthia Rollo-Carlson, MSW; Lily Ross, MSW; Shane'a Thomas, MSW

Lecturers

Cassandra Fatouros, MSW/MBA; Lisa Kabot, MSW; Dorothy Nieto Manzer, MSW

Research Assistant Professors

Hazel Atuel, PhD; Sara Kintzle, PhD; Sonya Negriff, PhD; John Prindle, PhD; Harmony Rhoades, PhD

Emeritus Professors

John Brekke, PhD; Anne Katz, PhD; Helen Land, PhD; Martha Lyon-Levine, PhD; Paul Maiden, PhD; Howard J. Parad, DSW; Rino Patti, DSW; Janet Schneiderman, PhD; Barbara Solomon, DSW; Doni Whitsett, PhD; Marleen Wong, PhD

Emeritus Field Education Faculty

Rhoda G. Sarnat, MA

Degree Programs

The Suzanne Dworak-Peck School of Social Work offers the Master of Social Work (MSW), the Master of Science in Nursing (MSN), the Doctorate of Social Work (DSW), the Doctor of Philosophy (PhD), and the dual Master of Social Work/Doctor of Philosophy, Social Work (MSW/PhD) degrees. In addition, the school offers dual degrees with the schools of business, gerontology, law, medicine, public policy and the Hebrew Union College.

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with several other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline that has

direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master of Social Work/Master of Science, Gerontology

The world's oldest and largest school of gerontology, the USC Leonard Davis School of Gerontology has a long tradition of forging new paths in the field of aging. The Master of Science in Gerontology prepares graduates to assume leadership positions in the delivery of services to older people and their families, planning and evaluation of services, and administration of programs.

Course work is usually completed over two years (four semesters). Students must choose either the Department of Social Change and Innovation or the Department of Adult Mental Health and Wellness. Students take courses in both schools concurrently.

See the Master of Social Work/Master of Science, Gerontology (MSW/MS) and the USC Leonard Davis School of Gerontology for course requirements.

Master of Social Work/Master of Public Administration

The USC Price School of Public Policy trains leaders who can create multidisciplinary approaches to the complex issues of governing, managing and building contemporary urban communities. Available to students in any department of study, the MSW/MPA is suited to those interested in careers as public-sector administrators.

Students take course work in both degree programs concurrently. Both program requirements are completed over 24 months.

See the Master of Social Work/Master of Public Administration (MSW/MPA) and the USC Price School of Public Policy for course requirements.

Master of Social Work/Master of Urban Planning

Available to students in any of the school's departments of study, the MSW/Master of Urban Planning program caters to students who desire careers in societal and community welfare policy, social planning or social services delivery.

In the first year, the focus is on direct service, allowing planning coursework to be supplemented by knowledge of consumers and service delivery. Two years of field practice in social work provide in-depth exposure to social service issues from both planning and direct service perspectives. The dual degree is normally completed over 28 months.

See the Master of Social Work/ Master of Urban Planning (MSW/MUP) and the Urban Planning (MUP) for the concentration descriptions and course lists.

Master of Social Work/Juris Doctor, Law

Students interested in advocating for social work causes may want to consider the four-year (eight semesters) dual MSW/JD option, offered in partnership with the USC Gould School of Law.

During the first year, candidates must complete the JD curriculum. In the second year they will primarily complete the first year of the MSW or a combination of JD and first year MSW courses. In the third year, they focus on the second-year JD program. By the fourth year, students complete the MSW and JD requirements. Students may choose any department of study at the USC Suzanne Dworak-Peck School of Social Work.

See the Master of Social Work and Juris Doctor (MSW/JD).

Master of Social Work/Master of Business Administration, Business

Available only to students in the Department of Social Change and Innovation, the MSW/MBA offers preparation for careers focusing on human resources, philanthropic and corporate social responsibility, organizational development, and information management. The program is typically completed in three years (six semesters). Students must enroll in three required courses and a field practicum. Course requirements in the USC Marshall School of Business include all courses required for the MBA core program and graduate-level electives.

See the Master of Social Work/Master of Business Administration (MSW/MBA).

Master of Social Work/Master of Arts, Jewish Nonprofit Management

The Master of Arts degree offered at the Zelikow School of Jewish Nonprofit Management at Hebrew Union College-Jewish Institute of Religion adjacent to USC's University Park campus provides a solid academic and experiential foundation in Jewish studies, Jewish communal dynamics and nonprofit management.

Students may enroll in any USC Suzanne Dworak-Peck School of Social Work department of study as part of this dual degree program. Students begin coursework at the Zelikow School of Jewish Nonprofit Management during the summer and continue coursework at both institutions in the fall and spring semesters. Two summer sessions are completed at the Zelikow School of Jewish Nonprofit Management. The program is completed over 24 months.

See the Master of Social Work/Master of Arts, Jewish Nonprofit Management (MSW/MA).

Master of Social Work/Master of Public Health

A collaborative effort with the Department of Preventive Medicine in the Keck School of Medicine of USC, this dual degree program offers interdisciplinary preparation in public health and social work for a career in promoting health, preventing disease, and enhancing the delivery of health and social services in the community.

Students must complete a minimum of 81 units; 20 of these units fulfill requirements for both degrees. Depending on specific social work concentration and public health track requirements, there may be additional courses and an increase in the total number of units. Most full-time students complete the dual degree in three years; however, it may be possible to accelerate the time to completion if the student elects to enroll in MPH course work during summer sessions. Students begin with social work courses before finishing with public health course work. Students may select any one of the social work departments and any one of the public health tracks.

See the Master of Social Work/Master of Public Health (MSW/MPH).

Master of Social Work/PhD in Social Work

The dual MSW/PhD degree program is offered to exemplary students seeking advanced research-based study in social work. Typically, the program attracts applicants without a master's degree in social work or with a master's degree in another field and prepares them for academic research and teaching careers.

Prospective students must meet both the MSW and PhD admission requirements to be considered for admission to the dual-degree program, must apply separately, and be admitted to both the MSW and PhD programs.

See the Master of Social Work/Doctor of Philosophy (MSW/PhD).

Research Administration Center (RAC)

The Research Administration Center serves as the administrative umbrella for research conducted by the faculty of the USC Suzanne Dworak-Peck School of Social Work and by the school's centers of interdisciplinary and transdisciplinary research. The RAC is instrumental and essential in providing support to the faculty, post-doctoral fellows, and PhD students submitting research proposals to federal, state, county, university, and private sponsors and in managing the grants and contracts for compliance in spending and reporting.

Minor

Social Work and Juvenile Justice Minor

The Social Work and Juvenile Justice minor is designed for students who want to increase their knowledge of the juvenile justice system and service environments for diverse youth populations. This minor is fit for students in the behavioral and social sciences and any student interested in developing a broad knowledge of issues in the field of juvenile justice. The minor is of particular interest to students wishing to pursue graduate studies in social work, law, sociology, psychology, public health or education.

Required Courses

- SOWK 200xm Institutional Inequality in American Political and Social Policy Units: 4
- SOWK 324 Juvenile Justice in America Units: 4
- SOWK 350 Adolescent Gang Intervention Units: 4
- SOWK 424 Community Experience in Juvenile Justice Environments Units: 4

Master's Degree

Nursing, Family Nurse Practitioner (MSN-FNP)

The program of study that leads to the Master of Science in Nursing, Family Nurse Practitioner (MSN-FNP) degree consists of 49 units (31 units of theory; 12 units of clinical practicum; and 6 units of Social Work courses). The program, which prepares students to practice as family nurse practitioners (FNP), is administered primarily online via the Virtual Academic Center within the Suzanne Dworak-Peck School of Social Work, and features two on-campus intensives (OCI) providing students with opportunities for skills assessments and patient simulations. The clinical practica can be taken in various healthcare settings, including private practice and community-based facilities, and are based on the student's geographical location. The USC MSN-FNP degree is offered in a full-time (five-semester) or part-time (eight-semester) format.

The Department of Nursing is committed to achieving distinction and preparing diverse leaders in research, education and advanced nursing practice. The department aims to work collaboratively with its Suzanne Dworak-Peck School of Social Work and Keck School of Medicine and other health science colleagues to improve patient care by preparing outstanding advanced practice nurses who provide evidence-based health care, and transform the health care system by preparing leaders in health care policy and research.

Required Courses

MSN-FNP Students are required to take the following courses:

- NURS 501 Pathophysiology for Advanced Nursing Practice Units: 4
- NURS 502 Advanced Health Assessment Across the Life Span Units: 3
- NURS 503 Theory: Clinical Management of Adult Patients Units: 3
- NURS 504 Pharmacology for Advanced Practice Nursing Units: 3
- NURS 505 Clinical Practicum: Management of Adult Patients Units: 3
- NURS 507 Theory: Clinical Management of the Childbearing/Childrearing Family Units: 3
- NURS 600 Theory: Clinical Management of Adult Patients with Complex Medical Issues Units: 3
- NURS 601 Clinical Practicum: Management of the Childbearing/Childrearing Family Units: 3
- NURS 602 Research/Analytical Methods Units: 3
- NURS 603 Transforming Research Evidence into Practice Units: 3
- NURS 604 Clinical Practicum: Management of Adult Patients with Complex Medical Issues Units: 3
- NURS 605 Professional Issues in Advanced Practice Nursing Units: 2
- NURS 606 Health Policy Principles in Changing Health Care Contexts Units: 2
- NURS 607 Theory: Family Primary Care Units: 2
- NURS 608 Clinical Practicum: Family Primary Care Units: 3
- SOWK 506 Human Behavior and the Social Environment Units: 3

  Plus one elective in Social Work (3 units)

Bridge Course Requirement

During the admissions process, applicants will be identified for NURS 500 Bridge Course based on grades in prior science courses and/or length of time away from an academic program of more than five years. Students that successfully complete and receive credit for the Bridge Course will start the full- or part-time MSN-FNP program course sequence in the following semester. Students who do not receive credit for the Bridge Course will not be admitted to the program of study but may reapply to the program in one year.

- NURS 500 Bridge Course Units: 2

Social Work (MSW)

The program of study that leads to the Master of Social Work degree consists of 60 units (42 units of course work and 18 units of field practicum). The program is available at these locations: University Park Campus and Virtual Academic Center via the Internet and can be completed in a full-time (four-semester) program or part-time (six- or eight-semester) program. In addition, some classes are offered at City Center in downtown Los Angeles.

The basic generalist curriculum introduces students to the range of social welfare problems and programs, and to the varieties of human behavior with which social work is concerned. At the same time, students learn the methods by which the social worker, the social agency and the organized community work with people and problems. Field instruction, under supervision in a social agency, is scheduled for two or three days a week, enabling students to apply theory to practice. All content areas include content on diversity, social work values and ethics, and economic justice and populations at risk. At the completion of foundation requirements, students are expected to have acquired a sense of professional responsibility and the ability to use knowledge on behalf of the individual, the group and the community.

The school is organized into three departments: 1) Children, Youth and Families; 2) Adult Mental Health and Wellness; 3) Social Change and Innovation. Students will select one of these departments of study and, upon completion of the generalist curriculum, take required courses and electives focused on department-specific issues. Students take six required department courses, a required diversity courses, and three electives focused on the student's individual interests.

Specific course content includes:

Department of Children, Youth and Families (CYF)

This department prepares students to address the needs of vulnerable children, youth and families from the earliest years of childhood through adolescence and the transition to adulthood. Course work focuses on promoting wellness and preventing trauma, as well as which kinds of service programs are showing the best results for families with different makeups from a variety of racial, ethnic and socioeconomic groups. Students are trained to serve families in a variety of service settings, including health, mental health, early education, schools, child welfare and juvenile justice.

Department of Adult Mental Health and Wellness (AMHW)

This department is focused on enhancing the health and well-being of younger and older adults within families, agencies, institutions, communities and other environments, and eliminating disparities. The curriculum offers course work in mental health and substance use, integrated primary and behavioral health care, wellness and recovery, promotion of healthy aging, social welfare policy, and program and policy evaluation and analysis.

Department of Social Change and Innovation (SCI):

This department prepares students to lead bold, large-

scale solutions to social problems and drive positive change in organizations, businesses and government agencies. Students can customize their learning experience by specializing in community organization, workplace interventions or military social work, and taking courses in social change, advocacy, evaluation research, organizational planning and development. The community track prepares students to think critically about problems in communities and organizations, identify barriers to progress and design interventions to facilitate change. The business track prepares students for corporate settings, where they may help employees manage the demands between work and life and companies build positive relationships with their communities.

This system of curriculum offerings provides a strong educational program with a continuing commitment to a generalist base and a focused set of specialized content, in combination with a range of options to meet special interests. This program enables graduates to move into the social work community with a combination of knowledge and skills in a broad arena, as well as in-depth knowledge and skills in a particular method, population or area of service.

The curriculum builds on a liberal arts foundation that all entering students are required to have. The applicant should have a range of undergraduate courses in the humanities and the social and physical sciences.

General Requirements

The Master of Social Work degree requires a minimum of 60 semester units of courses, including field education (1000 clock hours).

The degree is not awarded solely on the basis of credits earned but also requires evidence of competence in both theory and practice. At their discretion, the faculty may require courses or fieldwork or both beyond the minimum requirements.

Time Limit

The master's degree program requires four or six semesters of full-time study that must be completed in a maximum of four years.

Grade Point Average Requirement

In accordance with the requirements of the Graduate School, a grade point average of 3.0 (A = 4.0) is required for admission to the USC Suzanne Dworak-Peck School of Social Work. Likewise, the university requires an overall GPA of 3.0 for graduation from the master's degree program.

Course Requirements

All newly admitted MSW students will follow a program that includes one course in social work practice; one course in policy; one course in human behavior; one course in research methods; one course in diversity; four semesters of field education; six department-specific core courses and three electives.

Course requirements are organized into one semester of generalist practice course work and three semesters of specialized practice course work. Academic credit is not granted for life experience or work experience in lieu of the field practicum or any other courses in the curriculum.

Required Courses

MSW students are required to take the following courses:

- SOWK 506 Human Behavior and the Social Environment Units: 3
- SOWK 536 Policy and Advocacy in Professional Social Work Units: 3
- SOWK 544 Social Work Practice With Individuals, Families, and Groups Units: 3
- SOWK 546 Science of Social Work Units: 3
- SOWK 588 Integrative Learning for Social Work Practice Units: 2
- SOWK 589a Applied Learning in Field Education Units: 3
- SOWK 589b Applied Learning in Field Education Units: 3
- SOWK 630 Diversity, Social Justice, and Culturally Competent Social Work Practice Units: 3
- SOWK 698a Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 698b Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 699a Advanced Applied Learning in Field Education Units: 4
- SOWK 699b Advanced Applied Learning in Field Education Units: 4

  Plus six additional department core courses and three additional Social Work electives totaling 27 units.

Additional Requirements

Field Education

Field education is an integral part of the Master of Social Work curriculum. Two year-long field education courses are required. The school works closely with thousands of community agencies, organizations, businesses and other field partners to ensure students receive valuable hands-on practice experience that complements their classroom learning. Students must complete two field internships, or 1,000 field hours in order to be awarded the Master of Social Work degree. The first placement requires 16 hours a week at a practicum agency that aligns with a student's department and includes a two-hour practice lab in the first semester. In these labs, students will be trained to apply three evidence-based interventions: motivational interviewing, problem-solving therapy and cognitive behavioral therapy. In the second semester, students will participate in a two-unit field seminar while completing 16 hours a week at a practicum agency. In the second year of the program, students will increase their field time to 20 hours a week, and in some cases, they may be able to remain at their original field site if the organization can facilitate advanced learning experiences. Additionally, second-year students will participate in a one-unit field seminar where they will learn to apply evidenced-based interventions specific to their department.

Field education takes place in selected agencies and centers, which represent the complete range of social services. Field placements are approved on the basis of the quality of their professional practice, commitment to social justice and to addressing social work problems, interest in participating in professional education, and ability to make personnel and resources available. Field instructors, who are employed by either the agency or the school, are responsible for teaching students in their field placements. The senior associate dean for field education is administratively responsible for all field assignments.

Each placement in field education is made on an individual basis, which takes into consideration the following: geographic location, previous experiences, future goals, professional interests, special needs and stipend requirements. In these placements, students engage in selected and organized social work activities that provide practical experience in applying skills learned in the classroom.

The number of field placement options for non-driving students is limited. Students are encouraged to have access to an automobile for field placement.

Research Requirement

The research requirement consists of one foundation course. In the generalist course of study, SOWK 546 is designed to impart knowledge of research methodology and statistics. Students are required to enroll in courses that combine research skills with evaluation and program development in their department field of study.

Transfer Students

Applicants who have recently completed part or all of the first half of graduate study at a Council on Social Work Education-accredited school of social work may apply as transfer students. In addition to materials described in the section on application procedures, transfer students should forward course syllabi and a bulletin of the school for the year in which the course or courses were taken.

Transfer credits may be applied for those courses determined to be equivalent to USC's first-year courses or to meet the expectation of the second-year electives. The grade point average for any course taken at another school of social work must be at least 3.0 on a 4.0 grading scale. Where foundation courses are similar, but not equivalent, transfer students may be permitted to take a waiver examination for possible exemption from those courses. Transferred credit for fieldwork will be computed on the basis of clock hours completed as well as on the breadth and depth of contents covered.

Military Social Work and Veteran Services

The Suzanne Dworak-Peck School of Social Work offers a Military Social Work and Veteran Services program in the MSW curriculum targeting military personnel, spouses and other military dependents and military retirees who wish to maintain a post-military career affiliation with the armed forces; military veterans who wish to provide professional services to their military comrades; and civilian personnel who are committed to assisting military personnel, their families and military veterans with adapting, coping and managing the stresses and strains of military life and post-military life.

Course Requirements

Beyond the basic professional social work foundation course requirements of the Master of Social Work degree, the program in Military Social Work and Veteran Services will offer a series of specialized courses focusing on the needs of military personnel, veterans and their families. Students will take two courses in special topics that focus on this area of practice. Individuals pursuing the Military Social Work and Veteran Services program options will also be able to select from a variety of highly relevant elective courses that will serve to enhance their training and future service delivery capabilities.

Advanced Standing Option

The Suzanne Dworak-Peck School of Social Work offers an advanced standing option for students who have graduated with a Bachelor of Social Work (BSW) degree from a Council on Social Work Education (CWSE)-accredited BSW program within the past five years. To be eligible for the advanced standing option, students must have successfully completed their BSW with a minimum GPA of 3.00 for the last 60/90 units of undergraduate work. A cumulative 3.5 GPA for all social work courses with a grade of B or better is required for admission.

Students admitted to advanced standing will bypass 23 units of the MSW program and be required to complete 37 units total of the following course work:

- SOWK 630 Diversity, Social Justice, and Culturally Competent Social Work Practice Units: 3
- SOWK 698a Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 698b Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 699a Advanced Applied Learning in Field Education Units: 4
- SOWK 699b Advanced Applied Learning in Field Education Units: 4

  Plus six additional department core courses and two additional Social Work electives totaling 24 units.

Note:

Our Advanced Standing Program is offered both on-campus and online through our Virtual Academic Center and can be completed in three semesters (full-time) or five semesters (part-time).

Dual Degree

Master of Social Work/Doctor of Philosophy (MSW/PhD)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's/PhD Requirements

The MSW/PhD dual degree program is a course of study leading to both a graduate degree (Master of Social Work) and doctor of philosophy (PhD) in social work. This course of study is offered to exemplary students seeking advanced research based study in social work to become professional leaders who will make significant contributions to the knowledge base of the profession in the social work academic world.

Application:

Prospective students must meet both the MSW and PhD standing admission requirements.

Program Requirements:

A total of at least 90 units is required for the dual degree with at least 42 units in the MSW program and at least 48 units in the PhD program (exclusive of SOWK 794a, SOWK 794b, SOWK 794c, SOWK 794d, SOWK 794z, Doctoral Dissertation). The program can be completed within four years.

Required MSW Courses

Course requirements include the required MSW courses outlined below. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

- SOWK 544 Social Work Practice With Individuals, Families, and Groups Units: 3
- SOWK 546 Science of Social Work Units: 3
- SOWK 588 Integrative Learning for Social Work Practice Units: 2
- SOWK 589a Applied Learning in Field Education Units: 3
- SOWK 589b Applied Learning in Field Education Units: 3
- SOWK 698a Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 698b Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 699a Advanced Applied Learning in Field Education Units: 4
- SOWK 699b Advanced Applied Learning in Field Education Units: 4

PhD Course Requirements

Students must complete a minimum of 48 course units beyond the master's degree (exclusive of SOWK 794a SOWK 794b SOWK 794c SOWK 794d SOWK 794z Doctoral Dissertation). Students must complete at least 24 units within the Suzanne Dworak-Peck School of Social Work and at least three courses in other departments or schools within the university. At least 8 of these 12 units must be in courses with a substantive rather than a research-methodology or statistic focus. Students must also take at least one 3-unit elective and one additional research or statistics course either in the Suzanne Dworak-Peck School of Social Work or elsewhere in the university. Each student must develop a concentration either in another discipline outside the Suzanne Dworak-Peck School of Social Work (such as gerontology; sociology; psychology; preventive medicine; business; policy,

planning and development; or political science) or in a problem area where different external courses in different departments or schools bear on a specific social problem like homelessness. An overall grade point average of B (3.0) on all graduate work attempted in the doctoral program is required for graduation.

Core Content

All students are expected to master core content. They must also complete 12 units from the substantive five core courses.

Required PhD Courses

Substantive Courses – Students choose four:

- SOWK 702 Theories of Human Behavior in the Contexts of Social Environments Units: 3
- SOWK 703 Explanatory Theories for Larger Social Systems Units: 3
- SOWK 743 Theories for Practice with Small Systems Units: 3
- SOWK 733 Policy Analysis and Advocacy in a Comparative Social Policy Context Units: 3
- SOWK 744 Theories for Practice with Large Systems Units: 3
  Macro focus: students with a macro focus in policy, community organization or administration must complete either SOWK 702 or SOWK 743 .
  Micro focus: students with a micro focus in direct practice must complete either SOWK 703, SOWK 733 or SOWK 744.
  Core Courses:
- SOWK 760L Introduction to Social Work Statistics Units: 3
- SOWK 761L Multiple Regression for Social Work Research Units: 3
- SOWK 762 Social Work Research Methods I Units: 3
- SOWK 763 Social Work Research Methods II: Issues in Research for Social Work Practice Units: 3
- SOWK 764 Advanced Multivariate Statistics Units: 3

Other Requirements

Elective* Units: 3
Research or statistics course* Units: 3
Three external courses outside of Social Work Units: 9
SOWK 790 Research Units: 6

**Must be taken in the Suzanne Dworak-Peck School of Social Work or elsewhere at USC*

Individualized Study Plan

MSW/PhD dual degree students will develop an Individualized Study Plan (ISP) at two points in their educational process. They will develop a plan with their mentor before the fall semester begins in year 1 to identify courses they plan to take in their first and second years. It will be approved by the doctoral committee. Students will develop a plan with their mentor in the spring semester of their second year to identify courses and tutorials they will take in their third and fourth years.

Master of Social Work/Juris Doctor, Law (MSW/JD)

The Master of Social Work and Juris Doctor (MSW/JD) dual degree program is a four-year program. Students are required to complete 121 units of course work, including 76 units in the USC Gould School of Law and 45 units in the USC Suzanne Dworak-Peck School of Social Work.

Program Requirements:

To earn the JD, all students (including dual degree students) must complete 37 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs. Students must apply to both programs prior to matriculation. The program of study is as follows:

First Year: Complete the first year JD program of study.

Second Year: Begin taking course requirements in the Suzanne Dworak-Peck School of Social Work, which includes the required courses outlined in the Social Work (MSW) section of the catalogue. Students will also begin to take department core courses specific to the MSW in either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

Third Year: Complete the second year JD program.

Fourth Year: Complete the remaining required MSW courses, per advisement, and the final semester of the JD program in the spring.

The law school gives credit for the third semester in the Suzanne Dworak-Peck School of Social Work, while the latter recognizes law courses as substitutions for a one-semester practice course, special topics courses, a third semester of social policy and one semester of field instruction (for which a clinical law semester is substituted).

Master of Social Work/Master of Arts, Jewish Nonprofit Management (MSW/MA)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The dual degree program combines in-class learning and fieldwork under the auspices of the Hebrew Union College-Jewish Institute of Religion's School of Jewish Nonprofit Management (formerly the School of Jewish Communal Service) and the University of Southern California's Suzanne Dworak-Peck School of Social Work.

Application:

Students must apply to both programs prior to matriculation.

Program Requirements:

Students in this dual degree program simultaneously pursue graduate studies leading to the MSW and an MA in Jewish Nonprofit Management over a 24-month period for full-time students. A total of 80 units must be completed to meet the requirements of both degrees (42 units in social work and 38 units at the HUC-JIR School of Jewish Nonprofit Management).

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined below. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

See Hebrew Union College for MAJNM degree requirements.

Required MSW Courses

- SOWK 506 Human Behavior and the Social Environment Units: 3
- SOWK 536 Policy and Advocacy in Professional Social Work Units: 3
- SOWK 544 Social Work Practice With Individuals, Families, and Groups Units: 3
- SOWK 546 Science of Social Work Units: 3
- SOWK 589a Applied Learning in Field Education Units: 3
- SOWK 589b Applied Learning in Field Education Units: 3
- SOWK 630 Diversity, Social Justice, and Culturally Competent Social Work Practice Units: 3

Master of Social Work/Master of Business Administration (MSW/MBA)

The MSW/MBA dual degree develops knowledge and skills in working with individuals, families and groups, as well as organizational dynamics, marketing, decision sciences, accounting and human relations. Students interested in working in the management of human services and not-for-profit organizations will develop knowledge of human resources, philanthropic and corporate social responsibility, organizational development and information management.

Application:

Prospective students must apply to both the Suzanne Dworak-Peck School of Social Work and the USC Marshall School of Business.

Program Requirements:

The MSW/MBA requires completion of a total of 96 units: 48 in the Marshall School of Business and 48 in the Suzanne Dworak-Peck School of Social Work.

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined in the Social Work (MSW) section of the catalogue. Students will take their remaining MSW units in department core courses in the Department of Social Change and Innovation (SCI). Students will be advised into the appropriate courses.

Course requirements in the Marshall School of Business include all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units. For MBA admission and degree requirements, visit USC Marshall School of Business.

The MBA and the MSW degrees are awarded simultaneously upon completion of all program requirements.

Master of Social Work/Master of Public Administration (MSW/MPA)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The Master of Social Work/Master of Public Administration/ (MSW/MPA) dual degree program provides those students interested in careers as administrators of social service agencies the opportunity to combine preparation in the substantive field of social work with the acquisition of the administrative capabilities necessary in the public sector.

Program Requirements:

Students must complete 82 units: 54 units in social work and 28 units in public administration.

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses in outlined in the Social Work (MSW) section of the catalogue. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

For MPA degree requirements, see Master of Public Administration/Master of Social Work (MPA/MSW).

Most students complete both program requirements over a 24-month period for full-time students.

Master of Social Work/Master of Public Health (MSW/MPH)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The Master of Social Work/Master of Public Health (MSW/MPH) dual degree offers the student interdisciplinary preparation in the fields of public health and social work leading to the Master of Social Work (MSW) and Master of Public Health (MPH) degrees.

The dual degree program is a collaborative effort between the Suzanne Dworak-Peck School of Social Work and the Department of Preventive Medicine in the Keck School of Medicine. The objectives of the program are to provide students with the knowledge and skills necessary to promote health, prevent disease and enhance the delivery of health and social services in the community. Students will build interdisciplinary skills and an interdisciplinary professional identity by developing an understanding of the breadth of each field and their interface, while permitting concentration in particular specialization areas. The program prepares graduates for work in a variety of interdisciplinary settings; and for some, it will provide the basis for doctoral study.

Students must complete a minimum of 82 units for completion of this dual degree; 48 units in Social Work and 34 units in Public Health. Most students complete both program requirements over three years for full-time students; however, the program may be completed in less time if the student takes a full course load during the two summer sessions (MPH course work only; MSW is not available during the summer).

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined in the Social Work (MSW) section of the catalogue. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF departments. Students will be advised into the appropriate courses.

Students will take MPH course work specific to the following public health concentrations, based on their chosen MSW department:

- AMHW and CYF Students will take required curriculum in the Community Health Promotion concentration.
- SCI Students will take required curriculum in the Health Services and Policy concentration.

Students in the dual degree program are not required to take the 8 units of concentration electives.

Master of Social Work/Master of Science, Gerontology (MSW/MS)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The Master of Social Work and Master of Science, Gerontology (MSW/MSG) dual degree offers the student interested in direct service or community organization the credentials most valued in clinical and therapeutic practice. Students enrolled in this dual degree receive an MSW as well as an MS in Gerontology.

Program Requirements:

This dual degree requires completion of 73 units: 32 units of work in the Davis School of Gerontology and 41 units in the Suzanne Dworak-Peck School of Social Work. The course work is usually completed over a 24-month period for full-time students.

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined below. Students will take their remaining MSW units in department core courses specific to either the AMHW or SCI departments only. Students will be advised into the appropriate courses.

For MSG degree requirements, see the USC Leonard Davis School of Gerontology.

Required MSW Courses

- SOWK 506 Human Behavior and the Social Environment Units: 3
- SOWK 536 Policy and Advocacy in Professional Social Work Units: 3
- SOWK 544 Social Work Practice With Individuals, Families, and Groups Units: 3
- SOWK 546 Science of Social Work Units: 3
- SOWK 588 Integrative Learning for Social Work Practice Units: 2
- SOWK 589a Applied Learning in Field Education Units: 3
- SOWK 589b Applied Learning in Field Education Units: 3
- SOWK 630 Diversity, Social Justice, and Culturally Competent Social Work Practice Units: 3

Master of Social Work/Master of Urban Planning (MSW/MUP)

The dual degree program between the USC Suzanne Dworak-Peck School of Social Work and the USC Price School of Public Policy offers unique opportunities for students who want to devote their professional careers to social policy, social planning or social services delivery. Students with a dual degree will have broader employment options beyond those in traditional planning or social work.

The schedule of courses allows students to experience direct service in the first year so that course work planning is supplemented by a knowledge of consumers, service delivery, etc. Courses for both schools are taken simultaneously, intermingling social work and planning content. Two years of field practicums in social work provide in-depth exposure to social service issues from both planning and direct service perspectives, thus satisfying some of the planning laboratory/workshop requirements and eliminating the need for a separate planning internship requirement.

Requirements

Requirements for completion of the MSW/MUP degree are 83 units including 51 units in social work and 32 units in urban planning. Students must select a community organization, planning and administration concentration in the second year of their social work program. For MUP requirements see the USC Price School of Public Policy entry for the dual degree, and the Urban Planning program entry for concentration descriptions and course lists.

Doctoral Degree

Social Work (DSW)

The Doctorate of Social Work (DSW) program at the USC Suzanne Dworak-Peck School of Social Work offers an advanced practice doctorate in social change and innovation for agency and community leaders and entrepreneurs. The DSW program prepares experienced professionals to develop practical, applied solutions to large-scale social challenges that directly impact vulnerable, marginalized or otherwise disadvantaged populations. The foundation for the DSW curriculum rests on three pillars: (1) problem definition within the Grand Challenges for Social Work; (2) innovative design; and (3) executive leadership in human service organizations and community contexts. Students are required to complete a minimum of 42 units of coursework beyond their first master’s degree in social work or another allied field from an accredited institution. The core DSW curriculum consists of 14 courses. There are no specializations available. Students may complete this accelerated advanced practice doctorate in seven or more semesters culminating with an independent capstone project, representing a substantive advance in practice or policy related to one of the Grand Challenges for Social Work.

Required Courses

DSW students are required to take the following courses:

- SOWK 704 Strategic Innovations for the Grand Challenges Units: 3
- SOWK 705 Leading Public Discourse Units: 3
- SOWK 706 Leading and Managing Large Complex Systems Units: 3
- SOWK 707 Financial Management for Social Change Units: 3
- SOWK 711 Design Laboratory for Social Innovation I Units: 3
- SOWK 713 The Application of Implementation Science Units: 3
- SOWK 714 Executive Leadership: Leaders as Maestros Units: 3
- SOWK 720 Communication and Influence for Social Good Units: 3
- SOWK 721 Data Driven Decision Making in Social Services Units: 3
- SOWK 723 Design Laboratory for Social Innovation II Units: 3
- SOWK 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (6 units are required)
- SOWK 725a Preparatory Scholarship for Capstone Units: 2
- SOWK 725b Preparatory Scholarship for Capstone Units: 2
- SOWK 725c Preparatory Scholarship for Capstone Units: 2

Social Work (PhD)

With the enrollment of a small group of highly qualified experienced social workers, the Suzanne Dworak-Peck School of Social Work established the first social work doctoral program in the Western United States in 1953. Over the years, the school has continued the tradition of providing opportunities for learning in small classes, seminars and tutorials.

The major goal of the doctoral program in social work is to produce social work scholars who will have the capacity to make valuable and significant contributions to the knowledge base of

the profession. Students acquire the skills necessary to become professional scholars and develop a significant capacity for professional leadership. Toward this end, the school is committed to pursuing excellence in education with persons of definite promise and to seeking gifted students of varied social, ethnic and economic backgrounds.

Through training in specific areas, graduates of the program develop theoretical, conceptual, critical and analytic skills which can be applied to social, organizational, interpersonal and personal problems. They emerge from the program with substantive knowledge and analytic skills that enable them to contribute to understanding social problems and ways of solving them. With these skills, they are able to take a disciplined approach to the issues confronting the profession of social work and the field of social welfare and are prepared to make a significant contribution to the research and scholarship that informs society's effort to improve the human condition.

The PhD program in social work is administered by the Doctoral Committee of the Suzanne Dworak-Peck School of Social Work in accordance with the policies set by the Graduate School. The requirements listed below are special to the Suzanne Dworak-Peck School of Social Work and must be read in conjunction with the general requirements of the Graduate School.

Admission Requirements

Applicants for admission to the doctoral program must meet the following requirements:

1. A master's degree from a program accredited by the Council on Social Work Education or from another field related to social work.
2. Academic promise, as evidenced by above average achievement in undergraduate and professional education and a personal statement outlining the applicant's scholarly goals.
3. Professional competence as demonstrated through substantial experience in responsible social work, internships or other positions either during or subsequent to the master's program.
4. Personal qualities compatible with performance in social work and indicating a potential for leadership in the field: skill in relationships, flexibility and openness to new ideas, maturity, identification with the profession of social work, and commitment to furthering the development of the profession.
5. Satisfactory performance on the Graduate Record Examinations — existing test scores may be submitted if the GRE has been completed no more than five years prior to the date of application. Information may be obtained from the USC Center for Testing and Assessment, Student Union 301, Los Angeles, CA 90089-0896, (213) 740-7166, or from the Educational Testing Service at ets.org.
6. Satisfactory performance on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) for all international students prior to the date of application. Existing test scores may be submitted if the TOEFL or IELTS has been completed no more than two years prior to the date of application. Information may be obtained from the USC Center for Testing and Assessment, Student Union 301, Los Angeles, CA 90089-0896, (213) 740-7166, or from the Educational Testing Service at ets.org.
7. Submission of application materials as required. Instructions for application to the Doctor of Philosophy in Social Work program may be obtained by writing to the director of the program.

Under unusual circumstances, applications from persons who do not meet these requirements, including those who have just been awarded the MSW degree, will be considered. In cases where the MSW (or its equivalent) has recently been granted and the applicant does not have the prerequisite post-master's degree employment experience, it may be required that such experience be acquired concurrent with enrollment in the doctoral program.

Under very unusual circumstances, applications to the doctoral program in social work will be considered from those who do not hold the MSW or an equivalent degree. Such applicants, in order to be admitted to the program, must have a master's degree (or its equivalent) in a field related to social work and a demonstrated commitment to the field of social work as evidenced by substantial contribution to the knowledge base of the profession. Admission decisions on applicants who do not hold an MSW or equivalent degree will be made by the full Doctoral Program Committee of the Suzanne Dworak-Peck School of Social Work rather than by a subcommittee of that body.

Priority will be given to applications that are completed by January 1.

Application Procedure

All applicants to the doctoral program must submit the following information: (1) graduate admission application using the university's online system; (2) statement of purpose which is submitted as part of the online application; (3) current resume which is uploaded as part of the online application; (4) all undergraduate and graduate transcripts; (5) four letters of reference, at least three of which are from persons who can assess the student's scholarly potential; (6) recent GRE scores; (7) recent TOEFL or IELTS scores; (8) documented evidence of financial support is required of all international applicants; (9) PhD Information Form for the Suzanne Dworak-Peck School of Social Work; (10) career plans and goals; and (11) scholarly writing sample.

Foreign Language/Research/English Language Requirements

There is no foreign language requirement for the PhD degree. Competence in advanced research methodology and statistics is required through satisfactory completion of required courses. All international students are required to submit their TOEFL or IELTS scores from a test date prior to application and to meet university requirements for teaching.

Course Requirements

Students must complete a minimum of 48 course units beyond the master's degree (exclusive of SOWK 794a, SOWK 794b, SOWK 794c, SOWK 794d, SOWK 794z Doctoral Dissertation). Students must complete at least 24 units within the Suzanne Dworak-Peck School of Social Work and at least three courses in other departments or schools within the university. At least 8 of these 12 units must be in courses with a substantive rather than a research-methodology or statistic focus. Students must also take at least one 3-unit elective and one additional research or statistics course either in the Suzanne Dworak-Peck School of Social Work or elsewhere in the university. Each student must develop a concentration either in another discipline outside the Suzanne Dworak-Peck School of Social Work (such as gerontology; sociology; psychology; preventive medicine; business; policy, planning and development; or political science) or in a problem area where different external courses in different departments or schools bear on a specific social problem like homelessness. An overall grade point average of B (3.0) on all graduate work attempted in the doctoral program is required for graduation.

Core Content

All students are expected to master core content. They must also complete 12 units from the substantive five core courses.

Required Courses

24 units from the following:

- SOWK 702 Theories of Human Behavior in the Contexts of Social Environments Units: 3
- SOWK 703 Explanatory Theories for Larger Social Systems Units: 3
- SOWK 733 Policy Analysis and Advocacy in a Comparative Social Policy Context Units: 3
- SOWK 743 Theories for Practice with Small Systems Units: 3
- SOWK 744 Theories for Practice with Large Systems Units: 3

Core Courses:

- SOWK 760L Introduction to Social Work Statistics Units: 3
- SOWK 761L Multiple Regression for Social Work Research Units: 3
- SOWK 762 Social Work Research Methods I Units: 3
- SOWK 763 Social Work Research Methods II: Issues in Research for Social Work Practice Units: 3
- SOWK 764 Advanced Multivariate Statistics Units: 3

Macro focus:

students with a macro focus in policy, community organization or administration must complete either SOWK 702 or SOWK 743 as part of their core curriculum.

- SOWK 702 Theories of Human Behavior in the Contexts of Social Environments Units: 3 or
- SOWK 743 Theories for Practice with Small Systems Units: 3

Micro focus:

students with a micro focus in direct practice must complete either SOWK 703, SOWK 733 or SOWK 744.

- SOWK 703 Explanatory Theories for Larger Social Systems Units: 3 or
- SOWK 733 Policy Analysis and Advocacy in a Comparative Social Policy Context Units: 3 or
- SOWK 744 Theories for Practice with Large Systems Units: 3

Other Requirements

- Elective Units: 3 *
- Research or statistics course Units: 3 *
- SOWK 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (6 units required)

Note:

**Must be taken in the Suzanne Dworak-Peck School of Social Work or elsewhere at USC*

Additional Requirements

Students must complete a minimum of 12 units per semester in their first semester and second semester of their first year in the program to maintain their status as full-time students and eligibility for financial support from the Suzanne Dworak-Peck School of Social Work.

Individualized Course of Study

The second year of the curriculum is largely individualized to meet each student's educational goals. It is organized around a specific field of social work practice or a problem area. In the case of fields of practice or problem area, students gain knowledge of that field's development and policies; one level of comparative practice theory applicable to that field; comparative explanatory theory appropriate to the field and the chosen practice level; and advanced research methods which can be used to explore field-specific questions.

Field of Practice is defined as a field of activity in which there is an identifiable service delivery system, a continuum of care for clients, and a defined or established role for social workers.

Given the current expertise of the faculty and available faculty resources, students may choose from the following fields of practice specializations:

Given the current expertise of the faculty and available faculty resources, students may choose from the following fields of practice specializations: (1) families and children, (2) mental health, (3) health, (4) occupational/industrial employment, (5) aging/gerontology, or (6) economic security/income maintenance.

Additional fields of practice can be added to the above choices depending on faculty interest, expertise and availability.

Problem Area is defined as a social or service delivery problem that is relevant to the field of social work such as homelessness or urban health systems.

Practice Theory is defined as advanced knowledge of comparative practice theories at one point on the intervention continuum as they relate to the field of practice chosen. The practice intervention continuum is defined to include practice with individuals, families and groups, as well as community practice, administration, planning and policy practice.

Explanatory Theory is defined as advanced knowledge of comparative social science theories as they relate to the field of practice and level of intervention chosen.

Specialized Research Skills is defined as advanced skills in research methodology and statistics which support the student's dissertation within the field of practice.

Students fulfill the requirement for the mastery of the content of their individualized course of study through a combination of at least three (2-unit) directed tutorials (SOWK 790) with members of the social work faculty, at least three university courses in other departments of the university and an elective.

Students prepare an individualized course study plan with their faculty adviser in the spring of the first year that is approved by the doctoral committee. It details classes and tutorials that each student will take during the second year of the program.

Opportunities for Further Skill Development

The program offers students skills training in both teaching and research.

Teaching Skills

All doctoral students must teach for two semesters before they graduate. Requirements may be fulfilled by coteaching, teaching as an assistant or solo teaching. Before beginning these teaching experiences, students must take a teaching course approved by the doctoral committee. International students must meet the English proficiency standards set forth by the American Language Institute and participate, if necessary, in specialized training offered by the Center for Excellence in Teaching.

Additional Research Skills

Students are also offered the opportunity for enhanced skills building in research through a research internship. The one- or two- semester internship (SOWK 785), starting typically in the spring of the second year, is designed to provide students with hands-on, practical experience with an ongoing faculty research project prior to the start of their own dissertation research. Typically, activities include data collection and/or analysis. The practicum is expected to yield a paper of publishable quality co-authored by the student and the faculty member.

Students may enroll in SOWK 599 by petitioning the doctoral committee in writing. The decision to grant or deny admission will be based on each applicant's learning and research interests and permission of the instructor.

The usual program includes two years of full-time course work, plus an additional period for completing the qualifying examinations and dissertation. In rare cases, students who are not able to take the full-time program because of employment may spread course work over three years. They must, however, have the equivalent of full-time study in residence for at least one year.

Students should specify whether they are applying for the full-time or part-time program at the time they apply to the program. Part-time students usually carry two courses per semester during the academic year. They may wish to accelerate their progress by enrolling in appropriate courses when available during the summer session.

The time limit for completing all requirements for the PhD degree is eight years from the first course taken at USC to be applied toward the degree. Students who have completed an applicable master's degree at USC or elsewhere (almost all students in the social work doctoral program) must complete the PhD in six years.

Transfer of Credit

The transfer of post-master's doctoral course work from another institution will only be considered if a grade of B or better (A = 4.0) has been obtained, and the course has been completed within the last five years. Transfer of credits must be petitioned and approved by both the Suzanne Dworak-Peck School of Social Work and the Graduate School.

Screening Procedures

When students have completed a minimum of 16 units (but not more than 24 units) of doctoral course work, the doctoral committee assesses their performance and makes a decision about their readiness to continue in the program. If the decision is to deny permission to continue, the students are so notified. If permission is granted, a qualifying exam committee is established.

Qualifying Exam Committee

The qualifying exam committee is composed of five faculty members, four of whom, including the chair, are from the Suzanne Dworak-Peck School of Social Work and one from an academic unit of the university other than the Suzanne Dworak-Peck School of Social Work. The function of the qualifying exam committee is to oversee the development of the student's academic program through the qualifying examination.

Qualifying Examination

As a prerequisite to candidacy for the PhD degree, students must pass written and oral qualifying examinations. In order to take the examinations, students must complete all core courses, at least 6 units of SOWK 790 tutorials and at least 32 units of course work in the doctoral program with a minimum grade point average of 3.0.

All students must pass a qualifying examination by completing a paper that the examination committee judges to be of publishable quality and passing an oral examination on subject matter related to the paper. The paper must deal with a substantive theoretical, model-building or methodological issue in the student's chosen area. Critical reviews of the literature or reports of empirical studies conducted by the student specifically for the qualifying examination are acceptable. The topic of the paper will be chosen in conjunction with the student's chair and must be defended before and agreed to by the entire examination committee. The content of the paper is to go beyond products developed for tutorials and must be an independent effort. Further details for completing the paper and oral examination are provided as needed. When students pass the written and oral portions of the qualifying examination, they advance to candidacy.

In accordance with university policy, since the two portions of the qualifying examination are considered part of a single examination, only one retake of either portion of the examination is permitted. When the oral examination has been passed, the student is formally admitted to candidacy.

Doctoral Dissertation

When the student is admitted to candidacy, a dissertation committee is established consisting of three members of the qualifying exam committee, one of whom must be from outside the Suzanne Dworak-Peck School of Social Work. The dissertation committee has the responsibility of providing consultation in research, approving the dissertation, conducting the final oral examination and recommending the candidate for the PhD degree. The doctoral dissertation should make a contribution to knowledge and theory related to the profession of social work. Dissertations must not only show technical mastery of the subject and research methodology but must also demonstrate the candidate's ability to work independently as a scholar.

The first step in the dissertation process is the development of a dissertation proposal. Normally about 25-30 pages, the proposal should contain a clear statement of purpose, a rationale for the research, research questions or hypotheses, a review of pertinent literature, and an explication of the research methods to be used including the design, instrumentation, sampling procedures and plan for analysis. The proposal must include human subject clearances for the anticipated research obtained from the appropriate school and university committees.

The dissertation proposal is submitted to the student's dissertation committee and defended. Upon approval of the proposal, a copy is filed with the director of the doctoral program.

It is expected that students will begin work on their dissertation prospectus as soon as possible after completion of the qualifying examinations, and that an acceptable proposal will be presented within three months of the completion of the examination.

Abstract of Dissertation

Since the abstract of the dissertation is also published in *Dissertation Abstracts International*, it should be written with care and must be representative of the final draft of the dissertation. A shorter abstract for publication in *Social Work Research and Abstracts* is also required.

Final Oral Examination

Upon approval of the final draft of the dissertation by all members of the dissertation committee, the candidate must pass a general final oral examination. After the candidate successfully completes the final oral examination, the committee recommends the candidate to the Graduate School for the PhD degree.

Courses of Instruction

The terms indicated are *expected* but are not *guaranteed*. For the courses offered during any given term, consult the *Schedule of Classes*.

Arts, Technology and the Business of Innovation

ACAD 174 Innovators Forum
Units: 2 Max Units: 04 Terms Offered: FaSp Leaders in diverse disciplines, industries and the arts present and discuss problems facing society and critique real-world projects that challenge the concept of innovation. Duplicates Credit in former ACAD 175 Instruction Mode: Lecture Grading Option: Letter

ACAD 176 Rapid Visualization
Units: 4 Terms Offered: FaSp Techniques, methods, concepts, tools, and materials that are used to quickly visualize and communicate ideas and develop problem-solving skills. Instruction Mode: Lecture Grading Option: Letter

ACAD 177 Digital Toolbox: Design
Units: 2 Terms Offered: FaSp Basics of industry-standard creative, analytical and presentation software. Applications include design, illustration, presentation and publishing. Instruction Mode: Lecture Grading Option: Letter

ACAD 178 Digital Toolbox: Motion Graphics
Units: 2 Terms Offered: FaSp Basics of industry standard software for motion graphics, visual effects, animation design, generative art and interactive visual experiences. Instruction Mode: Lecture Grading Option: Letter

ACAD 179 Digital Toolbox: Excel for Business Management
Units: 2 Terms Offered: Sp Eight-week course designed to provide a spreadsheet format to analyze information and build Microsoft Excel-based models for business management and creative data visualization. Registration Restriction: Open only to Arts, Technology and the Business of Innovation students. Instruction Mode: Lecture Grading Option: Letter

ACAD 180 Digital Toolbox: Sound and Audio
Units: 2 Terms Offered: FaSp Basics of industry-standard hardware and software used for designing, creating, processing and distributing sound and audio. Instruction Mode: Lecture Grading Option: Letter

ACAD 181g Disruptive Innovation
Units: 4 Terms Offered: Fa Critical approaches to social and cultural changes stemming from disruptive innovations in the arts, science, technology, communications, new media, politics and business. Satisfies New General Education in Category C: Social Analysis Registration Restriction: Open only to USC Iovine and Young Academy students. Instruction Mode: Lecture Grading Option: Letter

ACAD 182 Case Studies in Innovation
Units: 4 Terms Offered: FaSp Employing a case-study methodology, students analyze the artistic, technological, and entrepreneurial factors and address the conceptual, ethical, and logistical issues that lead to disruptive innovation. Instruction Mode: Lecture Grading Option: Letter

ACAD 187 Digital Toolbox: 3D Design
Units: 2 Terms Offered: FaSp Basics of industry standard software for modeling and rendering 3D materials, objects and lighting. Includes instruction in pipelines for 3D assets. Instruction Mode: Lecture Grading Option: Letter

ACAD 188 Digital Toolbox: Modeling Products I
Units: 2 Tools and techniques specific to CAD design and design improvements, focused on the ideation and development new products. Instruction Mode: Lecture Grading Option: Letter

ACAD 189 Digital Toolbox: Modeling Products II
Units: 2 An investigation of the tools and techniques specific to intermediate CAD design and design improvements, focused on the ideation and development new products. *Corequisite:* ACAD 188 Instruction Mode: Lecture Grading Option: Letter

ACAD 200 Advanced Sound and Audio
Units: 4 Terms Offered: FaSp An in-depth study of sound, acoustics, psychoacoustics, and the standard components of the audio signal chain, including microphones, mixers, interfaces, signal processors, amplifiers, loudspeakers, and audio-distribution systems. *Recommended Preparation:* ACAD 180. Instruction Mode: Lecture Grading Option: Letter

ACAD 202 Modeling Physical Systems
Units: 4 Terms Offered: Fa The physics of mechanics and motion is integrated with differential and integral calculus. The concepts are linked through a computational, problem-solving, methodology. Instruction Mode: Lecture, Lab Grading Option: Letter

ACAD 203 Statics
Units: 3 Terms Offered: FaSp (Enroll in AME 201)

ACAD 204 Strength of Materials
Units: 3 Terms Offered: FaSp (Enroll in AME 204)

ACAD 206 Communication and Culture
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 206)

ACAD 207 Designing Narrative Media
Units: 4 Terms Offered: FaSp Students conceive and produce persuasive media-based narratives presenting new ideas, products and services. Students develop the requisite media production skills to drive impact through storytelling. Instruction Mode: Lecture Grading Option: Letter

ACAD 217 Designing Immersive Media
Units: 4 Students design and develop live immersive experiences in a variety of mediums including AR, VR and small- to large-scale interactive environments. *Recommended Preparation:* ACAD 207 Duplicates Credit in former ACAD 307 Instruction Mode: Lecture Grading Option: Letter

ACAD 240 Materials: Denim to Nanotubes
Units: 4 Terms Offered: Fa Covers the fundamentals of materials science and introduce students to the principles of designing with specific materials in mind. Instruction Mode: Lecture Grading Option: Letter

ACAD 245 Designing Products I
Units: 4 Terms Offered: FaSp An introductory course in learning how to design physical products, including the processes for determining consumer need, market opportunity and competitive product analysis. *Prerequisite:* ACAD 176 or DES 102 Instruction Mode: Lecture Grading Option: Letter

ACAD 255 Advancing Journalism with Human-Centered Design
Units: 4 Employing a human-centered design framework, students research and develop novel solutions to experience, collaboration and culture issues that pervade newsrooms worldwide. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as JOUR 255

ACAD 256 Designing for News and Information
Units: 4 Techniques and methods used to improve the user experience with digital and physical platforms for the delivery of news and information. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as JOUR 256

ACAD 260 Introduction to Healthcare Innovation
Units: 4 Terms Offered: FaSp Introductions to various health innovations, including pathways, technology, techniques and outcomes. A framework for innovation in healthcare and overview of tools for health innovators. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as MEDS 250

ACAD 261 Human Health and Technology
Units: 4 Terms Offered: FaSp Introduction to major concepts and theories on the biological, scientific and technological aspects of health care and disease prevention and management. mHealth, surveillance, electronic/personal health records, wearables, virtual/augmented realities, telehealth. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as MEDS 261

ACAD 275 Dev I
Units: 4 Terms Offered: Sp Web page design and creation, web objects, scripting and interactivity. Includes developing skills to design and build interactive websites. Duplicates Credit in former ITP 204 Instruction Mode: Lecture Grading Option: Letter

ACAD 276 Dev II
Units: 4 Terms Offered: Fa Fundamentals of server-side scripting and web templates. Design and creation of data structures and databases. Visualize analytics and data. *Prerequisite:* ACAD 275 Instruction Mode: Lecture Grading Option: Letter

ACAD 277 Dev III: Designing Applications for Emerging Platforms
Units: 4 Max Units: 08 Terms Offered: Sp An accelerated approach to object-oriented programming, including foundations of applications for devices, with a focus on user interface design. *Prerequisite:* ACAD 276 Instruction Mode: Lecture Grading Option: Letter

ACAD 280 Designing Digital Experiences
Units: 4 Terms Offered: Sp Designing elegant and powerful interfaces and experiences for the ways people interact with data, devices, systems and digital environments. *Prerequisite:* ACAD 275 Instruction Mode: Lecture Grading Option: Letter

ACAD 281 Designing Live Experiences
Units: 4 Experience-based solutions for the design of branded environments and the development of prototypes that are entertaining, informational and inspirational. *Prerequisite:* ACAD 176 *Recommended Preparation:* Install Sketch up, Rhino, Solidworks, CAD, Vectorworks or similar to create plans and elevations and/ or renderings. Maker space training. Instruction Mode: Lecture, Lab Grading Option: Letter

ACAD 301 Understanding Play
Units: 4 Examines various theories of play and how it shapes and defines human experiences. Instruction Mode: Lecture Grading Option: Letter

ACAD 302 The Hacker Imagination: from Ancient Greece to Cupertino
Units: 4 Exploring issues in innovation, design and invention from the perspective of the hacker imagination. Instruction Mode: Lecture Grading Option: Letter

ACAD 306 Innovation, Entertainment, and the Arts
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 306)

ACAD 308 Computer-Aided Design for Bio-Mechanical Systems
Units: 3 (Enroll in ITP 308)

ACAD 309g Dreams & Madness: The Art of Japan's Golden Age of Animation
Units: 4 Terms Offered: FaSp An in-depth look at the art, politics, and cultural impact of several Japanese filmmakers including Isao Takahata, Hayao Miyazaki, Satoshi Kon, Mamoru Hosoda and Makoto Shinkai. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

ACAD 310 Launching Disruptive Ventures
Units: 4 Terms Offered: FaSp (Enroll in BAEP 310)

ACAD 311 Design for User Experience
Units: 4 Terms Offered: FaSp (Enroll in ITP 310)

ACAD 312 Materials Behavior and Processing
Units: 4 Terms Offered: FaSp (Enroll in MASC 310)

ACAD 315x Basics of Project and Operations Management for Non-Majors
Units: 2 Terms Offered: Fa (Enroll in BUAD 315x)

ACAD 317 Designing Media Studio
Units: 4 Students design and develop advanced narrative, immersive and interactive multimedia experiences for existing and experimental platforms. Studio-based structure allows for individual projects and pacing. *Recommended Preparation:* ACAD 217 Duplicates Credit in former 407 Instruction Mode: Lecture Grading Option: Letter

ACAD 324g The Practice of Design: Ideation to Innovation
Units: 4 History and application of proven collaborative design processes and methodologies as they relate to ideation and innovation. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

ACAD 330 3D Design: Objects and Space
Units: 4 Terms Offered: FaSp (Enroll in DES 330)

ACAD 331x Influence and Collaboration
Units: 2 Terms Offered: FaSp (Enroll in MOR 331x)

ACAD 341 Android App Development
Units: 4 Terms Offered: FaSp (Enroll in ITP 341)

ACAD 342 iOS App Development
Units: 4 Terms Offered: FaSp (Enroll in ITP 342)

ACAD 343 Mobile Development for Content and Media
Units: 1 (Enroll in ITP 343)

ACAD 344 Advanced iOS App Development

Units: 4 Terms Offered: FaSp (Enroll in ITP 344)

ACAD 345 Designing Products II
Units: 4 A thorough look into developing a feasible consumer product through implementing all aspects of the R&D process, including consumer insights, competitive analysis, ideation and manufacturability. *Prerequisite:* ACAD 245 *Corequisite:* ACAD 188 Instruction Mode: Lecture Grading Option: Letter

ACAD 350 International Experience
Units: 2 Max Units: 08 Terms Offered: Sp International study tour providing in-depth and field-based knowledge in design, technology and/or business. Sites selected from the world's most exciting established and emerging innovation hubs. Instruction Mode: Lecture Grading Option: Letter

ACAD 352 Digital Audio Recording and Processing
Units: 4 Terms Offered: FaSp The principles, techniques, and aesthetics of digital audio recording and processing with an emphasis on mastering for multimedia integration. *Recommended Preparation:* ACAD 200. Instruction Mode: Lecture Grading Option: Letter

ACAD 354 Synthesis and Sound Design
Units: 4 Terms Offered: FaSp A comprehensive study of the elements of electronic synthesis and sampling, as well as the use of "live" and "found" audio recordings for creative sound design purposes. *Recommended Preparation:* ACAD 200 Instruction Mode: Lecture Grading Option: Letter

ACAD 356 Audio and Media Integration
Units: 4 Terms Offered: FaSp Methods and techniques for integrating audio into various media and applications including: film and video, Internet streaming, mobile devices, and other digital and computer applications. *Recommended Preparation:* ACAD 200 Instruction Mode: Lecture Grading Option: Letter

ACAD 360 Design Strategy: Problem Solving for Organizations
Units: 4 Terms Offered: Sp A professional, collaborative and multidisciplinary consulting approach to diagnosing problems and applying design-based solutions on behalf of organizations. *Prerequisite:* ACAD 181g and ACAD 182 Instruction Mode: Lecture Grading Option: Letter

ACAD 362 Analytics for Health Innovators
Units: 4 Terms Offered: FaSp Theory and methods of health data analytics, including foundational knowledge in statistical methods, data mining, big data applications, visual analytics and physician performance. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as MEDS 362

ACAD 365 Managing Data in C++
Units: 4 Terms Offered: FaSp (Enroll in ITP 365)

ACAD 366 Designing Media for Social Change
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 366)

ACAD 375 Business and Professional Communication
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 375)

ACAD 376 Industry Practicum I: Designing and Implementing Real-World Solutions
Units: 4 Terms Offered: Fa Practicum through which students serve as design strategists for high-profile industry collaborators, and learn advanced methods and processes to solve problems in field-specific environments. Registration Restriction: Open only to Arts, Technology and the Business of Innovation majors Instruction Mode: Lecture Grading Option: Letter

ACAD 377 Industry Practicum II: Designing and Implementing Real-World Solutions
Units: 4 Terms Offered: Sp Advanced application of skills and concepts learned in ACAD 376. *Prerequisite:* ACAD 376 Registration Restriction: Open only to Arts, Technology and the Business of Innovation majors Instruction Mode: Lecture Grading Option: Letter

ACAD 382 Mobile Game Development
Units: 4 Terms Offered: Sp (Enroll in ITP 382)

ACAD 385x Marketing of Creative Disruption and Innovation
Units: 4 Terms Offered: Fa (Enroll in MKT 385x)

ACAD 387x Cloud Architecture and Applications
Units: 4 (Enroll in ITP 387)

ACAD 401 Story Building for Inventors and Entrepreneurs
Units: 4 Methods and frameworks for active and inclusive storytelling across and within disciplines. Students will learn to strategically align their story with entrepreneurial vision and enterprise. Instruction Mode: Lecture Grading Option: Letter

ACAD 404 Advanced Front-End Web Development
Units: 4 Terms Offered: Fa (Enroll in ITP 404)

ACAD 405 Advanced Back-End Web Development
Units: 4 Terms Offered: Sp (Enroll in ITP 405)

ACAD 419 Professional Internship
Units: 2 Max Units: 08 Terms Offered: FaSpSm An experiential/academic opportunity in an arts, technology and business related facility. Written analysis, evaluation, and working internship. Instruction Mode: Lecture Grading Option: Letter

ACAD 425 Web Application Security
Units: 4 Terms Offered: FaSp (Enroll in ITP 425)

ACAD 442 Mobile App Project
Units: 4 (Enroll in ITP 442)

ACAD 445 Designing Products III
Units: 4 An understanding of bringing a product to market through the process of determining consumer pain points, competitive analysis, marketability, feasibility, and the supporting business model. *Prerequisite:* ACAD 345 Instruction Mode: Lecture Grading Option: Letter

ACAD 449 Data Mining: Descriptive and Predictive
Units: 4 (Enroll in ITP 449)

ACAD 450 Industry Lab
Units: 2 Max Units: 08 Practicum in which student teams serve as design strategists for industry collaborators; advanced methods and processes to solve problems in collaborative, field-specific environments. Instruction Mode: Lecture, Lab Grading Option: Letter

ACAD 460 Web Application Project
Units: 4 Terms Offered: Sp (Enroll in ITP 460)

ACAD 463 Evidence Based Medicine for Health Innovators
Units: 2 Terms Offered: FaSp Introduction to evidence based medicine (EBM) for non-clinicians, including how EBM impacts health care. Includes basics of research, studies and systematic reviews. *Prerequisite:* ACAD 260 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as MEDS 463

ACAD 464 Mining Health Data Through Machine Learning
Units: 4 Terms Offered: FaSp Explores both supervised and unsupervised machine learning tools to mine health data to gain insights for predictive analytics for health organizations. Includes deep learning technologies. *Prerequisite:* ACAD 362 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as MEDS 464

ACAD 467 Strategic Management of Innovation
Units: 4 Terms Offered: Sp (Enroll in MOR 467)

ACAD 475a The Garage Experience
Units: 4 Terms Offered: Fa Academy capstone leading to innovative outcomes, including advanced research artifacts, operational prototypes, and breakthrough enterprises across multiple fields and industries. *Prerequisite:* ACAD 377 Registration Restriction: Open only to seniors in Arts, Technology and the Business of Innovation major Instruction Mode: Lecture Grading Option: Letter

ACAD 475b The Garage Experience
Units: 4 Terms Offered: Sp Continuation of ACAD 475a. Students refine and perfect outcomes, leading to a pitch/presentation to faculty and industry experts for funding or validation, and critical networking. *Prerequisite:* ACAD 475a Registration Restriction: Open only to seniors in Arts, Technology and the Business of Innovation major Instruction Mode: Lecture Grading Option: Letter

ACAD 476 Technologies for Interactive Marketing
Units: 4 (Enroll in ITP 476)

ACAD 490 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

ACAD 491 Individual Instruction
Units: 1, 2, 3, 4 Max Units: 16 Terms Offered: FaSpSm Weekly, individual instruction with an Academy professor for deep exploration and study within an Academy core discipline. Instruction Mode: Lecture Grading Option: Letter

ACAD 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Comprehensive exploration of particular aspects of art, technology and the business of innovation. Instruction Mode: Lecture Grading Option: Letter

ACAD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to graduate degree. Maximum units which may be applied to degree determined by department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACAD 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Comprehensive exploration of particular aspects of art, technology and the business of innovation. Instruction Mode: Lecture Grading Option: Letter

Accounting

Major Restrictions
Enrollment in most 500-level business courses by non-business graduate students requires special permission. For information about the registration application process for non-business students, visit the *Schedule of Classes*.

ACCT 369 Analytical Tools for Accountants
Units: 1 Terms Offered: FaSp Introduction to technical skills needed for an accounting career. Financial modeling using Microsoft Excel and data analysis using Python. Application exercises tailored for accounting majors. *Corequisite:* ACCT 370 and ACCT 371 Registration Restriction: Open only to sophomore, junior and senior Accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 370 External Financial Reporting Issues
Units: 4 Terms Offered: FaSp Understanding of decision-making, problem solving, and research skills as a supplement to financial accounting knowledge for accounting professionals. *Prerequisite:* BUAD 281 or BUAD 305 Duplicates Credit in former ACCT 370ab Instruction Mode: Lecture Grading Option: Letter

ACCT 371 Introduction to Accounting Systems
Units: 4 Terms Offered: FaSp Understanding of technology and controls needed to capture data used by professionals in financial and managerial accounting, auditing and taxation. *Prerequisite:* BUAD 281 or BUAD 305 Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 372 Internal Reporting Issues
Units: 2 Terms Offered: FaSp Understanding of decision-making, problem solving, and research skills as a supplement to managerial accounting knowledge for accounting professionals. *Prerequisite:* BUAD 281 or BUAD 305 Instruction Mode: Lecture Grading Option: Letter

ACCT 373 Introduction to Auditing and Assurance Services
Units: 2 Terms Offered: FaSp Exploration of the requisite skills and knowledge needed to offer services in assurance, attestation or auditing engagements. *Prerequisite:* ACCT 370 and ACCT 371. Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 374 Introduction to Tax Issues
Units: 2 Terms Offered: FaSp Basic tax principles, introduction to U.S. federal, state and local tax systems, income and expense definitions, property transactions, and fundamentals of individual taxation. *Prerequisite:* BUAD 281 or BUAD 305 Instruction Mode: Lecture Grading Option: Letter

ACCT 377 Valuation for Financial Statement Purposes
Units: 2 Terms Offered: FaSp Explores Accounting Standards Codification (ASC) 820 "Fair Value Measurements and Disclosures" and reviews the historical background of US GAAP fair value guidance. *Prerequisite:* ACCT 370. Instruction Mode: Lecture Grading Option: Letter

ACCT 380x Introduction to Enterprise Risk Management
Units: 4 Terms Offered: FaSp Understand the concept of risk, risk assessment and management frameworks; learn to identify, analyze, manage and mitigate and communicate this risk to stakeholders. Credit Restriction: Not available for major

credit in Accounting Instruction Mode: Lecture Grading Option: Letter Crosslisted as BUAD 380

ACCT 385x Introduction to Risk Management and Insurance
Units: 4 Terms Offered: Fa Understand the underlying economics, structure, and business models of an organization (often an insurance carrier) willing to accept risk for diverse situations: property, life, healthcare. Credit Restriction: Not available for major credit in Accounting Instruction Mode: Lecture Grading Option: Letter Crosslisted as BUAD 385

ACCT 387 Risk Management in Entertainment, Sports and the Arts
Units: 4 Terms Offered: FaSp Knowledge and skills needed to identify, analyze, control, finance and report on the risks particular to entertainment, sports and the arts. Credit Restriction: Not available for major credit in Accounting Instruction Mode: Lecture Grading Option: Letter Crosslisted as BUAD 387

ACCT 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ACCT 410x Foundations of Accounting
Units: 4 Terms Offered: FaSpSm Non-technical presentation of accounting for users of accounting information; introduction to financial and managerial accounting. Not open to students with course credits in accounting. Not available for unit or course credit toward a degree in Accounting or Business Administration. Instruction Mode: Lecture Grading Option: Letter

ACCT 415x Intermediate Financial Accounting for Non-Accounting Majors
Units: 4 Terms Offered: FaSp In-depth study of balance sheet, income statement, and cash flow statement issued from the perspective of a user (not preparer) of corporate financial reports. Not open to accounting majors. *Prerequisite:* ACCT 410x or BUAD 280 or BUAD 305 Registration Restriction: Not open to accounting majors Credit Restriction: Not available for degree credit to accounting majors Duplicates Credit in former ACCT 411x and ACCT 412x Instruction Mode: Lecture Grading Option: Letter

ACCT 416 Financial Reporting and Analysis
Units: 2 Terms Offered: FaSp Examination of the role of financial statement analysis in the prediction of a firm's future financial performance. *Prerequisite:* BUAD 215 or BUAD 306; ACCT 370 or ACCT 415. Instruction Mode: Lecture Grading Option: Letter

ACCT 430 Accounting Ethics
Units: 4 Terms Offered: FaSp Theoretical knowledge and practical application accountants need to identify ethical issues and reconcile conflicts among competing stakeholders' interests in all major areas of accounting practice. *Prerequisite:* ACCT 372 and ACCT 373 and ACCT 374 and ACCT 377 Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 442 The Ethics of Financial and Political Accountability
Units: 4 (Enroll in HIST 442)

ACCT 451 Tax Analysis with Data Analytics
Units: 4 Terms Offered: FaSp Capabilities to identify and analyze relevant tax issues; apply research tools to find solutions and provide alternate approaches using data analytics. *Prerequisite:* BUAD 280 or BUAD 305 or ACCT 410x Registration Restriction: Open only to accounting majors Duplicates Credit in ACCT 374 and ACCT 474 Instruction Mode: Lecture Grading Option: Letter

ACCT 456 Auditing with Data Analytics
Units: 4 Terms Offered: FaSp Auditing with data analytics from the perspective of management and other users of financial statements including external auditors and assurance professionals. *Prerequisite:* ACCT 370 and ACCT 371 Registration Restriction: Open only to accounting majors Duplicates Credit in ACCT 373 and ACCT 473 Instruction Mode: Lecture Grading Option: Letter

ACCT 462 Detecting Fraudulent Financial Reporting
Units: 2 Terms Offered: FaSp Understanding/identifying methods of fraudulent financial reporting, and signals that financial statements were fictitiously prepared; major frameworks for analyzing ethical dilemmas; reforms in corporate reporting environment. *Prerequisite:* ACCT 370 or ACCT 415x. Instruction Mode: Lecture Grading Option: Letter

ACCT 463 Internal Audit
Units: 2 Terms Offered: FaSp Examination of internal audit/auditors and their relationship to management, the investors, the regulators, and the external auditors. *Prerequisite:* ACCT 370, ACCT 373. Instruction Mode: Lecture Grading Option: Letter

ACCT 470 Advanced External Financial Reporting Issues
Units: 4 Terms Offered: FaSp Develop capabilities to identify and resolve advanced external financial reporting challenges, focusing primarily on operating, financing, and investing activities of business enterprises. Duplicates credit in ACCT 470ab. *Prerequisite:* ACCT 370 *Corequisite:* ACCT 377 Duplicates Credit in former ACCT 470ab Instruction Mode: Lecture Grading Option: Letter

ACCT 471 Accounting Information Systems
Units: 2 Terms Offered: FaSp Issues related to the design, control, and implementation of accounting information systems. *Prerequisite:* ACCT 371. Instruction Mode: Lecture Grading Option: Letter

ACCT 472 Managerial Accounting
Units: 2 Terms Offered: FaSp Understanding of systems providing cost information useful in management decision-making and problem solving. *Prerequisite:* ACCT 372. Instruction Mode: Lecture Grading Option: Letter

ACCT 473 Financial Statement Auditing
Units: 2 Terms Offered: FaSp Course builds on the background developed in ACCT 373, specifically the process used by external auditors to conduct financial statement audits. *Prerequisite:* ACCT 373. Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 474 Tax Issues for Business
Units: 2 Terms Offered: FaSp Capabilities to identify and articulate tax issues related to a business entity's life: formation, investing, financing and operations, and change of form. *Prerequisite:* ACCT 374. Duplicates Credit in former ACCT 451. Instruction Mode: Lecture Grading Option: Letter

ACCT 475 Systems Security and Audit
Units: 2 Terms Offered: FaSp Issues related to the security, control, and auditing of accounting information systems. *Prerequisite:* ACCT 371. Instruction Mode: Lecture Grading Option: Letter

ACCT 476 Performance Measurement Issues
Units: 2 Terms Offered: FaSp Introduction to understanding how management control systems can enhance achievement of the organization's objectives and strategies. *Prerequisite:* ACCT 410x or BUAD 281 or BUAD 305 Instruction Mode: Lecture Grading Option: Letter

ACCT 477 Intermediate Fair Value Issues in Accounting
Units: 2 Terms Offered: FaSp Develops the ability to identify and understand new areas of emerging guidance involving fair value issues and to recognize and demonstrate appropriate application of methodologies. *Prerequisite:* ACCT 377. Instruction Mode: Lecture Grading Option: Letter

ACCT 478 Accounting Systems Design
Units: 4 Terms Offered: FaSp Explores the design of accounting systems. Introduction to tools and techniques for analyzing and designing accounting systems with an emphasis on system controls and reporting. *Prerequisite:* ACCT 371. Instruction Mode: Lecture Grading Option: Letter

ACCT 479 Accounting Systems Development
Units: 4 Terms Offered: FaSp Examines the fundamentals of accounting systems development. Introduction to the concepts of implementation and support, with emphasis on system quality assurance, evaluation and attestation. *Prerequisite:* ACCT 478. Duplicates Credit in former ACCT 454. Instruction Mode: Lecture Grading Option: Letter

ACCT 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ACCT 493 Leventhal Honors Research Seminar
Units: 2 Terms Offered: Sp Provides the methodological tools to identify research problems, develop researchable hypotheses, apply appropriate methodologies, conduct research, derive meaningful conclusions from data, write a research proposal. Registration Restriction: Open only to Accounting and Business Majors Instruction Mode: Lecture Grading Option: Letter

ACCT 494 Marshall Honors Research and Thesis
Units: 2 Max Units: 04 Terms Offered: FaSpSm Experience in conducting research and writing a thesis under supervision of a

faculty adviser. *Prerequisite:* ACCT 493 or BUAD 493 Registration Restriction: Open only to Leventhal and Marshall Honors students Duplicates Credit in BUAD 494 Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 495 Accounting Internship: Work, Ethics and Communication
Units: 2 Terms Offered: Sp Provides insights and tools for the work environment specifically integrating technical, communication and ethical decision-making; bridging classroom learning and "real world" experience. *Recommended Preparation:* ACCT 370, BUAD 302 Registration Restriction: Open only to accounting majors Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 499 Special Topics
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in the field of accounting. Topics vary each semester. Instruction Mode: Lecture Grading Option: Letter

ACCT 509 Concepts of Financial and Management Accounting
Units: 4 Terms Offered: Fa Introduction to the concepts of financial and managerial accounting. The course will provide coverage of key concepts needed by managers of businesses in order to communicate information important in decision-making. Registration Restriction: Not open to business or accounting majors Duplicates Credit in ACCT 535, GSBA 510, GSBA 518 and GSBA 536 Instruction Mode: Lecture Grading Option: Letter

ACCT 525x Intensive Accounting Principles and Practices
Units: 15 Terms Offered: Sm Technical accounting theory and principles necessary for graduate work. Satisfies the prerequisite requirements for intermediate and advanced accounting, auditing, and tax. *Recommended Preparation:* introductory accounting courses. Instruction Mode: Lecture Grading Option: Letter

ACCT 526 Global Accounting Experience
Units: 1.5 Terms Offered: Sp Cross-border transactions in the global economy examining accounting, legal, and tax environments, economic and political systems, and cultural differences. Includes international travel to selected region. Instruction Mode: Lecture Grading Option: Letter

ACCT 527 Financial Statement Analysis - Audit Perspective
Units: 1.5 Terms Offered: Sm Analysis of corporate financial reports to evaluate the firm's past and present performance as well as to predict likely future performance from an auditor's perspective. *Prerequisite:* ACCT 541L Registration Restriction: Online registration open only to Master of Accounting students Duplicates Credit in ACCT 581 Instruction Mode: Lecture Grading Option: Letter

ACCT 528 Fair Value Accounting: GAAP, IFRS and Emerging Issues
Units: 1.5 Terms Offered: FaSp Case study approach to explore fair value issues in accounting; research and analysis of causes of valuation differences. Registration Restriction: Online registration open only to graduate business and accounting majors Instruction Mode: Lecture Grading Option: Letter

ACCT 529 Tax Data Analytics
Units: 3 Terms Offered: Fa Tax analytics from management's perspective; sources of accounting data, introduction to database and ERP tools; application of data and analytics to tax issues. *Corequisite:* ACCT 551T and ACCT 561T Registration Restriction: Open only to Master of Business Taxation students Instruction Mode: Lecture Grading Option: Letter

ACCT 530L Ethics for Professional Accountants
Units: 3 Terms Offered: FaSp Provides the ethical grounding that accountants need to identify ethical issues and reconcile conflicts among competing stakeholder interests. Registration Restriction: Open only to business and accounting students. Instruction Mode: Lecture, Lab Grading Option: Letter

ACCT 531T Taxation of Cross-Border Transactions Using Data Analytics
Units: 3 Terms Offered: Fa Introduction to income taxation of cross-border transactions, state/local and multinational tax rules; application of data and analytics tools to multijurisdictional tax issues. Registration Restriction: Open only to Master of Business Taxation students Instruction Mode: Lecture Grading Option: Letter

ACCT 532 Financial Accounting for Mergers and Acquisitions
Units: 1.5 Terms Offered: FaSp Practical problems in accounting for business combinations. Consolidated financial statements: fair value, acquisition and equity basis accounting. *Prerequisite:* GSBA 510 Duplicates Credit in former ACCT 582 Instruction Mode: Lecture Grading Option: Letter

ACCT 533 Mergers and Acquisitions: Tax Planning and Strategy
Units: 1.5 Terms Offered: FaSp Tax planning and strategy in corporate restructuring including mergers, acquisitions, and divestitures. Tax background not required to be successful in this course. *Prerequisite:* GSBA 510 Duplicates Credit in former ACCT 582 Instruction Mode: Lecture Grading Option: Letter

ACCT 535 Management and Cost Accounting
Units: 3 Terms Offered: FaSp Presentation of accounting data for management use in decision making; cost accounting, profit planning, decision analysis, systems for revenue and costs control, responsibility accounting. *Prerequisite:* ACCT 585 or GSBA 510. Registration Restriction: Open only to business and accounting students. Duplicates Credit in GSBA 518 and GSBA 536 . Instruction Mode: Lecture Grading Option: Letter

ACCT 536 Advanced Cost Analysis and Management Accounting
Units: 3 Terms Offered: Sm Analysis and design of systems that provide cost information useful in making strategic and operating decisions. Advantages and limitations of activity-based costing methods. *Prerequisite:* GSBA 518 or ACCT 535. Instruction Mode: Lecture Grading Option: Letter

ACCT 537 Performance Measurement, Evaluation, and Incentives
Units: 3 Terms Offered: Sp Financial responsibility centers, financial and nonfinancial performance measures, budgets and other targets, evaluation techniques and styles, incentives. Strategy implementation and execution. Corporate governance. Registration Restriction: Online registration limited to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

ACCT 540 Technological Innovations in Accounting and Auditing
Units: 3 Terms Offered: Sp New, emerging and potential technologies for accounting and audit, emphasizing data and analytics. Actual and potential effects of new technologies in accounting and auditing settings. Registration Restriction: Online registration open only to Master of Accounting (Data and Analytics) students Instruction Mode: Lecture Grading Option: Letter

ACCT 541L Auditing in the Enhanced Data Age
Units: 3 Terms Offered: Fa Framework of the audit model including use of large data sets with automated audit tools. A lab environment is an integral part of the course. *Corequisite:* ACCT 548 Registration Restriction: Online registration open only to Master of Accounting (Data and Analytics) students Instruction Mode: Lecture, Lab Required Grading Option: Letter

ACCT 542 Fraud Analytics in the Audit
Units: 1.5 Terms Offered: Sm Understanding/identifying fraud risk from an auditor's perspective; development of an analytics skillset to detect financial fraud risk. *Prerequisite:* ACCT 541L Registration Restriction: Online registration open only to Master of Accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 546 Auditing and Assurance Services
Units: 3 Terms Offered: FaSp Concepts and principles governing independent professional services that provide assurance on the reliability and relevance of information, including financial statement information. Topics include demand and supply issues for these services, basic principles of evidence, risk assessment and testing. *Recommended Preparation:* ACCT 525x. Instruction Mode: Lecture Grading Option: Letter

ACCT 547 Enterprise Information Systems
Units: 3 Terms Offered: Fa Focuses on accounting enterprise database models and information technology required to support those systems. Includes analysis and design of interfunctional process flows through reengineering to exploit technology capabilities. Instruction Mode: Lecture Grading Option: Letter

ACCT 548L IT Audit and Data Applications
Units: 3 Terms Offered: Fa Exploration of the role systems play in organizations, the technology that supports these systems and issues relating to technology risk, system/application security and system review/audit. *Corequisite:* ACCT 541L Registration Restriction: Online registration

open only to graduate accounting majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

ACCT 549 Advanced Enterprise Systems and Technologies
Units: 3 Terms Offered: Fa Design, control and development of advanced enterprise systems, using reengineering, focusing on accounting and financial systems, using a wide range of emerging existing technologies. Registration Restriction: Online registration open only to graduate accounting majors Instruction Mode: Lecture Grading Option: Letter

ACCT 550T Tax Research and Professional Responsibilities
Units: 3 Terms Offered: Fa Tax law research methods; interpreting statutes, cases and rulings; communicating research results; administration and professional responsibilities of tax practice. Registration Restriction: Online registration limited to graduate business taxation students Instruction Mode: Lecture Grading Option: Letter

ACCT 551T Taxation of Partnerships and S-Corps
Units: 3 Terms Offered: Fa Federal taxation of flow-through entities, including: partnerships, S corporations, limited liability partnerships (LLPs) and limited liability companies (LLCs). *Recommended Preparation:* ACCT 550T or ACCT 560T or LAW 600. Instruction Mode: Lecture Grading Option: Letter

ACCT 554T Research, Theory and Ethics in Taxation
Units: 3 Terms Offered: Fa Basic theories of tax law, application of research tools, interpretation of statutes, cases and rulings, within the context of the professional responsibilities of tax practice. Registration Restriction: Online registration open only to graduate business taxation students Duplicates Credit in ACCT 550T, ACCT 560T Instruction Mode: Lecture Grading Option: Letter

ACCT 557 Advanced Financial Statement Auditing Topics
Units: 3 Terms Offered: FaSp Advanced coverage of topics in financial statement auditing including market effects of auditing, auditor litigation and client acceptance, errors and fraud, analytical procedures, and going-concern assessment. *Prerequisite:* ACCT 525x. Instruction Mode: Lecture Grading Option: Letter

ACCT 558 Advanced Accounting Valuation
Units: 1.5 Terms Offered: Sp Explores complex valuation issues arising in financial reporting and the related professional standards and guidance. *Prerequisite:* ACCT 528. Instruction Mode: Lecture Grading Option: Letter

ACCT 559 Strategy and Operations Through CFO Lens
Units: 3 Terms Offered: FaSp Examination of strategic objectives and operations within specific industries and companies. Chief Financial Officers present how they view the business as a whole and measure performance effectively. Registration Restriction: Online registration limited to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 560T Tax Theory and Ethics
Units: 3 Terms Offered: FaSp Taxation and its relationship to business and investment decisions; the effects of taxation on business organization, capital structure, policies, operation, and expansion. *Recommended Preparation:* An introductory tax course Registration Restriction: Online registration limited to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 561T Income Tax of Corporations and Their Shareholders
Units: 3 Terms Offered: FaSp Concepts and principles governing the taxation of corporations and their shareholders; the effect of taxes on corporate formation, capital structure, distributions, and liquidations. *Recommended Preparation:* ACCT 550T or ACCT 560T or LAW 600. Instruction Mode: Lecture Grading Option: Letter

ACCT 562 Methods and Motivations of Financial Reporting Fraud
Units: 1.5 Terms Offered: FaSp Discover and analyze signals of major and frequently committed methods of fraudulent financial reporting; explore current reforms in financial reporting, auditing, and corporate governance. *Recommended Preparation:* ACCT 572 or other intermediate accounting course Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

ACCT 563T Federal Estate and Gift Taxes
Units: 3 Terms Offered: FaSpSm Taxation of decedents' estates and lifetime gifts; valuation of property subject to estate and gift taxes. *Prerequisite:* ACCT 550T Registration Restriction: Online registration open only to graduate accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 567T Taxation of Transactions in Property
Units: 3 Terms Offered: FaSm Taxation of gains and losses from sales, exchanges and other transactions involving property, especially real estate; tax planning. *Prerequisite:* ACCT 550T. Registration Restriction: Open only to graduate accounting majors. Instruction Mode: Lecture Grading Option: Letter

ACCT 568T International Taxation
Units: 3 Terms Offered: FaSpSm Taxation of cross-border transactions of U.S. citizens and corporations and of U.S. source income of foreign persons and corporations; planning for organization of international operations under the tax laws. *Prerequisite:* ACCT 561T Instruction Mode: Lecture Grading Option: Letter

ACCT 569T Advanced Partnership Taxation
Units: 3 Terms Offered: Sp Advanced tax concepts involving partnerships and limited liability companies, designed to produce a level of expertise in Subchapter K of the Internal Revenue Code. *Prerequisite:* ACCT 551T. Instruction Mode: Lecture Grading Option: Letter

ACCT 570T State and Local Tax Concepts
Units: 3 State income taxes; property tax; other state and local taxes; the effect of state and local taxes on multistate operations. *Prerequisite:* ACCT 550T *Recommended Preparation:* ACCT 561T or minimum one year of work in corporate taxation Registration Restriction: Online registration open only to graduate students in Business Taxation. Instruction Mode: Lecture Grading Option: Letter

ACCT 571T Taxation of Business Owners and High Net-Worth Individuals
Units: 3 Terms Offered: SpSm Application of tax law in areas of compensation planning, investment planning, tax shelters, and current developments relating to the individual taxpayer. *Prerequisite:* ACCT 550T Registration Restriction: Online registration open only to graduate accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 572 Corporate Accounting and Reporting
Units: 3 Terms Offered: FaSp A study of financial reporting and disclosure issues with an emphasis on the use of corporate financial statements and their accompanying footnotes. *Prerequisite:* GSBA 510. Instruction Mode: Lecture Grading Option: Letter

ACCT 573T Federal Tax Procedure
Units: 3 Terms Offered: SpSm Tax reporting and collection procedures; administrative and judicial procedures governing tax controversies; the rights and obligations of the taxpayer. *Prerequisite:* ACCT 550T; ACCT 560T or LAW 600. Instruction Mode: Lecture Grading Option: Letter

ACCT 574 Accounting and Corporate Governance in Global Business
Units: 3 Terms Offered: Sp How corporate governance and financial reporting systems are influenced by business environments internationally. Global perspective of governance and reporting challenges and mechanisms for their remedy. *Recommended Preparation:* GSBA 510 or other Financial Accounting course Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

ACCT 575T Taxation of Financial Markets
Units: 3 Terms Offered: Sm Taxation of financial market products with focus on derivative products. Basics of tax forwards, futures, options, swaps, collars and floor. Time value of money considerations. *Prerequisite:* ACCT 561T. Instruction Mode: Lecture Grading Option: Letter

ACCT 576T Tax Consolidations
Units: 3 Terms Offered: FaSp Concepts and principles of taxation of companies operating as consolidated groups. *Prerequisite:* ACCT 550T and ACCT 561T. Instruction Mode: Lecture Grading Option: Letter

ACCT 577T Compensation
Units: 3 Concepts of taxation of employers and employees from various forms of compensation, including pension plans, profit sharing plans, stock ownership plans, and deferred compensation arrangements. *Prerequisite:* ACCT 550T and ACCT 560T. Instruction Mode: Lecture Grading Option: Letter

ACCT 578T Advanced Corporate Taxation
Units: 3 Terms Offered: Sp Analysis of corporate divisions and reorganizations, carryovers, and other advanced topics in corporate taxation. *Prerequisite:* ACCT 561T. Instruction Mode: Lecture Grading Option: Letter

ACCT 579T Advanced International Taxation
Units: 3 Analysis of tax treaties, foreign currency transactions, international licensing, reorganization of foreign corporations, and other current topics as the law changes. *Prerequisite:* ACCT 568T. Instruction Mode: Lecture Grading Option: Letter

ACCT 580T Tax Accounting Methods
Units: 3 Terms Offered: FaSpSm Concepts governing timing of recognition of income and deductions for income tax purposes. Covers differences between GAAP and income tax accounting for all taxpayers. *Prerequisite:* ACCT 550T. Instruction Mode: Lecture Grading Option: Letter

ACCT 581 Financial Statement Analysis
Units: 3 Terms Offered: FaSpSm Analysis of corporate financial reports from a decision-maker's perspective. This course is case-and-applications-oriented. Applications include credit analysis, equity valuation, and financial distress. *Prerequisite:* GSBA 510 Registration Restriction: Online registration limited to graduate accounting and business students Duplicates Credit in ACCT 527 Instruction Mode: Lecture Grading Option: Letter

ACCT 583 Income Tax Accounting and Auditing
Units: 3 Terms Offered: FaSp Examination of FAS 109 and roles of auditors, tax professionals and corporate financial personnel in preparing, analyzing and reviewing accrual of income taxes. *Prerequisite:* ACCT 561T or ACCT 585. Registration Restriction: Open only to graduate majors. Instruction Mode: Lecture Grading Option: Letter

ACCT 584 Family Wealth Preservation
Units: 3 Terms Offered: Sp Analysis of transfer of property during lifetime or at death from a tax saving perspective. Registration Restriction: Online registration limited to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 585 Professional Responsibilities in Accounting
Units: 3 Terms Offered: SpSm A case study approach to the integration of accounting and auditing knowledge; research, communication, and interpersonal skills developed through extensive written and presentation requirements. *Recommended Preparation:* ACCT 572 Registration Restriction: Online registration limited to graduate accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 587 Forensic Accounting
Units: 1.5, 3 Terms Offered: FaSp Role of the accountant in litigation matters. Identification and exploration of the analytical and communication tools necessary to be an effective forensic accountant. *Prerequisite:* ACCT 572. Instruction Mode: Lecture Grading Option: Letter

ACCT 588 Analysis and Implications of SEC Registration and Reporting
Units: 3 Terms Offered: Sp Legal, institutional, and economic implications of being a U.S. public company. The Securities and Exchange Commission and its influence on investors, management, underwriters, and accountants. *Recommended Preparation:* ACCT 572. Instruction Mode: Lecture Grading Option: Letter

ACCT 590 Directed Research
Units: 1, 2, 3, 4 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the School of Accounting. Maximum units which may be applied to the degree to be determined by the school. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 592 Field Research in Accounting
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the business practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. *Recommended Preparation:* Completion of MAcc or MBT course work. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture, Guided Independent Study Grading Option: Credit/No Credit

ACCT 593 Independent Research in Accounting
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 595 Internship in Accounting
Units: .5, 1, 1.5, 2, 3 Max Units: 09 Supervised on-the-job business experience in the field of Accounting. (Curricular Practical Training). Application required. *Recommended Preparation:* Completion of required MAcc or MBT course work Registration Restriction: Open only to graduate accounting students Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 596 Research Practicum in Accounting
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Leventhal faculty member on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 597 Consulting Project in Accounting
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSp Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular New developments in contemporary accounting. Specific topics vary each semester. Registration Restriction: Online registration limited to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 601 Applied Econometrics and Research Design
Units: 1.5 Terms Offered: Sp Develop a strong intuition for the research design methodologies commonly used in archival accounting research. *Recommended Preparation:* Graduate level Econometrics class Registration Restriction: Open only to Accounting PhD students Instruction Mode: Lecture Grading Option: Letter

ACCT 602 Judgment and Decision-Making Research in Accounting
Units: 1.5 Terms Offered: Irregular Key psychological drivers of judgment and decision-making research in accounting, covering key research questions and frequently used methods. Departmental approval. Instruction Mode: Lecture Grading Option: Letter

ACCT 604 Management Accounting and Control Systems Research
Units: 1.5 Terms Offered: Irregular Theories underlying management accounting research. Types of research methods used including laboratory and field experiments, survey studies and archival methods. *Recommended Preparation:* Working knowledge of business and a completed accounting course Registration Restriction: Open only to PhD students in business and accounting Instruction Mode: Lecture Grading Option: Letter

ACCT 605 Survey of Financial Reporting Research
Units: 3 Terms Offered: Fa Survey of major topics and methods in research on financial reporting with coverage of both key research questions and frequently used methods. Registration Restriction: Open only to Business Administration doctoral students. Instruction Mode: Lecture Grading Option: Letter

ACCT 606 Tax Research in Accounting
Units: 1.5 Terms Offered: Irregular Introduction to tax research in accounting and how it fits within the larger bodies of research in accounting, finance and economics. *Recommended Preparation:* Graduate level exposure to economics, econometrics and empirical research in financial accounting Registration Restriction: Open only to PhD students in business and accounting Instruction Mode: Lecture Grading Option: Letter

ACCT 608 Positive Accounting Research
Units: 3 Survey of major topics related to positive accounting research with coverage of both key research questions and frequently used methods. Instruction Mode: Lecture Grading Option: Letter

ACCT 610 Survey of Accounting Research
Units: 3 Terms Offered: FaSp Advanced seminar that surveys both seminal and cutting edge research in financial accounting, managerial accounting, accounting information systems, and tax accounting. Instruction Mode: Lecture Grading Option: Letter

ACCT 611 Selected Topics in Accounting Research
Units: 1.5 Max Units: 6.0 Terms Offered: FaSp Advanced seminar to address issues/ topics covered in accounting research. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

ACCT 615 Financial Reporting Research
Units: 1.5 Terms Offered: Irregular Introduction to research in financial accounting; develop critical thinking skills for evaluating research; facilitate the generation of ideas for conducting original research. *Recommended Preparation:* Graduate level Econometrics course Registration Restriction: Open only to Accounting doctoral students Duplicates Credit in ACCT 605 Instruction Mode: Lecture Grading Option: Letter

ACCT 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Accounting. Presentations by faculty, visiting researchers, and advanced students. Registration Restriction: Open only to Marshall Ph.D. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 624 Capital Markets Research in Accounting
Units: 1.5 Terms Offered: Fa Introduction to foundational capital markets research, the limitations of foundational archival capital markets research. Provide students with basis for identifying new opportunities. *Recommended Preparation:* Basic knowledge of accounting, finance, economics and statistics Registration Restriction: Open only to PhD students in Business and Accounting Instruction Mode: Lecture Grading Option: Letter

ACCT 626 Advanced Capital Markets Research in Accounting
Units: 1.5 Terms Offered: Fa Examination of accomplishments and limitations of advanced capital markets research. How to critically evaluate advanced capital markets research and identify new opportunities. *Prerequisite:* ACCT 624 Registration Restriction: Open only to PhD students in business and accounting Instruction Mode: Lecture Grading Option: Letter

ACCT 630 Auditing and Archival Research
Units: 1.5 Terms Offered: Sp Survey of major topics and methods in archival auditing research, research design methodologies, use of STATA and statistical modeling. *Recommended Preparation:* Graduate level econometrics course. Registration Restriction: Open only to PhD students in Accounting. Instruction Mode: Lecture Grading Option: Letter

ACCT 641 Debt Contracting and Banking Research
Units: 1.5 Terms Offered: Irregular Framework for understanding and evaluating empirical research in debt contracting and banking. Registration Restriction: Open only to Accounting doctoral students Instruction Mode: Lecture Grading Option: Letter

ACCT 642 Research on Disclosure and Information Intermediaries
Units: 1.5 Terms Offered: Irregular Framework for understanding and evaluating empirical research in disclosure and information intermediaries. Focus on methodology and research design as well as underlying economic questions. Registration Restriction: Open only to Accounting doctoral students Instruction Mode: Lecture Grading Option: Letter

ACCT 643 Evaluating Earnings Quality
Units: 1.5 Max Units: 03 Terms Offered: Fa Examination of multiple approaches researchers use to define earnings quality with a focus on investors as the primary users of financial statements. Registration Restriction: Open only to Marshall and Leventhal PhD students Instruction Mode: Lecture Grading Option: Letter

ACCT 661a Accounting Research Methodology
Units: 2 Advanced doctoral seminar concerned with review and critique of accounting research forum papers and with the preparation, presentation, and defense of research proposals and papers. Instruction Mode: Lecture Grading Option: Letter

ACCT 661b Accounting Research Methodology
Units: 2 Advanced doctoral seminar concerned with review and critique of accounting research forum papers and with the preparation, presentation, and defense of research proposals and papers. Instruction Mode: Lecture Grading Option: Letter

ACCT 699 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary accounting. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

Academic Medicine

ACMD 501 Introduction to Academic Medicine Worldwide
Units: 3 Introduces the master's program; includes historical development of training in the health professions; current issues, challenges and opportunities in academic medicine and health worldwide. Instruction Mode: Lecture Grading Option: Letter

ACMD 502 Becoming a Leader in Academic Medicine Worldwide
Units: 3 Current approaches to leadership within the context of global academic medicine and health professions education; individual applications, group dynamics, teamwork, and interpersonal skill enhancement. Instruction Mode: Lecture Grading Option: Letter

ACMD 503 Leading Change in Academic Medical Centers
Units: 3 Exploration and practice of skills for promoting programs within academic medicine and health professions' education; building trust, organizational change, conflict resolution, negotiation, and managing resources. Instruction Mode: Lecture Grading Option: Letter

ACMD 511 Competencies in Academic Medicine and Health I
Units: 3 Acquisition of cognitive knowledge and problem-solving skills in health professions worldwide; instructional methods, assessment techniques, designing curricula for health professions education. Instruction Mode: Lecture Grading Option: Letter

ACMD 512 Competencies in Academic Medicine and Health II
Units: 3 Learning theory, teaching methods, assessment techniques related to acquisition and reinforcement of competencies related to patient care, practice based learning and improvement and systems-based practice. Instruction Mode: Lecture Grading Option: Letter

ACMD 513 Professionalism in Academic Medicine and Health
Units: 3 Acquisition and evaluation of interpersonal and communication skills and professionalism including ethics and cultural competence; within the context of health care disparities and health initiatives. Instruction Mode: Lecture Grading Option: Letter

ACMD 514 Accreditation and Program Evaluation in Academic Medicine
Units: 3 Evaluating health professions training programs within guidelines of relevant accreditation organizations; models of evaluation, designing plans and tools for evaluation of program elements. Instruction Mode: Lecture Grading Option: Letter

ACMD 591 Designing Research on Innovations in Academic Medicine
Units: 2 Introduction to design and scholarly review of innovations in health professions education; needs assessment, problem selection, use of research methods to study an innovation. Instruction Mode: Lecture Grading Option: Letter

ACMD 592 Implementing Research on Innovation in Academic Medicine
Units: 2 Mentored research on an innovation in academic medicine leading to the master's degree. The project will result in a formal written research report. *Prerequisite:* ACMD 591. Instruction Mode: Lecture Grading Option: Letter

ACMD 593 Foundations of Academic Writing
Units: 1 Academic writing for conference papers, grant proposals and journal articles. *Recommended Preparation:* A completed study of an innovation in academic medicine or other health-related field that is ready to move to publication. Instruction Mode: Lecture Grading Option: Letter

ACMD 598 Fieldwork: Designing Innovations for the Health Professions
Units: 1, 2, 3 Max Units: 3.0 Individual projects designing curricular or other innovations for the home program as an application of Year 1 concepts and as part of the capstone experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACMD 604 Supporting the Educational Enterprise in Academic Medicine
Units: 3 Explores support functions in academic medical centers and health professions schools; financial, scientific, educational, faculty and student affairs departments, and offices of medical education. Instruction Mode: Lecture Grading Option: Letter

ACMD 605 Faculty Development for Health Sciences Faculty Educators
Units: 2 Role of faculty development programs in health professions schools; tools for delivering effective continuing

education and faculty development; models for mentoring clinical faculty. Instruction Mode: Lecture Grading Option: Letter

ACMD 615 Maintenance of Competence in the Health Professions
Units: 2 Maintenance of competence and continuing professional development (CPD) of physicians and other health care professionals; trends, needs, strategies, assessing outcomes, examining effectiveness of CPD programs. Instruction Mode: Lecture Grading Option: Letter

ACMD 621 Capstone Portfolio for the Master of Academic Medicine
Units: 1 Role of portfolios for teachers and learners; develop a personal capstone portfolio that represents each learner's accomplishment of the core competencies of the MACM program. Instruction Mode: Lecture Grading Option: Credit/No Credit

Advanced Dental Education Conjoint Program

ADNT 701 Research Methodologies in Dentistry
Units: 2 Critical evaluation of the scientific principles in the development, execution, and interpretation of methodologies used in dentistry. Instruction Mode: Lecture Grading Option: Letter

ADNT 702 Physical Diagnosis
Units: 2 Didactic and clinical experience in physical diagnosis relevant to practice of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703a Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703b Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703c Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703d Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703e Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703f Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 703h Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 703i Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 703j Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 704a Oral Biology
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each Interdisciplinary consideration of contemporary biology of the cell, bone, teeth, periodontium, occlusion, dental pulp, pain and human growth and development. Instruction Mode: Lecture Grading Option: Letter

ADNT 704b Oral Biology
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each Interdisciplinary consideration of contemporary biology of the cell, bone, teeth, periodontium, occlusion, dental pulp, pain and human growth and development. Instruction Mode: Lecture Grading Option: Letter

ADNT 704c Oral Biology
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each Interdisciplinary consideration of contemporary biology of the cell, bone, teeth, periodontium, occlusion, dental pulp, pain and human growth and development. Instruction Mode: Lecture Grading Option: Letter

ADNT 706 Seminar: Diseases of Childhood
Units: 2 Intraoral hard and soft tissue pathologic conditions in children, common bacterial and viral diseases and their transmission in the pediatric dental environment. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 707 Behavior of the Child Patient
Units: 2 Child and adolescent psychological growth and development: Human communication, needs, motivation, and learning. Critical analysis of patient management, team treatment, and practice administration. Instruction Mode: Lecture Grading Option: Letter

ADNT 710 Internship: Dental Education
Units: 1, 2, 3, 4, 5 Practical experience teaching predoctoral students. Units and hours variable. Instruction Mode: Lecture Grading Option: Letter

Aerospace Studies

AEST 100a Aerospace Studies I: Air Force Mission and Organization
Units: 1 Terms Offered: FaSp Introduction to U.S. Air Force and the military profession; USAF organization and functions; Strategic Air Command organization, command, control, and weapons systems; communication skills. Instruction Mode: Lecture Grading Option: Letter

AEST 100b Aerospace Studies I: Air Force Mission and Organization
Units: 1 Terms Offered: FaSp Organization and function of NORAD; tactical air, military airlift, systems, logistics, air training and communications commands; Army, Navy, Marines; reserves; separate operating agencies. Instruction Mode: Lecture Grading Option: Letter

AEST 110a Leadership Laboratory I
Units: 1 Terms Offered: FaSp Introduction to the military experience focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 110b Leadership Laboratory I
Units: 1 Terms Offered: FaSp Introduction to the military experience focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 200a Aerospace Studies II: Air Force History
Units: 1 Terms Offered: FaSp Development of aerospace power in the U.S. through World War II; emphasis on the Army Air Corps; communication skills. Instruction Mode: Lecture Grading Option: Letter

AEST 200b Aerospace Studies II: Air Force History
Units: 1 Terms Offered: FaSp Development of aerospace power since World War II; emphasis on international confrontations involving the United States; communication skills. Instruction Mode: Lecture Grading Option: Letter

AEST 210a Leadership Laboratory II
Units: 1 Terms Offered: FaSp Introduction to the military experience focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 210b Leadership Laboratory II
Units: 1 Terms Offered: FaSp Introduction to the military experience focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 220a Advanced Leadership Laboratory II
Units: 1 Terms Offered: FaSp Additional exposure to the military experience for continuing AFROTC cadets, focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 220b Advanced Leadership Laboratory II
Units: 1 Terms Offered: FaSp Additional exposure to the military experience for continuing AFROTC cadets, focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 300a Aerospace Studies III: Air Force Management and Leadership
Units: 3 Terms Offered: FaSp Air Force management focusing on the new manager in the Air Force milieu. Emphasis on communication skills peculiar to the Air Force. Instruction Mode: Lecture Grading Option: Letter

AEST 300b Aerospace Studies III: Air Force Management and Leadership
Units: 3 Terms Offered: FaSp Air Force management focusing on the new manager

in the Air Force milieu. Emphasis on communication skills peculiar to the Air Force. Instruction Mode: Lecture Grading Option: Letter

AEST 310a Leadership Laboratory III
Units: 1 Terms Offered: FaSp Practical introduction to Air Force leadership focusing on military communicative skills, group dynamics, and application of theories of leadership and management. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 310b Leadership Laboratory III
Units: 1 Terms Offered: FaSp Practical introduction to Air Force leadership focusing on military communicative skills, group dynamics, and application of theories of leadership and management. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 400a Aerospace Studies IV: National Security Forces in Contemporary American Society
Units: 3 Terms Offered: FaSp Military professionalism and the context in which defense policy is formulated and implemented; national security policy, political/social constraints, and military justice. Instruction Mode: Lecture Grading Option: Letter

AEST 400b Aerospace Studies IV: National Security Forces in Contemporary American Society
Units: 3 Terms Offered: FaSp Military professionalism and the context in which defense policy is formulated and implemented; national security policy, political/social constraints, and military justice. Instruction Mode: Lecture Grading Option: Letter

AEST 410a Leadership Laboratory IV
Units: 1 Terms Offered: FaSp Advanced Air Force leadership experience focusing on the practical development of the Air Force officer through command and staff positions within the Cadet Corps. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 410b Leadership Laboratory IV
Units: 1 Terms Offered: FaSp Advanced Air Force leadership experience focusing on the practical development of the Air Force officer through command and staff positions within the Cadet Corps. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 420a Leadership Laboratory V
Units: 1 Terms Offered: FaSp Advanced leadership experiences for AFROTC continuing cadets. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 420b Leadership Laboratory V
Units: 1 Terms Offered: FaSp Advanced leadership experiences for AFROTC continuing cadets. Instruction Mode: Lecture Grading Option: Credit/No Credit

Art History

AHIS 100g Introduction to Visual Culture
Units: 4 Terms Offered: Sp The description and analysis of various forms of visual culture, including both mass media and "high" art representations, both Western and non-Western images. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 120gp Foundations of Western Art: Prehistoric to Renaissance
Units: 4 Terms Offered: Fa Mediterranean and European art and architecture presented in historical, cultural and social context that introduces art history as a discipline. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 121gp Foundations of Western Art: Renaissance to Contemporary
Units: 4 Terms Offered: FaSpSm European art and its legacy in the Americas. Painting, sculpture, architecture and other visual media considered in relation to social and cultural history. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 125gp Arts of Asia I: Antiquity to 1300
Units: 4 Terms Offered: Fa An introduction to the major art forms and monuments of religious art in India, Southeast Asia, China, and Japan from pre-history to 1300. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 126g Arts of Asia II: 1300 to the Present
Units: 4 Terms Offered: Sp A survey of the art and architecture of India, China, Korea, and Japan from 1300 to the present. Satisfies New General Education in Category A: The Arts Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 127g Arts of the Ancient Americas
Units: 4 Terms Offered: Fa A survey of the art, architecture, and archaeology of the diverse array of peoples and cultures in ancient Mesoamerica and the South American Andean Mountains. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

AHIS 128gp Arts of Latin America
Units: 4 Terms Offered: Sp Survey of the art, architecture, and visual culture of Latin America from the colonial period to the present, focusing on connections to culture and society. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 130 A History of Modern Design
Units: 4 Terms Offered: FaSp Introduction to the history of modern design in the United States and Europe, with reference to design traditions elsewhere around the globe. Instruction Mode: Lecture Grading Option: Letter

AHIS 201g Digging into the Past
Units: 4 Terms Offered: Sp A broad survey, covering some 8,000 years and focusing on the material culture of the ancient world in a historical and social context. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 215g Studies in Architecture and Urbanism
Units: 4 Terms Offered: FaSpSm Analyzing a wide range of case studies, this course provides a roadmap to analyze and interpret the built environment in many different eras and contexts. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

AHIS 220g Medieval Visual Culture
Units: 4 Terms Offered: Fa Medieval visual culture as an introduction to the Christian heritage of western civilization and to the interaction of Church and state from the 3rd to the 13th century. Satisfies New General Education in Category A: The Arts Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

AHIS 230 Art and Culture in Early Modern Europe
Units: 4 Survey of European art from the 15th to the 17th century. Case studies in Renaissance and Baroque art with emphasis on artists in major urban centers. Instruction Mode: Lecture Grading Option: Letter

AHIS 240g Introduction to American Art
Units: 4 Terms Offered: FaSp An Introduction to North American visual and material culture from the late sixteenth century to the present. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 250gm Art, Modernity and Difference
Units: 4 Terms Offered: Fa Consideration of various categories of "The Modern" as they have been constructed in Western art of the late 19th and 20th centuries. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

AHIS 255g Culture Wars: Art and Social Conflict in the Modern World
Units: 4 Terms Offered: FaSp Examination of social conflicts and political controversies in American culture through the lens of visual art and photography. Satisfies New General Education in Category A: The Arts Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 270 L.A. Now: Contemporary Art in Los Angeles
Units: 4 Explores the production, display

and critical reception of contemporary art, taking Los Angeles as its laboratory. Instruction Mode: Lecture Grading Option: Letter

AHIS 282 Korean Art
Units: 4 Introduction to the richness and complexity of artistic expression in Korean art through the study of painting, sculpture, ceramics, and architecture through the 19th century. Instruction Mode: Lecture Grading Option: Letter

AHIS 301 Guardians of the Past? Art Preservation, Ethics, and the Law
Units: 4 Terms Offered: FaSp Introduction to key ethical, historical, and legal debates about art preservation and collecting across the globe. Instruction Mode: Lecture Grading Option: Letter

AHIS 304gm Art, Power and Identity in Renaissance Italy
Units: 4 Explores the visual, material and performative aspects of Italian culture in the expression of power and the construction of identity in the Renaissance. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

AHIS 318 Arts of the Ancient Andes
Units: 4 Survey of the art and architecture of the ancient cultures of the Andes in South America. Instruction Mode: Lecture Grading Option: Letter

AHIS 319 Mesoamerican Art and Culture
Units: 4 Introductory survey of painting, sculpture, and architecture of Mesoamerica before the Spanish conquest presented in their social, cultural, and political contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ETST-319

AHIS 320 Aegean Archaeology
(Enroll in CLAS 323)

AHIS 321 Greek Art and Archaeology
Units: 4 Terms Offered: Fa Survey of artistic works and monuments of ancient Greece from the Geometric through the Hellenistic period (c. 1000 - 30 BCE.). Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS 321, ARCG 321

AHIS 322 Roman Art and Archaeology
Units: 4 Terms Offered: Sp Survey of the art and architecture of ancient Rome and its empire, from the beginnings of the city through Constantine (8th century BCE to 4th century CE). Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS 322, ARCG 322

AHIS 324 Late Antique Art and Archaeology
Units: 4 (Enroll in CLAS 324)

AHIS 325 Roman Archaeological Excavation: Methods and Practice
Units: 4 Terms Offered: SpSm Students learn about archaeological methodology and practice by visiting archaeological sites in Rome and excavating a nearby ancient site. Instruction Mode: Lecture Grading Option: Letter

AHIS 326 Archaeology of Religion in the Greco-Roman World
Units: 4 (Enroll in CLAS 328)

AHIS 328 Colonial Latin American Art
Units: 4 Terms Offered: FaSpSm A survey of the art, architecture, and visual culture of colonial Latin America, focusing on connections to culture and society. Instruction Mode: Lecture Grading Option: Letter

AHIS 330 Medieval Art
Units: 4 Introductory survey of art and architecture of Christianity from 300–1300; biblical themes and classical traditions; cultural and historical analysis of medieval art. Instruction Mode: Lecture Grading Option: Letter

AHIS 336 Bodies of Knowledge: Art and Anatomy in Renaissance Europe
Units: 4 Terms Offered: FaSp Explores anatomical knowledge and art making in Renaissance Europe, focusing on collaborations between medical professions, printers and artists in illustrated anatomy books. *Recommended Preparation:* AHIS 120 Instruction Mode: Lecture Grading Option: Letter

AHIS 342 Northern Renaissance Art
Units: 4 Terms Offered: FaSpSm Introduction to the visual culture of northern Europe from about 1400 to 1600, with an emphasis on painting, sculpture and print-making. Instruction Mode: Lecture Grading Option: Letter

AHIS 343 Renaissance Art
Units: 4 Painting, sculpture and architecture in Renaissance Europe, north and south, from 1300–1600. *Recommended Preparation:* AHIS 120 or AHIS 121. Duplicates Credit in former AHIS 340 and AHIS 342. Instruction Mode: Lecture Grading Option: Letter

AHIS 344 Baroque Art
Units: 4 Painting, sculpture and architecture in 17th century Europe, north and south. Duplicates Credit in former AHIS 353 and AHIS 356. Instruction Mode: Lecture Grading Option: Letter

AHIS 345 Northern Baroque Art
Units: 4 Terms Offered: FaSpSm Explores how iconoclasm shaped artistic production in the sixteenth and seventeenth centuries in the Netherlands. Instruction Mode: Lecture Grading Option: Letter

AHIS 346 Art Across Cultures
Units: 4 Terms Offered: FaSp Visual materials and artifacts and how they participated in the experience of encounter, exchange, interpretation and representation among different and often distant cultures. Instruction Mode: Lecture Grading Option: Letter

AHIS 357 History of French Art 1860–1920
Units: 4 Terms Offered: Sp (Paris Semester only) Exploration of the main movements of late 19th and early 20th century French art using the resources of Parisian museums and monuments. Visits to Paris museums are an integral part of the course work. *Recommended Preparation:* familiarity with modern European history. Instruction Mode: Lecture Grading Option: Letter

AHIS 361 British Modernism, 1780-1918
Units: 4 A survey of art and architecture in Britain from the age of Hogarth to Art Nouveau. Among the artists studied are Constable, Turner, and the Pre-Raphaelites. Duplicates Credit in the former AHIS 461 Instruction Mode: Lecture Grading Option: Letter

AHIS 363m Contemporary Art and the Culture Wars
Units: 4 Focuses on issues of race, gender, and sexuality in American art of the last three decades. *Recommended Preparation:* AHIS 121gp Instruction Mode: Lecture Grading Option: Letter

AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present
Units: 4 Diverse interpretations of "the California experience and lifestyle" in paintings, sculpture, photography, cinema, public art and popular culture of the last 150 years. Instruction Mode: Lecture Grading Option: Letter

AHIS 365m African American Art
Units: 4 A survey of the fine arts produced by people of African descent in the United States from the nation's inception in the late 18th century until the contemporary movement. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-364

AHIS 366g Picturing Democracy: American Art and Visual Culture, 1750-1900
Units: 4 Terms Offered: FaSp Studies the art and visual culture of the United States from nation formation to the World's Columbian Exposition of 1893. *Recommended Preparation:* any 100-level Art History course Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

AHIS 367g Early American Modernism: American Art and Visual Culture, 1876-1939
Units: 4 Terms Offered: FaSp Studies the art and visual culture of the United States between 1876, the date of the Centennial Fair in Philadelphia, to the eve of World War II. *Recommended Preparation:* any 100-level art history course Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 368 Modern Art I: 1700–1850
Units: 4 A cultural and historical examination of European art and architecture from 1700 (Rococo) to 1850 (Realism), focusing on the beginnings of modernism in the age of revolution. Duplicates Credit in former AHIS 360. Instruction Mode: Lecture Grading Option: Letter

AHIS 369 Modern Art II: 1851–1940
Units: 4 An examination of European modern art and design, focusing on industrialization, urbanism, primitivism, colonialism, and their relations to the arts. Instruction Mode: Lecture Grading Option: Letter

AHIS 370g Modern Art III: 1940 to the Present
Units: 4 Terms Offered: Sp Questions of social engagement and political structure address this examination of major international movements in art since 1940. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

AHIS 373g History and Theory of Photography
Units: 4 Terms Offered: Irregular Explores key moments in the history of photography from its invention to the present. Issues include modernity and mass culture;

photography as a fine art; technologies of vision. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 376 Introduction to African Art
Units: 4 An introduction to sub-Saharan art (sculpture, textiles, architecture, masquerades, performances and body arts) in the context of issues of function, gender, politics and ethnic diversity. Instruction Mode: Lecture Grading Option: Letter

AHIS 378 Modern Russian Art
Units: 4 (Enroll in SLL 378)

AHIS 381g Visual Cultures of Asia
Units: 4 Terms Offered: FaSp Exploration of one or more major traditions of visual culture in Asia through cross-cultural, interdisciplinary perspectives. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC 381

AHIS 382 Art and Cultural Heritage in East Asia
Units: 4 Terms Offered: FaSpSm (Enroll in EALC 382)

AHIS 384 Early Chinese Art
Units: 4 A survey of Chinese architecture, ceremonial bronzes, sculpture, ceramics and painting from antiquity through the T'ang Dynasty. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-384

AHIS 385 Later Chinese Art
Units: 4 A survey of Chinese painting from 900 to the present, emphasizing the role of painting within the context of Chinese intellectual history. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-383

AHIS 386 Early Japanese Art
Units: 4 A survey of Japanese Buddhist and secular architecture, sculpture and painting from antiquity to 1333, stressing the relation of art to cultural context. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-387

AHIS 387 Later Japanese Art
Units: 4 A survey of Japanese architecture, garden design, ceramics, and painting from 1333 to the present, stressing the role of art within cultural context. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-388

AHIS 390 Special Problems
Units: 1 Max Units: 4.0 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

AHIS 400x Undergraduate Apprenticeship
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Independent work in art museums, galleries or art history related institutes supervised by on-site professionals and USC faculty. Not available for credit to art history majors. Available to upper-division art history majors only. Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 415 Object-Worlds: Histories and Theories of Things
Units: 4 Developing strategies for analyzing what material culture of the past can tell us about the individuals and cultures that interacted with it. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS 415, ARCG 415

AHIS 420 Studies in Ancient Art
Units: 4 Max Units: 16.0 Terms Offered: Irregular In-depth exploration of specified topics within the area of Ancient art and architecture. Instruction Mode: Lecture Grading Option: Letter

AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology
Units: 4 Max Units: 8.0 Terms Offered: Irregular Each year a different topic in Greek and Roman art and archaeology will be examined in depth. Emphasis on interdisciplinary methodological approaches and research techniques. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS-425

AHIS 427 Archaeological Theories, Methods, and Practice
Units: 4 Terms Offered: FaSp Examined are various theoretical approaches, methods, and practice of archaeology in a seminar style format, with lectures, oral presentations, and museum visits. Instruction Mode: Lecture Grading Option: Letter

AHIS 428 Studies in Colonial Latin American Art
Units: 4 Terms Offered: FaSpSm In-depth exploration of specified topics within colonial Latin American art. Instruction Mode: Lecture Grading Option: Letter

AHIS 429 Studies in Art, Science, and Technology
Units: 4 Terms Offered: FaSpSm Examination of the connections between art, science, and technology, focusing on a specific time period and/or set of questions. Instruction Mode: Lecture Grading Option: Letter

AHIS 430 Studies in Renaissance Art
Units: 4 In-depth exploration of specified topics within the area of Renaissance art and architecture. *Recommended Preparation:* AHIS 230 or AHIS 330. Duplicates Credit in former AHIS 444 and AHIS 446. Instruction Mode: Lecture Grading Option: Letter

AHIS 433 Studies in Medieval Art
Units: 4 Max Units: 16.0 In-depth exploration of specified topics within the area of Medieval art and architecture. Instruction Mode: Lecture Grading Option: Letter

AHIS 436 The Philosophy of Art
Units: 4 Terms Offered: FaSp Discusses writings on aesthetics, the history of aesthetics and art criticism, the philosophy of art, and modern philosophical notions such as genius and originality. Instruction Mode: Lecture Grading Option: Letter

AHIS 449 History of Prints and Drawings
Units: 4 Terms Offered: Irregular Aspects of the history of the graphic arts; stylistic and technical considerations may both be included or specific areas stressed at the choice of the instructor. Instruction Mode: Lecture Grading Option: Letter

AHIS 453 Studies in Baroque Art
Units: 4 Max Units: 16.0 In-depth exploration of specified topics within the area of 17th century art and architecture. *Recommended Preparation:* AHIS 230 or AHIS 344. Instruction Mode: Lecture Grading Option: Letter

AHIS 460 Studies in 18th and 19th Century Art
Units: 4 Max Units: 8.0 In-depth exploration of specified topics within the area of 18th and 19th century art and architecture. Instruction Mode: Lecture Grading Option: Letter

AHIS 465 Studies in American Art
Units: 4 Max Units: 8.0 In-depth exploration of a specified topic in the history of American art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-465

AHIS 466 Studies in the Decorative Arts and Design
Units: 4 Exploration of a specified topic in the history of the decorative arts and design in Europe and America. Instruction Mode: Lecture Grading Option: Letter

AHIS 467 19th Century French Art
Units: 4 Terms Offered: FaSp Exploration of the main movements in 19th century French art, using the city of Paris and its museums. Field trips in conjunction with classwork. Instruction Mode: Lecture Grading Option: Letter

AHIS 468 Studies in Modern Art
Units: 4 Max Units: 8.0 Terms Offered: Irregular In-depth exploration of a specified topic in art of the late 19th and/or early 20th centuries. Instruction Mode: Lecture Grading Option: Letter

AHIS 469 Critical Approaches to Photography
Units: 4 Terms Offered: Irregular Selected problems in the history, theory and criticism of photography; recent scholarship considered in relationship to specific photographers and photographic images. Instruction Mode: Lecture Grading Option: Letter

AHIS 470 Studies in Contemporary Art
Units: 4 In-depth exploration of specified topics within the area of contemporary art and architecture. Instruction Mode: Lecture Grading Option: Letter

AHIS 475m Blackness in American Visual Culture
Units: 4 A historical overview of how people of African - descent have been represented visually in American culture. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-475

AHIS 476 The Art of Walt Disney
Units: 4 Terms Offered: FaSp The trajectory of Walt Disney's career, artistic influences and his artistic reception within a broad range of institutional contexts, including museums. Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 477 Studies in Visual and Material Culture
Units: 4 Max Units: 16.0 In-depth exploration of selected topics in visual and material culture. Instruction Mode: Lecture Grading Option: Letter

AHIS 479 History in the Museum: The Past in Objects
Units: 4 (Enroll in HIST 479)

AHIS 481 Studies in Japanese Art
Units: 4 Max Units: 16.0 In-depth exploration of specified topics within the

area of Japanese art and architecture. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-481

AHIS 482 Japanese Photography
Units: 4 Terms Offered: FaSp Surveys the evolution of Japanese photography from 1850 to 21st century and examines how photography has helped define Japan's national and cultural identity. *Recommended Preparation:* AHIS 125gp Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC 482

AHIS 484 Studies in Chinese Art
Units: 4 Max Units: 16.0 In-depth exploration of specified topics within the area of Chinese art and architecture. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-484

AHIS 485 Material Culture of the Silk Road
Units: 4 Terms Offered: FaSpSm (Enroll in EALC 485)

AHIS 486 Introduction to Museums: Past, Present, and Future
Units: 4 Terms Offered: Sp Comprehensive exploration of the role of art museums in society. Inquiry into the present and future potential of museums as a complex force in society. Instruction Mode: Lecture Grading Option: Letter

AHIS 488 Topics in Art Conservation
Units: 4 Terms Offered: FaSp Introduction to heritage conservation, an interdisciplinary field devoted to preserving material objects and structures that are deemed to hold cultural significance. Instruction Mode: Lecture Grading Option: Letter

AHIS 489 History of the Book
Units: 4 Terms Offered: FaSp Introduction to the history of the book; books as material objects and practices of reading, collecting and storing. Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

AHIS 492 Museum Educator Training
Units: 2 Terms Offered: FaSp Experiential research conducted at the Getty Center museum; supervised development of docent skills. Instruction Mode: Lecture Grading Option: Letter

AHIS 494 Undergraduate Proseminar in Art History
Units: 4 Terms Offered: FaSp Historiography and methodology: introduction to techniques of research and writing. Required of all art history majors, preferably in the junior year. Instruction Mode: Lecture Grading Option: Letter

AHIS 495a Undergraduate Honors Thesis
Units: 2 Terms Offered: FaSp Research and writing of original thesis under guidance of faculty member. Departmental approval. Instruction Mode: Lecture Grading Option: Letter

AHIS 495b Undergraduate Honors Thesis
Units: 2 Terms Offered: FaSp Research and writing of original thesis under guidance of faculty member. Departmental approval. Instruction Mode: Lecture Grading Option: Letter

AHIS 496 Paintings in the Prado Museum
Units: 4 Terms Offered: Irregular (Madrid Center only) From Romanticism through Goya in relation to European and Mediterranean antecedents using paintings in the Prado Museum. Field trips in conjunction with classwork. Instruction Mode: Lecture Grading Option: Letter

AHIS 497 Senior Seminar in Early Modern Studies
Units: 4 Terms Offered: Sp (Enroll in ENGL 497)

AHIS 498 The Gods and Goddesses of the Renaissance
Units: 4 Terms Offered: FaSp Renaissance visual and material culture and the visual representation of Ancient mythology, recovery and reception of ancient art, and collecting practices. Instruction Mode: Lecture Grading Option: Letter

AHIS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Comprehensive exploration of particular aspects of the history of art. Instruction Mode: Lecture Grading Option: Letter

AHIS 500 Methods and Theory of Art History
Units: 4 Terms Offered: Fa Methodologies, theories and critical traditions that have shaped the discipline. Emphasis will vary depending on faculty. Required of all first-year MA and PhD candidates. Instruction Mode: Lecture Grading Option: Letter

AHIS 501 Problems in the History and Theory of Collecting and Display
Units: 4 Explores the history of patronage, collecting and display in the private and the public spheres (e.g., salons, galleries, museums, and international expositions). Instruction Mode: Lecture Grading Option: Letter

AHIS 502 Markets, Value and the Institutions of Art
Units: 4 Intensive examination of economic, societal, and aesthetic frameworks in which art was sold, bought, exhibited and reviewed. Explores how perceptions of art and value were shaped. Instruction Mode: Lecture Grading Option: Letter

AHIS 503 Categories and Collections
Units: 4 How collections are organized by category — e.g., period, culture, materials, or mode of production. Examines collecting protocols, historiography and modes of collecting and viewing associated with that category. Instruction Mode: Lecture Grading Option: Letter

AHIS 504 Museum Research Assistantship
Units: 1 Terms Offered: FaSp Working within an institution with a collection and reflecting, in class meetings, upon how collections are formed, shaped and used. Instruction Mode: Lecture Grading Option: Letter

AHIS 505 Seminar in Feminist Theory and Visual Culture
Units: 4 Recent feminist scholarship in art history, cultural studies, film theory. Feminist theory in relation to art from the late 19th and 20th centuries. Occasional film screenings. Instruction Mode: Lecture Grading Option: Letter

AHIS 509 Seminar in Arts of the Ancient Americas
Units: 4 Max Units: 16.0 In-depth exploration of a specified topic in the arts of the ancient Americas, which includes North, Central, and South America. Instruction Mode: Lecture Grading Option: Letter

AHIS 510 Seminar in Ancient Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 511 Seminar in Medieval Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 512 Seminar in Renaissance Art
Units: 4 Max Units: 16.0 *Recommended Preparation:* relevant languages. Instruction Mode: Lecture Grading Option: Letter

AHIS 513 Seminar in Baroque Art
Units: 4 Max Units: 0.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 514 Seminar in 18th and 19th Century European Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 515 Seminar in Contemporary Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 516 Seminar in the History of Photography and Visual Culture
Units: 4 Terms Offered: FaSpSm Explores the history of photography with emphasis on the way the medium has been used as a form of communication and knowledge transmission. Registration Restriction: Open only to seniors and graduate students Instruction Mode: Lecture Grading Option: Letter

AHIS 517 Seminar in Korean Art
Units: 4 Max Units: 8.0 In-depth exploration of a specified topic in the history of Korean art. Instruction Mode: Lecture Grading Option: Letter

AHIS 518 Seminar in Chinese Art
Units: 4 Max Units: 0.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 519 Seminar in Japanese Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 520 Seminar in Modern Art
Units: 4 Max Units: 16.0 In-depth exploration of a specified topic within the area of European art of the late 19th and early 20th centuries. Instruction Mode: Lecture Grading Option: Letter

AHIS 521 Seminar in Modern German Art
Units: 4 Max Units: 8.0 In-depth exploration of a specific topic in modern German art of the 19th and early 20th centuries. Instruction Mode: Lecture Grading Option: Letter

AHIS 522 Writing (and) the History of Art
Units: 4 Examination of how various forms of writing and different contexts of presentation shape the visual experience of art and the understanding of its history, encouraging students to think critically about how to develop a voice of their own. Instruction Mode: Lecture Grading Option: Letter

AHIS 524 Readings in Greek and Roman Authors on Ancient Art and Monuments
Units: 4 Max Units: 8.0 Focuses on readings of ancient Greek and Roman authors writing on Greek and Roman art, monuments and topography. Topics vary from year to year. Departmental approval.

Instruction Mode: Lecture Grading Option: Letter

AHIS 525 Seminar in American Art
Units: 4 In-depth exploration of a specified topic in the history of American art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-525

AHIS 528 Seminar in Colonial Latin American Art
Units: 4 Terms Offered: FaSpSm In-depth exploration of specific topics in the arts of colonial Latin America. Instruction Mode: Lecture Grading Option: Letter

AHIS 529 Seminar in Art, Science, and Technology
Units: 4 Terms Offered: FaSpSm In-depth exploration of the connections between art, science, and technology, focusing on a specific time period and/or set of questions. Instruction Mode: Lecture Grading Option: Letter

AHIS 550 Art, Business and the Law
Units: 4 Investigation of the financial, legal and ethical dimensions of the collection and display of cultural property by private and public institutions. Participants will explore the legal and ethical issues related to the public use of museums and visual reproductive technologies. Instruction Mode: Lecture Grading Option: Letter

AHIS 590 Directed Research
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 593x Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within College disciplines. Intended for teaching assistants in Dornsife College. Registration Restriction: Open only to Art History doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 594a Master's Thesis
Units: 2 Credit upon acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 594b Master's Thesis
Units: 2 Credit upon acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 594z Master's Thesis
Units: 0 Credit upon acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 595 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Registration Restriction: International Graduate Standing Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 596 Seminar on Advanced Writing and Professionalization in Art History
Units: 2 Terms Offered: Fa Trains Art History graduate students to write for a variety of professional purposes, such as grant and job applications, conference abstracts, and reviews. Registration Restriction: Open only to master and doctoral Art History students Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Comprehensive exploration of particular aspects of the history of art. Instruction Mode: Lecture Grading Option: Letter

AHIS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

American Language Institute

ALI 090x Beginning English as a Second Language for International Students
Units: 12 Required for international students assessed to have no proficiency in English by the International Student English Examination (ISE). Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 103x Elective Courses in English as a Second Language for International Students
Units: 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSpSm Specialized tutorial classes in listening, speaking, reading, or writing. A maximum of 4 units may be counted toward a degree. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 134 Intermediate Oral Skills
Units: 1 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 135 Intermediate Writing Skills
Units: 1 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 144 High Intermediate Oral Skills
Units: 1 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 145 High Intermediate Writing Skills
Units: 1 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 200 Elementary English as a Second Language for International Students
Units: 12 Terms Offered: FaSpSm Required for international students assessed to be at the beginning level by the International Student English Examination (ISE) or by the completion of a lower level ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 211 Low Intermediate ESL (II) for International Students
Units: 6 Required for international students assessed to have intermediate level writing skills, but pre-intermediate level oral skills or by completion of a lower level ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 224 Academic and Professional Speaking Skills I
Units: 2 Max Units: 06 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the low intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 210 Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 225 Academic and Professional Writing Skills I
Units: 2 Max Units: 06 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the low intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 210 Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 234 Academic and Professional Speaking Skills II
Units: 2 Max Units: 06 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 220 Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 235 Academic and Professional Writing Skills II
Units: 2 Max Units: 06 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 220 Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 242 High Intermediate Pronunciation
Units: 2 Terms Offered: FaSpSm Required for international students whose pronunciation skills are assessed at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 244 Academic and Professional Speaking Skills III
Units: 2 Max Units: 06 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 230 and former ALI 240 Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 245 Academic and Professional Writing III
Units: 2 Max Units: 06 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 231 and former ALI 240 Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 246 Intermediate Oral Communication for ITAs
Units: 3 Terms Offered: FaSpSm Required for international teaching assistants (ITAs) whose oral skills are assessed to be at the intermediate level by the ITA exam or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 252 Advanced Pronunciation
Units: 3 Terms Offered: FaSpSm Required for international students whose pronunciation skills are assessed at the advanced level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 254 Academic and Professional Speaking Skills IV
Units: 2 Max Units: 06 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the advanced level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 259 Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 255 Academic and Professional Writing Skills IV
Units: 2 Max Units: 06 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the advanced level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 258 Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 256 High Intermediate Oral Communication for ITAs
Units: 3 Terms Offered: FaSpSm Required for international teaching assistants (ITAs) whose oral skills are assessed to be at the high intermediate level by the ITA exam or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 270 Advanced Oral Communication for ITAs
Units: 3 Terms Offered: FaSpSm Classroom interaction skills for international teaching assistants, with a focus on the language needed to lead discussions and make presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 271 Language Tutorial for International Teaching Assistants
Units: 2 Terms Offered: FaSpSm Individualized tutorial on the language and oral skills used by international teaching assistants in the performance of his or her duties. Based on observation and feedback. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 274 Advanced Academic and Professional Spoken English
Units: 2 Terms Offered: FaSpSm Required for International Teaching Assistants (ITAs) who, after taking the ITA Oral Interview Exam, are determined to need the particular skills taught in this course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 275 Writing for Publication and Dissertations
Units: 2 Terms Offered: FaSpSm Elective course for international graduate students focusing on conventions of advanced academic writing and problems in syntax, vocabulary, and register for writing and/or publishing dissertations. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 276 Workshop for International Teaching Assistants
Units: 2 Max Units: 08 Terms Offered: Sm Language assistance and individualized instruction to help International Teaching Assistants develop the skills and language proficiency necessary to perform their classroom duties. Graded CR/NC. Registration Restriction: Open only to International Teaching Assistants. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 280 English Skills and Strategies for the Job Search
Units: 2 Max Units: 4.0 Elective course for undergraduate and graduate international students. Introduces students to job search skills and strategies while focusing on improving their English. Instruction Mode: Lecture Grading Option: Credit/No Credit

Aerospace and Mechanical Engineering

AME 101L Introduction to Mechanical Engineering and Graphics
Units: 3 Terms Offered: Fa Gateway to the bachelor of science degree in mechanical engineering. Introduction to mechanical engineering disciplines and practice; graphical communication and layout of machine parts; introduction to computer-aided drafting and drawing. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 105 Introduction to Aerospace Engineering
Units: 4 Terms Offered: Fa Gateway to the Aerospace Engineering major. Introduction to flight vehicle performance and propulsion. Elements of the physics of gases. Laboratory: computers and graphics; model rocket and glider test flights. Instruction Mode: Lecture, Lab Grading Option: Letter

AME 150L Introduction to Computational Methods
Units: 4 Terms Offered: Sp Computer programming; organization of problems for computational solution; introduction to software for computation and graphics; applications to engineering problems. *Corequisite:* MATH 125. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 201 Statics
Units: 3 Terms Offered: FaSp Analysis of forces acting on particles and rigid bodies in static equilibrium; equivalent systems of forces; friction; centroids and moments of inertia; introduction to energy methods. *Prerequisite:* PHYS 151Lg or PHYS 161Lg or PHYS 171L *Recommended Preparation:* AME 101L Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 203

AME 204 Strength of Materials
Units: 3 Terms Offered: FaSp Stress, strain and deflection of mechanical elements due to tension, shear, bending, or torsion; combined loads; energy methods, statically indeterminate structures; strength-based design. *Prerequisite:* AME 201 or CE 205 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 204

AME 222 Fundamentals of Audio Engineering
Units: 3 Terms Offered: Fa (Enroll in EE 222)

AME 231L Mechanical Behavior of Materials
Units: 3 Terms Offered: Sp Material properties of metals, ceramics, and composites; stress-strain relationships; microstructural characteristics; fracture, fatigue, and creep; effects of processing. *Corequisite:* AME 204 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ACAD 231L

AME 232L Manufacturing Processes
Units: 3 Terms Offered: Fa (Enroll in ISE 232L)

AME 261 Basic Flight Mechanics
Units: 4 Terms Offered: Sp Performance of flight vehicles; maximum speed, rate-of-climb, range, and endurance; basic stability and control, weight, and balance; computer exercises. *Recommended Preparation:* ITP 168 Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 291 Undergraduate Design Projects I
Units: 1 Max Units: 4.0 Terms Offered: FaSp Analysis, design, fabrication, and evaluation of devices intended for entry in local and national design competitions. Intended for lower division students or those with little prior project experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 301 Dynamics
Units: 3 Terms Offered: FaSp 2-D and 3-D kinematics and dynamics of particles and rigid bodies; systems of particles and rigid bodies; coupled rigid bodies; introduction to vibrations. *Prerequisite:* AME 201 or CE 205 *Recommended Preparation:* PHYS 151Lg Instruction Mode: Lecture Grading Option: Letter

AME 302 Dynamic Systems
Units: 3 Terms Offered: FaSp Modeling of

lumped parameter elements and systems; free and forced response of first and second order systems; design oriented approach to dynamic systems. *Prerequisite:* MATH 245 *Recommended Preparation:* AME 309 or CE 309; AME 301 or CE 215 Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 303 Dynamics of Machinery
Units: 3 Terms Offered: FaSpSm Kinematics and dynamics of machines; balancing of rotating and reciprocating machinery; gyroscopic effects; critical speeds; energy variation in machinery; introduction to mechanism design. *Prerequisite:* AME 301 or CE 235. Instruction Mode: Lecture Grading Option: Letter

AME 305 Mechanical Design
Units: 3 Terms Offered: Fa Design and analysis of mechanical elements including shafts, bearings, springs, screws, belts and gears; strength, fatigue and deflection considerations in machine design. *Prerequisite:* AME 204 or CE 225. Instruction Mode: Lecture Grading Option: Letter

AME 308 Computer-Aided Analyses for Aero-Mechanical Design
Units: 3 Terms Offered: FaSpSm Introduction to the finite element method; practical application of computer analysis tools for structural analysis and design. *Prerequisite:* AME 204 *Corequisite:* AME 301 Instruction Mode: Lecture, Lab Grading Option: Letter

AME 309 Dynamics of Fluids
Units: 4 Terms Offered: FaSp Fluid statics; conservation of mass, momentum, and energy in integral and differential form; applications. Laminar and turbulent pipe flow; compressible flow; potential flow over bodies. *Prerequisite:* AME 201 *Recommended Preparation:* AME 310 *Corequisite:* MATH 245 Instruction Mode: Lecture Grading Option: Letter

AME 310 Engineering Thermodynamics I
Units: 3 Terms Offered: FaSp Fundamental laws of thermodynamics applied to actual and perfect gases and vapors; energy concepts, processes, and applications. *Prerequisite:* MATH 226 or MATH 227 or MATH 229 *Recommended Preparation:* PHYS 151Lg, high-level programming language Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 331 Heat Transfer
Units: 3 Terms Offered: Sp General principles underlying heat transfer by conduction, convection, and radiation; steady and transient conditions; heat exchangers. *Prerequisite:* AME 310; *Corequisite:* AME 309 or CE 309. Instruction Mode: Lecture Grading Option: Letter

AME 341aL Mechoptronics Laboratory I and II
Units: 3 Terms Offered: FaSp A coordinated laboratory and lecture sequence on aeromechanical instrumentation and device control stressing the symbiotic integration of mechanical, optical and electronic components. *Prerequisite:* (PHYS 152L or PHYS 162L) and (MATH 126 or MATH 127 or MATH 129) Instruction Mode: Lecture, Lab Grading Option: Letter

AME 341bL Mechoptronics Laboratory I and II
Units: 3 Terms Offered: FaSp A coordinated laboratory and lecture sequence on aeromechanical instrumentation and device control stressing the symbiotic integration of mechanical, optical and electronic components. *Prerequisite:* PHYS 152L, MATH 126. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

AME 403 Stress Analysis
Units: 3 Terms Offered: Sp Theories of failure, shear center, unsymmetrical bending, curved beams, torsion of non-circular sections; cylinders, rotating discs, thermal stresses, inelastic strains, energy methods. *Prerequisite:* AME 204. Instruction Mode: Lecture Grading Option: Letter

AME 404 Computational Solutions to Engineering Problems
Units: 3 Terms Offered: Fa Mathematical aspects of the solutions to typical advanced mechanical engineering problems. Modeling, simulation, computational aspects, computer solutions, and computational tools. *Recommended Preparation:* FORTRAN, MATLAB and Maple. Instruction Mode: Lecture Grading Option: Letter

AME 405 Functional Approach to Computational Methods
Units: 3 Terms Offered: Sp Introduction to computational methods in engineering: learning to develop and implement numerical algorithms for solving a range of mathematics, physics, and engineering problems. Suitable for undergraduate students in aerospace, bio, civil and mechanical engineering. *Recommended Preparation:* 1 year of college-level calculus and physics Instruction Mode: Lecture Grading Option: Letter

AME 408 Computer-Aided Design of Mechanical Systems
Units: 3 Terms Offered: FaSp Design of mechanical systems using advanced graphics techniques; computer-aided drafting, design optimization, elements of computer graphics, solids modeling; introduction to computer-aided manufacturing. *Prerequisite:* AME 204 or CE 225; *Recommended Preparation:* AME 308. Instruction Mode: Lecture Grading Option: Letter

AME 409 Senior Design Project
Units: 4 Terms Offered: Sp Modeling, analysis, integration, layout and performance analysis of a mechanical system to meet specified design requirements. *Prerequisite:* senior standing. Instruction Mode: Lecture, Lab Grading Option: Letter

AME 410 Engineering Design Theory and Methodology
Units: 3 Terms Offered: Fa Product planning and task clarification, voice of customers, quality function deployment, conceptual and embodiment design, axiomatic theory of design, product quality and manufacturability, design decision-making. *Recommended Preparation:* AME 305. Instruction Mode: Lecture Grading Option: Letter

AME 412 Molecular Theory of Gases
Units: 3 Terms Offered: Irregular Molecular structure; intermolecular potentials; molecular processes in gases; molecular interpretation of concepts of classical thermodynamics; radiative transport phenomena in gases. *Prerequisite:* AME 310. Instruction Mode: Lecture Grading Option: Letter

AME 414 Engineering Thermodynamics II
Units: 3 Terms Offered: Sp Application of thermodynamic principles to fluid flow, power cycles, and refrigeration, with modern applications to thermodynamic cycles and introduction to equilibrium electrochemistry. *Prerequisite:* AME 310 *Recommended Preparation:* Basic knowledge of Physics and a programming language Duplicates Credit in former AME 312 Instruction Mode: Lecture Grading Option: Letter

AME 415 Turbine Design and Analysis
Units: 3 Terms Offered: Fa Physics of turbine operation; design and analysis for the development of turbine hardware for propulsion and power generation. *Recommended Preparation:* familiarity with Matlab. Instruction Mode: Lecture Grading Option: Letter

AME 416 Mechanics and Transport in Medicine and Biology
Units: 4 Terms Offered: Fa Introduction to mechanics of living organs; analysis of fluid and solid forces acting on biological systems; introductory hemodynamics and bio-transport phenomena. *Recommended Preparation:* Fundamental physics and the understanding of static forces at the level of AME 201 and differential equations at the level of MATH 245 Instruction Mode: Lecture Grading Option: Letter

AME 420 Engineering Vibrations I
Units: 3 Terms Offered: Fa Theory of free and forced vibrations with and without damping; systems of single and multiple degrees of freedom; iteration; methods; vibration isolation; instrumentation. *Prerequisite:* MATH 245 Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 423L Loudspeaker and Sound System Design
Units: 4 Terms Offered: Sp Design and construct loudspeakers. Covers fundamentals of acoustic design, analog electronics, electro-mechanical dynamics, and the real-world performance of project speakers vs. theoretical predictions. *Prerequisite:* AME 341aL and AME 341bL Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 428 Mechanics of Materials
Units: 3 (Enroll in CE 428)

AME 430 Thermal Systems Design
Units: 3 Terms Offered: Fa Design methodology for thermal systems; boilers, condensers, air conditioning, power generation, air pollution control, combustion and alternative fuels. *Prerequisite:* AME 331; *Recommended Preparation:* AME 312. Instruction Mode: Lecture Grading Option: Letter

AME 436 Energy and Propulsion
Units: 3 Terms Offered: Fa Performance and analysis of reciprocating, jet,

rocket engines, and hybrid systems. Characteristics of inlets, compressors, combustors, turbines, nozzles and engine systems. Energy and environmental problems. *Prerequisite:* AME 310; AME 309 or CE 309. Instruction Mode: Lecture Grading Option: Letter

AME 441aL Senior Projects Laboratory
Units: 3 Terms Offered: FaSp Individual engineering projects designed and constructed to model and test a physical principle or system. *Prerequisite:* AME 341bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 441bL Senior Projects Laboratory
Units: 3 Terms Offered: FaSp Individual engineering projects designed and constructed to model and test a physical principle or system. *Prerequisite:* AME 341bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 443 Control Systems Laboratory
Units: 3 Terms Offered: Sp Vibration measurement and analysis; simulation, design, and experimental verification of mechanical control systems; identification of system parameters, implementation of controllers, verification of closed-loop performance via experimentation and stimulation. *Prerequisite:* AME 420 or AME 451 or EE 482. Duplicates Credit in former AME 442bL. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as EE-481l

AME 451 Linear Control Systems I
Units: 3 Transform methods, block diagrams; transfer functions; stability; root-locus and frequency domain analysis and design; state space and multiloop systems. *Prerequisite:* AME 302 and MATH 245. Duplicates Credit in EE 482. Instruction Mode: Lecture Grading Option: Letter

AME 453 Engineering Dynamics
Units: 3 Terms Offered: Sp Principles of dynamics applied to mechanical and aerospace problems. Introduction to gyroscopic motion and rigid body dynamics. *Prerequisite:* MATH 245. Instruction Mode: Lecture Grading Option: Letter

AME 455 Introduction to MEMS
Units: 3 Terms Offered: Sp Introduction to micro-electro-opto-mechanical systems; scaling effects on material properties, fluid flows, dynamical behavior; fabrication methods; design considerations for MEMS sensors and actuators. *Recommended Preparation:* AME 301, AME 309 and AME 310. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-415

AME 457 Engineering Fluid Dynamics
Units: 3 Terms Offered: Fa Laminar and turbulent boundary layer flow with and without heat transfer; boundary layer separation, stability, transition and control; introduction to compressible fluid flow. *Prerequisite:* AME 310; AME 309 or CE 309. Instruction Mode: Lecture Grading Option: Letter

AME 459 Flight Mechanics
Units: 3 Terms Offered: Fa Applications of basic aerodynamics to aircraft and missile performance, power and thrust, stability and control, compressibility effects. *Recommended Preparation:* AME 309. Instruction Mode: Lecture Grading Option: Letter

AME 460 Aerodynamic Theory
Units: 3 Basic relations describing the inviscid flow field about bodies and wings moving at subsonic and supersonic speeds. *Prerequisite:* AME 309. Instruction Mode: Lecture Grading Option: Letter

AME 461 Formation Data Sensing with Well Logs
Units: 4 Terms Offered: Fa (Enroll in PTE 461)

AME 462 Economic, Risk and Formation Productivity Analysis
Units: 4 (Enroll in PTE 462)

AME 463L Introduction to Transport Processes in Porous Media
Units: 4 Terms Offered: Fa (Enroll in PTE 463L)

AME 464L Modeling and Simulation of Subsurface Flow Systems
Units: 4 Terms Offered: Sp (Enroll in PTE 464L)

AME 465L Drilling Technology and Subsurface Methods
Units: 3 (Enroll in PTE 465L) Instruction Mode: Lecture, 3 hours; laboratory, 3 hours.

AME 481 Aircraft Design
Units: 4 Terms Offered: Sp Aircraft design and analysis, design requirements and specifications; integration of structure, propulsion, control system, and aerodynamic configuration; performance analysis and prediction. Instruction Mode: Lecture Grading Option: Letter

AME 485 Aerospace Structures I
Units: 3 Terms Offered: FaSp Design, qualification, and workmanship verification of aerospace structures. Analysis for assessing buckling and crippling, welds, and analysis of connections and thin-walled structures. *Prerequisite:* AME 204 *Recommended Preparation:* AME 231L or MASC 310 Duplicates Credit in former AME 353 Instruction Mode: Lecture Grading Option: Letter

AME 486 Mechanics of Composite Materials for Modern Structures
Units: 3 Terms Offered: Sp Current and potential applications of composite materials including manufacturing methods; determining mechanical properties; failure analysis; and design, inspection, and repair considerations. *Prerequisite:* AME 204 Instruction Mode: Lecture Grading Option: Letter

AME 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

AME 491 Undergraduate Design Projects II
Units: 1 Max Units: 4.0 Terms Offered: FaSp Analysis, design, fabrication, and evaluation of devices intended for entry in local and national design competitions. Intended for students with prior project experience. Upper division standing. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpx Course content to be selected each semester from recent developments in mechanical engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

AME 501 Innovative Conceptual Design for New Product Development
Units: 3 Terms Offered: FaSp (Enroll in ISE 501)

AME 502 Modern Topics in Aerospace Design
Units: 3 Terms Offered: Fa Current topics in Aerospace Engineering are addressed by a number of industry panelists. Students, under panelists' supervision and guidance, complete independent research reports and briefings. *Recommended Preparation:* AME 261, AME 441, AME 481 or equivalents. Genuine interest in design of flight vehicles. Registration Restriction: Open only to seniors, master and doctoral students. Instruction Mode: Lecture Grading Option: Letter

AME 503 Advanced Mechanical Design
Units: 3 Terms Offered: Fa Specific problems and methods of analysis in mechanical systems design. Instruction Mode: Lecture Grading Option: Letter

AME 504L Mechatronic Systems Engineering
Units: 3 Terms Offered: Fa (Enroll in ISE 511L)

AME 505 Engineering Information Modeling
Units: 3 Terms Offered: Sp Symbolic and object-oriented modeling, product and process modeling for design and manufacturing, information models for computer integrated and collaborative engineering, information modeling for life-cycle engineering. Instruction Mode: Lecture Grading Option: Letter

AME 506 Continuum Mechanics
Units: 4 Terms Offered: Fa A unified mathematical description for modeling the mechanics and thermodynamics of continua, including topics like elasticity, inelastic material modeling and fluid behavior. Instruction Mode: Lecture Grading Option: Letter

AME 507 Mechanics of Solids I
Units: 4 (Enroll in CE 507)

AME 508 Machine Learning and Computational Physics
Units: 4 Terms Offered: Fa Machine learning applications in computational physics and engineering; relationships between computational physics and ML algorithms; hybrid physics-informed ML prediction with tools for uncertainty quantification. *Prerequisite:* AME 525 *Recommended Preparation:* Basic familiarity with Python/Matlab Instruction Mode: Lecture Grading Option: Letter

AME 509 Applied Elasticity
Units: 4 Terms Offered: Fa Cartesian tensors; kinematics of deformation, balance laws, and constitutive equations; variational principles; finite elasticity; plates and cylindrical shells; viscoelasticity; analytical and numerical solutions for elasticity. Instruction Mode: Lecture Grading Option: Letter

AME 510 Advanced Computational Design and Manufacturing
Units: 3 Terms Offered: Sp (Enroll in ISE 510)

AME 511 Compressible Gas Dynamics
Units: 4 Terms Offered: Sp Compressible flow equations; Rayleigh/Fanno flows; shock/expansion waves and interactions; potential flow, small disturbance theory and similarity; hypersonics; viscosity, high-temperature and radiation effects. Instruction Mode: Lecture Grading Option: Letter

AME 513a Fundamentals and Applications of Combustion
Units: 4 Terms Offered: Fa Chemical equilibrium, flame temperature, chemical kinetics, transport phenomena, conservation equations of multi-component reacting flows, laminar flames, droplet combustion, flame speed, combustion pollutants, atmospheric pollution processes. Duplicates Credit in former AME 513 Instruction Mode: Lecture Grading Option: Letter

AME 513b Fundamentals and Applications of Combustion
Units: 4 Terms Offered: Sp Advanced topics in combustion including analytical methods, stretch effects, stability, ignition and extinction of flames, plasma-assisted combustion, turbulence effects, detonations, and micropower generation. *Prerequisite:* AME 513a Duplicates Credit in former AME 514 Instruction Mode: Lecture Grading Option: Letter

AME 515 Advanced Heat and Mass Diffusion
Units: 4 Terms Offered: Fa Analytical techniques for heat and mass diffusion problems in various geometries; application to heat/mass transfer in solids, liquids, porous media and bioporous materials. *Recommended Preparation:* AME 526 Instruction Mode: Lecture Grading Option: Letter

AME 516 Thermal and Biological Transport Phenomena
Units: 4 Terms Offered: Sp Analytical techniques for solving convective heat and mass transfer problems; applications include heat/mass transfer in biological systems as well as traditional industrial settings. *Prerequisite:* AME 525 *Recommended Preparation:* Undergraduate courses on differential equations, fluid dynamics, thermodynamics and heat transfer; AME 526 Instruction Mode: Lecture Grading Option: Letter

AME 517 Radiation Heat Transfer
Units: 3 Terms Offered: Fa Radiation properties; black body radiation; shape factors of radiation network analogy and solar radiation. *Prerequisite:* AME 331; *Corequisite:* AME 525 or AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 520 Modeling of Bio-Systems
Units: 3 Terms Offered: Sp Interacting population dynamics, Cheyne-Stokes respiration, reaction kinetics, biological switches, neuronal models, BZ reaction, phase locking, reaction diffusion, chemotaxis, biological waves, and animal coat patterns. *Recommended Preparation:* MATH 245. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC-522, BME-520

AME 521 Engineering Vibrations II
Units: 4 Terms Offered: Sp Multi-degree of freedom systems; continuous systems; modal analysis. Beams, rods, membranes, plates, shells. Approximate methods; Galerkin, Rayleigh Ritz; assumed-mode, finite elements. *Prerequisite:* AME 420 Instruction Mode: Lecture Grading Option: Letter

AME 522 Nonlinear Dynamical Systems, Vibrations, and Chaos
Units: 4 Terms Offered: Fa Flows on a line and circle; phase plane methods; bifurcation theory; limit cycle/relaxation oscillations; chaotic systems, one-dimensional maps, the Lorenz equations, fractals and strange attractors. Instruction Mode: Lecture Grading Option: Letter

AME 523 Random Vibrations
Units: 3 Terms Offered: Irregular Random processes, ergodic theory. Ito calculus. Linear systems under stationary and nonstationary excitations. Fokker-Planck equations. Failure analysis and first passage problems. *Prerequisite:* AME 420, basic probability (or MATH 407), AME 451 recommended. Instruction Mode: Lecture Grading Option: Letter

AME 524 Advanced Engineering Dynamics
Units: 4 Terms Offered: Fa Principle of virtual work, constraints, Lagrange's equations, Gibbs-Appell equations, Gauss's principle, theory of rotations, dynamics of rigid bodies, Hamiltonian mechanics, control and mechanics. Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 525 Engineering Analysis
Units: 4 Terms Offered: FaSpSm Engineering mathematical methods: linear algebra, eigen problems, introduction to linear partial differential equations, transforms and complex variable theory. Instruction Mode: Lecture Grading Option: Letter

AME 526 Introduction to Mathematical Methods in Engineering II
Units: 4 Terms Offered: FaSpSm An intermediate and comprehensive methods of engineering mathematics course covering basic methods for solving linear partial differential equations including the method of characteristics and Green's function. Instruction Mode: Lecture Grading Option: Letter

AME 527 Elements of Vehicle and Energy Systems Design
Units: 3 Terms Offered: Irregular Design synthesis of aero/hydro/mechanical systems; techniques of design; conceptual thinking; problem definition, configurational development, analytic engineering approximation, oral briefings and group problem solving. Instruction Mode: Lecture Grading Option: Letter

AME 528 Finite Element Analysis
Units: 4 Terms Offered: Fa (Enroll in CE 529)

AME 529 Aircraft Structures Analysis
Units: 4 Terms Offered: Sp Stress Analysis. Linear Elasticity. Thin Plates. Finite Element Methods. Structural stability. Vibration of Continuous Systems. Emphasis on aerospace and aeronautical applications Instruction Mode: Lecture Grading Option: Letter

AME 530a Dynamics of Incompressible Fluids
Units: 4 Terms Offered: Fa A unified discussion of low-speed fluid mechanics including exact solutions; approximation techniques for low and high Reynolds numbers; inviscid flows; surface waves; dynamic stability; turbulence. *Recommended Preparation:* Vector/tensor notation, linear algebra, multivariable calculus, complex variables and differential equations at the level of AME 525/AME 526 (which are strongly recommended if lacking this background) Instruction Mode: Lecture Grading Option: Letter

AME 530b Dynamics of Incompressible Fluids
Units: 4 Terms Offered: FaSp A unified discussion of advanced topics in incompressible fluid mechanics focusing on vorticity dynamics, stability theory, transition to turbulence, linear and nonlinear wave propagation. *Prerequisite:* AME 530a and AME 526 *Recommended Preparation:* Familiarity with ordinary and partial differential equations, and introductory fluid mechanics concepts at the level of AME 530a Instruction Mode: Lecture Grading Option: Letter

AME 532a Flight Vehicle Stability and Control
Units: 3 Terms Offered: FaSp Response of flight to linear, nonlinear, and randomly defined disturbances. Generation and measurement of error signals in navigational systems. Stability and control techniques. *Recommended Preparation:* AME 459. Instruction Mode: Lecture Grading Option: Letter

AME 532b Flight Vehicle Stability and Control
Units: 3 Terms Offered: FaSp Response of flight to linear, nonlinear, and randomly defined disturbances. Generation and measurement of error signals in navigational systems. Stability and control techniques. *Recommended Preparation:* AME 459. Instruction Mode: Lecture Grading Option: Letter

AME 533 Multi-Phase Flows
Units: 3 Terms Offered: Sp Physics of the interaction between phases, empirical and analytical methods of solution to relevant technological problems. *Prerequisite:* AME 457. Instruction Mode: Lecture Grading Option: Letter

AME 534 Nuclear Thermal-Hydraulics
Units: 3 Terms Offered: Fa Thermal-fluid phenomena for nuclear power stations. Heat generation by nuclear reactions, conduction in fuel rods, and transport of generated heat by convection, boiling, and condensation. *Prerequisite:* AME 457 or AME 530a; and AME 526 and AME 581; *Recommended Preparation:* undergraduate degree in engineering. Instruction Mode: Lecture Grading Option: Letter

AME 535a Introduction to Computational Fluid Mechanics
Units: 3 Terms Offered: FaSp Convergence, consistency, stability: finite difference, finite element, and spectral methods; direct and iterative procedures for steady problems; linear diffusion and advection problems; non-linear advection problems. *Recommended Preparation:* AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 535b Introduction to Computational Fluid Mechanics
Units: 3 Terms Offered: FaSp Generalized curvilinear coordinates; grid generation; numerical techniques for transonic and supersonic inviscid flows; boundary layer flows; reduced Navier-Stokes equations; compressible and incompressible viscous flows. *Recommended Preparation:* AME 511 or AME 530a, AME 535a. Instruction Mode: Lecture Grading Option: Letter

AME 536 Biofluid Mechanics: Transport and Circulatory Systems
Units: 4 Terms Offered: Fa An analytical and theoretical introduction to fluid dynamics and transport phenomena of the physiological systems such as cardiovascular, respiratory and renal system. *Recommended Preparation:* Elementary knowledge of fluid mechanics and solid mechanics; coursework in mathematical techniques for undergraduate engineering majors Instruction Mode: Lecture Grading Option: Letter Crosslisted as BME 540

AME 537 Microfluidics
Units: 3 Terms Offered: Fa Introduction to fluid dynamics in the microscale. Scaling parameters, dynamic, thermodynamic, electroosmotic and electrochemical forces. Flow in microdevices, external flow measurement and control, microvalves and micropumps. Limited to students with graduate standing. *Recommended Preparation:* AME 309, MATH 445. Instruction Mode: Lecture Grading Option: Letter

AME 539 Multi-body Dynamics
Units: 4 Terms Offered: Sp Kinematics and kinetics of rigid body motion, quaternions; quaternions equations; elastic vibrations of continua; geometric and material nonlinearities; Galerkin methods; complex dynamical systems; computational methods. Instruction Mode: Lecture Grading Option: Letter

AME 541 Linear Control Systems II
Units: 4 Terms Offered: Fa State space representation, linearization, solution of state equations; controllability and observability; state feedback, state observers; optimal control; output feedback. *Prerequisite:* AME 451 *Recommended Preparation:* Knowledge of a programming language (MATLAB, SIMULINK) Duplicates Credit in EE 585 Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 542 Theory of Plates and Shells
Units: 2 Terms Offered: Sp (Enroll in CE 542)

AME 543 Structural Instability and Failure
Units: 4 Terms Offered: Sp (Enroll in CE 543)

AME 544 Computer Control of Mechanical Systems
Units: 3 Terms Offered: Sp Computer control as applied to machine tools, mechanical manipulators, and other mechanical machinery; discrete time controller design; microprocessor implementation of motion and force control servos. *Prerequisite:* AME 451. Instruction Mode: Lecture Grading Option: Letter

AME 545 Modeling and Control of Distributed Dynamic Systems
Units: 3 Terms Offered: Sp Modeling and analysis of complex flexible mechanical systems; distributed transfer function synthesis; frequency-domain control methods; smart structure design; applications in vibration and noise control. *Prerequisite:* AME 521 and AME 541. Instruction Mode: Lecture Grading Option: Letter

AME 546 Design for Manufacturing Assembly
Units: 4 Terms Offered: Sp Overview of methods and tools for creating products that are easier to manufacture and assemble thereby reducing manufacturing costs. Instruction Mode: Lecture Grading Option: Letter

AME 547 Foundations for Manufacturing Automation
Units: 4 Terms Offered: Fa An overview of the building blocks that underlie automation; mechanics-based models for designing automated systems; decision-making tools and methods for supporting manufacturing automation. *Recommended Preparation:* AME 451 or background in Linear Controls Instruction Mode: Lecture Grading Option: Letter

AME 548 Analytical Methods in Robotics
Units: 3 Terms Offered: Irregular Homogeneous transformations; formal description of robot manipulators; kinematic equations and their solution; differential relationships; dynamics; control; static forces; compliance. *Prerequisite:* EE 545; EE 482 or AME 451; knowledge of linear algebra. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-548

AME 549 Systems Architecting
Units: 3 Terms Offered: FaSm (Enroll in SAE 549)

AME 550 Seminar in Aerospace and Mechanical Engineering
Units: 1 Max Units: 03 Terms Offered: FaSp Recent developments and research in aerospace and mechanical engineering and related fields. Oral and written reports. Registration Restriction: Open only to AME graduate students. Duplicates Credit in former AME 550a and former AME 550b Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 551 Mechanical Behavior of Engineering Materials
Units: 4 Terms Offered: FaSp (Enroll in MASC 551)

AME 552 Nonlinear Control Systems
Units: 4 Terms Offered: Sp Phase plane, describing function, applications to mechanical and aerospace systems. Lyapunov stability theory. Popov theorem. Circle criterion. Lyapunov redesign. Sliding mode control. Backstepping. Passivity. *Prerequisite:* AME 541 or EE 585 *Recommended Preparation:* Background in dynamics and classical control system Instruction Mode: Lecture Grading Option: Letter

AME 553aL Digital Control Systems
Units: 3 (Enroll in EE 543aL) Instruction Mode: (Lab is required for the b section only.)

AME 553bL Digital Control Systems
Units: 1 (Enroll in EE 543bL)

AME 554 Additive Manufacturing Technologies
Units: 4 Terms Offered: Fa Overview and working principles of commonly used additive manufacturing processes; process models; process and material selection; cost estimation methods; current applications and future directions. Instruction Mode: Lecture Grading Option: Letter

AME 559 Creep
Units: 3 Terms Offered: Fa (Enroll in MASC 559)

AME 560 Fatigue and Fracture
Units: 3 Terms Offered: Sp (Enroll in MASC 560)

AME 561 Dislocation Theory and Applications
Units: 4 Terms Offered: Sp (Enroll in MASC 561)

AME 567 Collaborative Engineering Principles and Practice
Units: 3 Terms Offered: Sp (Enroll in ISE 567)

AME 572L Experimental Engineering Projects
Units: 3 Experimental methods appropriate to engineering research, emphasizing interdisciplinary investigations. Individual projects. Instruction Mode: Lab Required Grading Option: Letter

AME 573 Aerosol Physics and Chemistry
Units: 3 Terms Offered: Sp Examination of the fundamentals of aerosol formation and evolution, aerosol effects on health and climate, and the principles of aerosol measurement. Instruction Mode: Lecture Grading Option: Letter

AME 575 Advanced Engineering Analysis
Units: 3 Terms Offered: Fa Solution of engineering problems by methods of calculus variations, integral equations, asymptotic expansions. *Prerequisite:* CE 525 or AME 525 and AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 576 Advanced Engineering Analytical Methods
Units: 3 Terms Offered: Sp Solution of engineering problems by methods of linear and nonlinear partial differential equations of first and second order; perturbations. *Prerequisite:* AME 525 or AME 526 or CE 525 or CE 526. Instruction Mode: Lecture Grading Option: Letter

AME 577 Survey of Energy and Power for a Sustainable Future
Units: 3 Terms Offered: FaSp Power production includes conventional fossil fuels, synthetic fuels, hydroelectric, solar, wind, geothermal, biomass and nuclear. The environmental consequences of various energy sources are discussed. Duplicates Credit in CHE 510 Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 626

AME 578 Modern Alternative Energy Conversion Devices
Units: 3 Terms Offered: FaSp Alternative energy/power conversion including fuel cells, photovoltaic, batteries, and biologically inspired energy processes; biomass conversion and utilization; Environmental implications of alternative energy processes. Instruction Mode: Lecture Grading Option: Letter

AME 579 Numerical Modeling of Single and Multiphase Reactive Flows
Units: 4 Terms Offered: Fa Principles of

numerical modeling of reacting flows. Physical and statistical description of combustion subprocesses: flames, edge flames, ignition, sprays. Multi physics principles of modeling. *Prerequisite:* AME 535a and AME 513b Instruction Mode: Lecture Grading Option: Letter

AME 581 Introduction to Nuclear Engineering
Units: 3 Terms Offered: Fa Review of basic nuclear physics, binding energy, reactor kinetics, thermal transport in reactor systems, radioactivity, shielding, reactor safety and health effects of radiation, risk assessment. Open only to graduate students. *Recommended Preparation:* Undergraduate degree in engineering; AME 310, MATH 245, PHYS 153L. Instruction Mode: Lecture Grading Option: Letter

AME 582 Nuclear Reactor Physics
Units: 3 Terms Offered: Sp Neutron-induced fission chain reactions, reactor criticality. Neutron transport and diffusion in nuclear reactors. Mathematical/computational foundation for diffusion theory and transport calculations for fission reactor design/analysis. *Prerequisite:* AME 526 and AME 581; *Recommended Preparation:* undergraduate degree in engineering and PHYS 153L. Instruction Mode: Lecture Grading Option: Letter

AME 583 Effects of Radiation on Health
Units: 3 Terms Offered: Sp Nuclear physics relevant to human health. Biological effects of radiation, quantification and measurement of different types of radiation affecting living tissue, radiation protection, nuclear accidents. *Prerequisite:* AME 526 and AME 581; *Recommended Preparation:* undergraduate degree in engineering and PHYS 153L. Instruction Mode: Lecture Grading Option: Letter

AME 584 Fracture Mechanics and Mechanisms
Units: 3 Terms Offered: Fa (Enroll in MASC 584)

AME 585 Aerospace Structures II
Units: 3 Terms Offered: FaSp Analysis of repairs in aircraft/launch vehicles. Flexible dynamics for spacecraft, random vibration, deployable spacecraft components, certification of thermal protection systems. Practical finite element analysis. *Prerequisite:* AME 485 Instruction Mode: Lecture Grading Option: Letter

AME 588 Materials Selection
Units: 4 Terms Offered: Fa (Enroll in MASC 583)

AME 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Terms Offered: FaSp Course content will be selected each semester to reflect current trends and developments in the field of mechanical engineering. Instruction Mode: Lecture Grading Option: Letter

AME 620 Aero and Hydrodynamic Wave Theory
Units: 3 Linear and nonlinear wave motion in fluids: group velocity, dispersion, wave action, wave patterns, evolution equations, solitons and solitary waves, resonance phenomena. *Recommended Preparation:* AME 526 and CE 309. Instruction Mode: Lecture Grading Option: Letter

AME 621 Stability of Fluids
Units: 3 Linear and nonlinear stability analysis applied to free shear layers, boundary layers and jets; Rayleigh-Benard convective instabilities and centrifugal instability of rotating flows. *Recommended Preparation:* AME 530b. Instruction Mode: Lecture Grading Option: Letter

AME 623 Dynamics of Stratified and Rotating Flows
Units: 3 Fluid motions in which density gradients and/or rotation are important, including internal wave motions with rotation, flow past obstacles, viscous effects, singular perturbations. *Recommended Preparation:* AME 530b. Instruction Mode: Lecture Grading Option: Letter

AME 624 The Fluid Dynamics of Natural Phenomena
Units: 3 Application of the basic concepts of rotating, stratified fluid motion to problems in meteorology, oceanography, geophysics and astrophysics. Instruction Mode: Lecture Grading Option: Letter

AME 626 Singular Perturbation Methods
Units: 3 Asymptotic series, W.K.B. approximation, method of steepest descent, stationary phase; matched asymptotic expansions and method of multiple scales applied to ordinary and partial differential equations. *Recommended Preparation:* AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 630 Transition to Chaos in Dynamical Systems
Units: 3 Bifurcation theory and universal routes to chaos in deterministic systems; application to maps and differential flows; characterization of strange attractors. *Recommended Preparation:* AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 640 Advanced Theory of Elasticity
Units: 3 (Enroll in CE 640)

AME 645 Uncertainty Modeling and Stochastic Organization
Units: 3 (Enroll in CE 645)

AME 647 Multiscale Methods in Mechanics
Units: 3 (Enroll in CE 647)

AME 651 Statistical Theories of Turbulence
Units: 3 Stationary stochastic processes. Isotropic turbulence; governing equations for the velocity correlation and spectrum functions. Turbulent diffusion. Scalar fluctuations in a turbulent field. *Recommended Preparation:* AME 530b. Instruction Mode: Lecture Grading Option: Letter

AME 652 Turbulent Shear Flows
Units: 3 Free shear layers. Turbulent flows in pipes and channels. Turbulent boundary layers. Effects of compressibility. Sound radiation by turbulence. *Recommended Preparation:* AME 530b. Instruction Mode: Lecture Grading Option: Letter

AME 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Laboratory study of specific problems by candidates for the degree Engineer in Mechanical Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 694a Thesis
Units: 2 Required for the degree Engineer in Aerospace Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 694b Thesis
Units: 2 Required for the degree Engineer in Aerospace Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 694z Thesis
Units: 0 Required for the degree Engineer in Aerospace Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Anesthesia and Medicine

AMED 421 Seminar: Teaching Local Anesthesia
Units: 1 Techniques of teaching local anesthesia to dental hygiene students. Instruction Mode: Lecture Grading Option: Letter

AMED 502 Emergency Medicine
Units: 2 Recognition and management of life-threatening emergencies, including unconsciousness, altered consciousness, respiratory distress, convulsions, drug-related emergencies, and chest pain. Instruction Mode: Lecture Grading Option: Letter

AMED 523 Pharmacosedation II
Units: 1 Introduction to intravenous sedation; evaluation of patient, selection of technique and procedure; prevention of complications, recognition and management of complications; introduction to general anesthesia. Instruction Mode: Lecture Grading Option: Letter

AMED 524 Pain and Anxiety Control
Units: 2 Terms Offered: Sp Theory and techniques for pain control, anxiety includes: local anesthetics; drugs, adjunctive premedication, techniques in oral, rectal, intramuscular, inhalation sedation, prevention, management of complications. Duplicates Credit in the former AMED 521 and AMED 522. Instruction Mode: Lecture Grading Option: Letter

AMED 610 Physical Diagnosis/ Cardiology
Units: 1 Participation in the Cardiac Clinic at LAC+USC Medical Center; experience in cardiac auscultation, abnormal breath sounds, use of cardiac drugs, and prosthetic valve management. Instruction Mode: Lecture Grading Option: Letter

AMED 750a Physical Evaluation and Anesthesia
Units: 2 In-depth examination of physical evaluation, emergency medicine, basic life support, inhalation sedation, intravenous sedation, local anesthesia, and patient monitoring; includes clinical experience. Instruction Mode: Lecture Grading Option: Letter

AMED 750b Physical Evaluation and Anesthesia
Units: 2 In-depth examination of physical evaluation, emergency medicine, basic life support, inhalation sedation, intravenous sedation, local anesthesia, and patient monitoring; includes clinical experience. Instruction Mode: Lecture Grading Option: Letter

AMED 750c Physical Evaluation and Anesthesia
Units: 1 In-depth examination of physical evaluation, emergency medicine, basic life support, inhalation sedation, intravenous sedation, local anesthesia, and patient monitoring; includes clinical experience. Instruction Mode: Lecture Grading Option: Letter

American Studies and Ethnicity

AMST 101gmw Race and Class in Los Angeles
Units: 4 Terms Offered: Fa Analysis of race and the economic, political, gender, and social dimensions of contemporary Los Angeles including topics such as residential segregation, economic inequality, and city politics. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 135gmw Peoples and Cultures of the Americas
Units: 4 Terms Offered: FaSp An introduction to cultures and people in the Americas; the social, historical, economic and cultural formations that together make up the Latino/a American imaginary. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 140gw Borderlands in a Global Context
Units: 4 Interdisciplinary survey of theory and borderland site cases, national sentiment, linguistic and cultural conflicts, exploration of local, regional, and national identities in cultural contact zones. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 150gw The American War in Viet Nam
Units: 4 Examination of the ways that different nations and cultures have remembered the Vietnam War or the American War as it is called in Vietnam. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in former AMST 377. Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 200gm Introduction to American Studies and Ethnicity
Units: 4 Terms Offered: FaSp Introduction to American studies and ethnic studies. Provides an overview of major theories, concepts, and issues. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

AMST 201g LGBTQ America
Units: 4 Examines how U.S. sexual identity and experience are represented in the 20th and 21st century and introduces the interdisciplinary field of LGBTQ Studies. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 202m Interethnic Diversity in the West
Units: 4 Introduction to community, culture, and ethnicity within the Western United States with emphasis on African American, Asian American, and Chicano/Latino cultures and social patterns. Instruction Mode: Lecture Grading Option: Letter

AMST 204g Introduction to Native Studies
Units: 4 Terms Offered: FaSp Overview of Native American studies, including Indigenous intellectualism and resistance through language revitalization, film-making, and the recognition of one another. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

AMST 205g Introduction to American Popular Culture
Units: 4 Terms Offered: FaSp Examines the relation between U.S. national culture, race, and popular culture. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 206gm The Politics and Culture of the 1960s
Units: 4 Terms Offered: Sp Examines political and cultural change in the United States during the decade of the 1960s. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 211g Sex in America
Units: 4 Terms Offered: FaSp Explores how the proliferation of sexual cultures, identities, politics shape everyday lives in the United States and beyond. Satisfies New General Education in Category C: Social Analysis Duplicates Credit in former AMST 111 Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 215gw Race and Mixed Race
Units: 4 Terms Offered: Irregular Concepts of race and mixed race historically shaped through law, science, and popular culture, including their social construction and evolution over time. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 220gmw The Making of Asian America
Units: 4 Terms Offered: FaSp Historical, social, and cultural analysis of (East, South, and Southeast) Asians in the United States. Themes examined: immigration, race and gender relations, ethnic culture, community and identity. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

AMST 230g Introduction to African American Studies
Units: 4 Examines the socio-historical and political imperatives of multi-disciplinary scholarship foundational to the study of African Americans. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 240gm Representing 9/11 and Hurricane Katrina
Units: 4 Terms Offered: FaSp (Enroll in ANTH 240gm)

AMST 242gm Social Responses to Disaster
Units: 4 Exploration of social complexities associated with U.S. disasters; influences of (political) action on mitigation, response, recovery; how activities and investment vary along racial and economic lines. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 250gmw The African Diaspora
Units: 4 Terms Offered: FaSp History, political-economy and aesthetics of the African Diaspora with emphasis on Latin America, the Caribbean, Europe and Africa. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ENGL-250

AMST 252gmw Black Social Movements in the U.S.
Units: 4 This course examines black social movements for freedom, justice, equality, and self-determination. Beginning with Reconstruction, movements include labor, civil rights, radical feminism, socialism, reparations, Black Nationalism, prisoners' rights, and Hip Hop. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

AMST 274gmw Exploring Ethnicity through Film
Units: 4 Terms Offered: FaSpSm Examination of the constructions of American ethnicity/race in film. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Duplicates Credit in former AMST 374m. Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 285gm African American Popular Culture
Units: 4 Terms Offered: Sp Examines history of popular cultural forms such as literature, music, dance, theatre, and visual arts produced by and about African Americans. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ENGL-285

AMST 301gp America, the Frontier, and the New West
Units: 4 Terms Offered: FaSp Introduction to the interdisciplinary study of American political, cultural, and social life with a particular emphasis on the Western United States as a region. *Recommended Preparation:* HIST 100, ENGL 263. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 305 Art and Performance in the Americas
Units: 4 Terms Offered: Irregular Critically examine the histories, formations, and possibilities of art and performance from the 1970s forward. Instruction Mode: Lecture Grading Option: Letter

AMST 312 Documenting Latinx Los Angeles Food Cultures
Units: 4 (Enroll in ANTH 312)

AMST 318 Global Cyphers: Hip Hop Circles Around the World
Units: 4 Terms Offered: Irregular (Enroll in FREN 318)

AMST 320 Social Construction of Race and Citizenship
Units: 4 Terms Offered: FaSp Comparative perspective on the social construction of race and citizenship. Social, economic and political experiences of selected groups in the U.S. are examined. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-322

AMST 326 Latinx Media Studies
Units: 4 Terms Offered: FaSp (Enroll in COMM 326)

AMST 328 Asian American Politics
Units: 4 Terms Offered: FaSp (Enroll in POSC 328)

AMST 330m Black Music and the Political Imagination
Units: 4 Explores the changing political meanings of "Black music" throughout the 20th century, from freedom to a threat to civil order, from racial integration to Black liberation. Duplicates Credit in the former GEOG 350m. Instruction Mode: Lecture Grading Option: Letter

AMST 331gw The Black Atlantic: Narratives of Migration and Travel
Units: 4 Terms Offered: FaSp A survey of narratives accounting for the global dimensions of Black migratory experiences between Africa, Europe and the Americas, from early modern trajectories to contemporary times. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT 331

AMST 332m Post-Civil Rights Black America
Units: 4 Analyzes the political, economic, and cultural experiences of the post-1965 period through an interrogation of contemporary conditions, movements, and responses to power in Black America. Instruction Mode: Lecture Grading Option: Letter

AMST 333 Religion in the Borderlands
Units: 4 (Enroll in REL 333)

AMST 336 Re-Viewing Religion in Asian America
Units: 4 (Enroll in REL 336)

AMST 337m Islam in Black America: From Slavery to Hip Hop
Units: 4 Exploration of the rise of Islam in Black America, and the relationship of Black American Muslims to more recent Muslim immigrants using historical and sociopolitical frameworks. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-337

AMST 340m Latina/o LA
Units: 4 Examination of spatial and social patterns of the Latino population in Los - Angeles. Emphasis on economic, demographic and cultural processes. Duplicates Credit in the former GEOG 340. Instruction Mode: Lecture Grading Option: Letter

AMST 342m Law and Identities
Units: 4 Examines the complex and contested interaction between the law and racial, gender, religious, ethnic, and sexual identities using historical and contemporary cases. Instruction Mode: Lecture Grading Option: Letter

AMST 343 Food, Health and Culture in Los Angeles
Units: 4 Terms Offered: FaSp Examination of Los Angeles' diverse food cultures as well as the food justice issues that affect many low-income residents of neighborhoods surrounding USC campus. Duplicates Credit in SPAN 385 Instruction Mode: Lecture Grading Option: Letter

AMST 344m Islamic Law and American Society
Units: 4 Examination of the nature and substance of Islamic law (Shari'a) and how it relates to American democracy, society and secularism. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-344

AMST 345 Law and American Indian Studies
Units: 4 Terms Offered: FaSp Examines indigenous sovereignties and the historical and contemporary legal histories and cases which inform them. Instruction Mode: Lecture Grading Option: Letter

AMST 348m Race and Environmentalism
Units: 4 Relationships between environmentalism, environmental problems and racial-ethnic minorities. Rise of environmental justice movement. Assessment of social science methods used to investigate these relationships. Instruction Mode: Lecture Grading Option: Letter

AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods
Units: 4 Terms Offered: FaSp Advanced study in interdisciplinary theories and methods for analyzing race and ethnicity in the United States, including a comparative study of topics such as inequality, gender, and class. Instruction Mode: Lecture Grading Option: Letter

AMST 353m Race and Racism in the Americas
Units: 4 Terms Offered: FaSp Examination of selected topics in the historical development of racism with the goal of understanding the complex ways in which race has functioned in the modern world. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-353

AMST 357m Latino Social Movements
Units: 4 Terms Offered: FaSp Focuses on the political experience of Latinos in the U.S. Comparative analysis of their political experiences and perspectives, their histories of identity formation, and their political organizations. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-357

AMST 364m African American Art
Units: 4 Terms Offered: FaSp (Enroll in AHIS 365m)

AMST 365 Leadership in the Community — Internship
Units: 4 Terms Offered: FaSp Eight to 10 hours per week in a community-based internship plus two hour lecture. Theoretical and practical issues associated with community leadership. Instruction Mode: Lecture Grading Option: Letter

AMST 373m History of the Mexican American
Units: 4 Terms Offered: FaSp Racial and cultural background of Mexico; immigration and conquest; the Mexican in California and the southwest; the rise of contemporary Mexican- American consciousness. Duplicates Credit in former HIST 472. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-373

AMST 376m Contemporary Issues in Asian American Communities
Units: 4 Terms Offered: FaSp (Enroll in SOCI 376m)

AMST 378m Introduction to Asian American History
Units: 4 Terms Offered: FaSp Comparative examination of the social, economic, and political experiences of Asian immigrants and their descendants in the U.S., 1840s–present. Duplicates Credit in former HIST 378. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-378

AMST 379 Arabs in America
Units: 4 Terms Offered: FaSp Arab immigration and acculturation in the U.S. from late 19th century to present; emphasis on community formation, race, religion and gender. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-379

AMST 380 American Popular Culture
Units: 4 Terms Offered: FaSp (Enroll in HIST 380)

AMST 382 America and the World: Japan Case Study
Units: 4 Terms Offered: Sm Transnational, global perspective on American culture to examine the relationship between Los Angeles and various cities in Japan. Trip to Japan. Instruction Mode: Lecture Grading Option: Letter

AMST 383 Jews in American Popular Culture
Units: 4 Terms Offered: FaSp (Enroll in JS 383)

AMST 385 African American Culture and Society
Units: 4 Terms Offered: Sp Examines social and cultural issues affecting the past and present lives of African Americans in the United States. Instruction Mode: Lecture Grading Option: Letter

AMST 389m Carceral Geographies
Units: 4 Terms Offered: FaSp Focusing on California, interdisciplinary research teams will study why there are so many new U.S. prisons. What is their relationship to shopping malls, gated communities, globalization? *Prerequisite:* AMST 200. Instruction Mode: Lecture Grading Option: Letter

AMST 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration; by petition only. Instruction Mode: Lecture Grading Option: Letter

AMST 392 Undergraduate Research Methods
Units: 2 Terms Offered: FaSpSm Examines processes of scholarly research; quantitative and qualitative research methods; faculty mentorship; experiential learning; research proposal writing; careers in research. Sophomore or junior standing in the major. Departmental approval. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EDUC-392

AMST 395m African American Humor and Culture
Units: 4 Terms Offered: FaSp Examination of one of several traditions of African American humor for insights into shifting notions of race, culture, language and identity in and beyond Black America. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH-395

AMST 406 Social Media Storytelling for Latinx Audiences
Units: 2 (Enroll in JOUR 406)

AMST 414 Latina/o Screen Cultures
Units: 4 Terms Offered: FaSpSm (Enroll in CTCS 414)

AMST 424m Political Participation and American Diversity
Units: 4 Terms Offered: Fa (Enroll in POSC 424m)

AMST 428 Latino Politics
Units: 4 Terms Offered: Fa (Enroll in POSC 428)

AMST 432m Racial and Ethnic Relations in a Global Society
Units: 4 Terms Offered: FaSp (Enroll in SOCI 432m)

AMST 440 Graphic America: Reading American Culture Through Graphic Novels
Units: 4 Examine American identity and culture through exploration of graphic novels that vary widely in theme, including ancestry, race, gender, sexuality, throughout American history. Instruction Mode: Lecture Grading Option: Letter

AMST 442 American Literature, 1920 to the Present
Units: 4 Terms Offered: FaSp (Enroll in ENGL 442)

AMST 444m Native American Literature
Units: 4 Terms Offered: FaSp (Enroll in ENGL 444m)

AMST 445 African American Anthropology
Units: 4 Terms Offered: FaSp (Enroll in ANTH 445)

AMST 446 Cultural Circuits in the Americas
Units: 4 Terms Offered: FaSp How does culture move within and across the Americas? What are the relationships between new global media conglomerates, "national cultural industries," and local cultural practices? Instruction Mode: Lecture Grading Option: Letter

AMST 447 Caribbean Literature
Units: 4 An introduction to Caribbean studies, using literature and film, with a focus on specific islands examined in their transnational and global contexts. Instruction Mode: Lecture Grading Option: Letter

AMST 448m Chicano and Latino Literature
Units: 4 Terms Offered: FaSp Development of poetry, essay, short story and novel of the Chicano and Latino peoples of the United States, with particular emphasis on the differentiating characteristics between the multiple cultures that constitute the Latino populations. Duplicates Credit in former ENGL 448m. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-448

AMST 449m Asian American Literature
Units: 4 Terms Offered: FaSp Survey of Asian American literature from the earliest time to the present; development of prose, poetry and novel. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL 449

AMST 452m Race, Gender and Sexuality
Units: 4 Examination of sexual discourses in the United States in the context of slavery, empire, sex work, labor markets, schools and prisons. Instruction Mode: Lecture Grading Option: Letter

AMST 456m People of Color and the News Media
Units: 4 (Enroll in JOUR 466m)

AMST 458m Race and Ethnicity in Entertainment and the Arts
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 458m)

AMST 464m Latino News Media in the United States
Units: 4 (Enroll in JOUR 465m)

AMST 465 Studies in American Art
Units: 4 Max Units: max 8 Terms Offered: FaSp (Enroll in AHIS 465)

AMST 466m The Psychology of African Americans
Units: 4 Terms Offered: FaSp Provides an introduction to the study of health, mental health, and social behavior among African Americans. Instruction Mode: Lecture Grading Option: Letter

AMST 475m Blackness in American Visual Culture
Units: 4 Terms Offered: FaSp (Enroll in AHIS 475m)

AMST 483 Religion and Popular Culture in the United States
Units: 4 Terms Offered: Sp (Enroll in REL 483)

AMST 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

AMST 492 Research Methods in American Studies and Ethnicity
Units: 4 Develop the research proposal and methods for completing a senior honors thesis; for students in one of the four American Studies and Ethnicity honors programs. Instruction Mode: Lecture Grading Option: Letter

AMST 493 Senior Honors Thesis in American Studies and Ethnicity
Units: 4 Writing the honors thesis; for students in one of the four American Studies and Ethnicity majors and Honors Program. Instruction Mode: Lecture Grading Option: Letter

AMST 498 Senior Seminar in American Studies and Ethnicity
Units: 4 Terms Offered: FaSp Capstone course for majors, highlighting interdisciplinary study of race and ethnicity in a comparative context. *Prerequisite:* AMST 200. Instruction Mode: Lecture Grading Option: Letter

AMST 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in the earth sciences. Field trip required

when appropriate to the topic. Departmental approval required. Instruction Mode: Lecture Grading Option: Letter

AMST 500 Introduction to American Studies and Ethnicity
Units: 4 Terms Offered: Fa An exploration of themes, theoretical influences, and methodological approaches current in American Studies and Ethnic Studies. Instruction Mode: Lecture Grading Option: Letter

AMST 509 Key Topics in Linguistic Anthropology
Units: 4 Terms Offered: FaSp (Enroll in ANTH 509)

AMST 510 Readings in Chicano/Latino Studies
Units: 4 Terms Offered: FaSp Perspectives from the major debates that have driven the development of the field of Chicano/Latino/a studies across the disciplines. Instruction Mode: Lecture Grading Option: Letter

AMST 519 Indigenous, Decolonial and Transhemispheric American Studies
Units: 4 Terms Offered: FaSp Evaluate pressing social science and humanities concerns hemispherically in relation to first peoples, decolonialization, land, cultural memory, and politics within comparative ethnic studies. Instruction Mode: Lecture Grading Option: Letter

AMST 520 Readings in Asian American Studies
Units: 4 Terms Offered: FaSp Graduate seminar covering critical themes in the interdisciplinary field of Asian American Studies, including perspectives from anthropology, literature, sociology, history, political science, religious studies, cultural studies, women/gender studies and psychology. Instruction Mode: Lecture Grading Option: Letter

AMST 522 Transpacific History
Units: 4 (Enroll in HIST 560)

AMST 525 Seminar in American Art
Units: 4 Terms Offered: FaSp (Enroll in AHIS 525)

AMST 530 Readings in African American Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Seminar exploring crucial theoretical, methodological and historical issues in the development of African American Studies. Instruction Mode: Lecture Grading Option: Letter

AMST 543 Critical Studies in Whiteness
Units: 4 Max Units: 8.0 Terms Offered: FaSp Examines meaning of "whiteness" from historical and other disciplinary perspectives; focus is on how whiteness operates within specific racial regimes to perpetuate inequality. Instruction Mode: Lecture Grading Option: Letter

AMST 552 Archives and Subcultures
Units: 4 Terms Offered: FaSm Introduction to the practice of archival research with an emphasis on the literary and historical methods of documenting subcultural groups, particularly racial and sexual minorities. Instruction Mode: Lecture Grading Option: Letter

AMST 553 Race, Gender and Sexuality
Units: 4 Interdisciplinary investigation of concepts, theories, and debates in the study of race and its intersection with gay, lesbian, trans, heterosexual and other sexualities/genders. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-553

AMST 554 Readings in Chicano/Latino History
Units: 4 Terms Offered: FaSp Readings, analyses, and discussion of various approaches, topics, and genres in the field of Chicano/Latino history. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-554

AMST 560 Readings on Race and Ethnicity
Units: 4 Terms Offered: FaSp Exploration of research on race and ethnicity in the United States as it pertains to political, social, economic, cultural and historical issues. Instruction Mode: Lecture Grading Option: Letter

AMST 562 The Practice of Ethnography
Units: 4 (Enroll in ANTH 562)

AMST 567 Body, Power and Politics
Units: 4 Terms Offered: FaSp Surveys interdisciplinary research and theory on the human body, state power, scientific knowledge, professions and representation. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 567

AMST 570 Readings on Los Angeles and Urban Culture
Units: 4 Terms Offered: FaSp Exploration of some of the leading scholarship from a variety of disciplines writing about Los Angeles and the Southern California area. Particular emphasis is placed on the intersections of historical, contemporary and cultural issues that inform recent scholarship on Los Angeles. Instruction Mode: Lecture Grading Option: Letter

AMST 572 Quantitative Methods for a Diverse Society
Units: 4 Terms Offered: FaSp Diversity and empirical social research; conceptualization, design and measurement; conducting, analyzing and evaluating surveys and experiments; focus on obstacles in the empirical study of diversity. Instruction Mode: Lecture Grading Option: Letter

AMST 580 Readings in Cultural Studies
Units: 4 Terms Offered: FaSp Seminar in theoretical approaches to cultural studies, with an emphasis on the analysis of race, gender, sexuality, and class in the U.S. Instruction Mode: Lecture Grading Option: Letter

AMST 585 Topics in Cultural Theory
Units: 4 Max Units: 8.0 Terms Offered: FaSp Introduction to key texts on poststructuralism and its theorizing of the body, power, and historical trauma. Instruction Mode: Lecture Grading Option: Letter

AMST 586 Utopia and Dystopia
Units: 4 Terms Offered: FaSp How did Marx conceptualize modernity? What is capital? Historical materialism? Dialectical materialism? What roles do race, class, gender, sexuality, territory and the state perform? Instruction Mode: Lecture Grading Option: Letter

AMST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the program. Instruction Mode: Lecture Grading Option: Credit/No Credit

AMST 593 Practicum in Teaching the Liberal Arts: American Studies
Units: 2 Terms Offered: FaSp Practical principles for the long term development of effective teaching within college disciplines, intended for teaching assistants in American Studies and Ethnicity. Duplicates Credit in MDA 593. Instruction Mode: Lecture Grading Option: Credit/No Credit

AMST 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminar in selected topics in American studies and ethnicity. Instruction Mode: Lecture Grading Option: Letter

AMST 610 Interdisciplinary Research Seminar in Chicano/Latino Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Exploration of issues involved in conducting research in the interdisciplinary field of Chicano/Latino Studies and guides students through the design and completion of a journal- quality research paper. *Recommended Preparation:* graduate reading course in Chicano/ Latino Studies. Instruction Mode: Lecture Grading Option: Letter

AMST 622 Research Seminar on Transpacific Studies
Units: 4 Terms Offered: FaSp Interdisciplinary research seminar foregrounding a multilateral approach towards understanding the political, cultural, economic, and military relations and conflicts between Asia, the Americas, and the Pacific. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-660

AMST 630 Interdisciplinary Research Seminar: African American Studies
Units: 4 Terms Offered: FaSp Methodological and theoretical approaches to conducting research in African American Studies; design and completion of a publishable research paper. Instruction Mode: Lecture Grading Option: Letter

AMST 635 Critical Spatial Methods
Units: 4 Terms Offered: FaSp An overview of key methodological and theoretical approaches to the study of race and space. Instruction Mode: Lecture Grading Option: Letter

AMST 640 Race, Technology, Power
Units: 4 Terms Offered: FaSp Introduction to an emerging field of scholarship that examines how race, science and technology are mutually constituted. Instruction Mode: Lecture Grading Option: Letter

AMST 657 Critical Theories of Race and Culture
Units: 4 Terms Offered: FaSp (Enroll in COMM 657)

AMST 660 Interdisciplinary Research Seminar in Race and Ethnicity
Units: 4 Explores issues of conducting interdisciplinary research in race and ethnicity and guides students through the design and completion of a journal-quality research paper. *Recommended Preparation:* graduate reading course

in race and ethnicity. Instruction Mode: Lecture Grading Option: Letter

AMST 662 Research Seminar in Comparative Ethnic Studies
Units: 4 Examination of the historical evolution and current status of comparative and relational ethnic studies. Original research project required. Instruction Mode: Lecture Grading Option: Letter

AMST 670 Interdisciplinary Research Seminar on Los Angeles
Units: 4 Introduces students to issues of - urban-based research concerning Los Angeles and guides students through the design and completion of a journal-quality research paper. *Recommended Preparation:* graduate reading course on Los Angeles. Instruction Mode: Lecture Grading Option: Letter

AMST 680 Interdisciplinary Research Seminar in Cultural Studies
Units: 4 Explores theoretical approaches to cultural studies as an interdisciplinary field and guides students through the design and completion of a journal-quality research paper. *Recommended Preparation:* graduate reading course in cultural studies. Instruction Mode: Lecture Grading Option: Letter

AMST 700 Theories and Practices of Professional Development
Units: 4 Terms Offered: FaSpSm Offers students a structured environment in which to write their dissertation proposals and focuses on professional development. Completion of qualifying exam. Instruction Mode: Lecture Grading Option: Credit/No Credit

AMST 701 Contemporary Theories of American Studies and Ethnicity
Units: 4 Max Units: 8.0 Terms Offered: Sp Seminar in representative theoretical works in the fields of American Studies and Ethnic Studies published in the past fifteen years. Instruction Mode: Lecture Grading Option: Letter

AMST 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the program. Instruction Mode: Lecture Grading Option: Credit/No Credit

AMST 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AMST 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AMST 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AMST 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AMST 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Anatomy

ANAT 321 Head and Neck Anatomy
Units: 2 Anatomy of the head and neck with lecture and laboratory demonstration for dental hygienists. Instruction Mode: Lecture Grading Option: Letter

ANAT 501 Functional Neuroanatomy-Neurophysiology
Units: 3 Structure and function of the human nervous system. Includes participation in neurology clinics at LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

ANAT 521 Head and Neck Anatomy
Units: 2 Terms Offered: Fa Detailed morphology of the head and neck emphasizing considerations applicable to dentistry; morphology of the thorax; osteology of the skull. Instruction Mode: Lecture Grading Option: Letter

ANAT 522 Systemic Human Anatomy
Units: 3 Structure and function of the human body; organ systems and morphology of the abdomen and pelvis; axilla and arm; osteology of the skull. Instruction Mode: Lecture Grading Option: Letter

ANAT 523 Head and Neck Dissection
Units: 1 Laboratory experience in dissection of the structures of the human head and neck with emphasis on the osteology and morphology of the face. Instruction Mode: Lecture Grading Option: Letter

ANAT 701 Advanced Head and Neck Anatomy
Units: 1 Detailed study of structure and function of the orofacial region including recent research and advances in dentistry. Instruction Mode: Lecture Grading Option: Letter

ANAT 722 Advanced Head and Neck Anatomy Laboratory
Units: 1 Dissection of the head and neck with emphasis on the osteology and morphology of the face. *Prerequisite:* ANAT 701 enrollment. Instruction Mode: Lecture Grading Option: Letter

Anesthesiology

ANST 501 Advanced Pharmacology of Anesthesia Practice I
Units: 4 Terms Offered: FaSpSm Pharmacokinetic and pharmacodynamic principles, uptake and distribution of inhalational anesthetics, and pharmacology of respiratory and cardiovascular drugs. Application of pharmacologic principles to anesthetic management. Registration Restriction: Open only to Doctor of Nurse Anesthesia Program majors Instruction Mode: Lecture Grading Option: Letter

ANST 502 Principles of Nurse Anesthesia Practice
Units: 4 Terms Offered: FaSpSm Basic theory of anesthesia administration, preanesthetic assessment, physical examination, monitoring. Case management including airway and blood/fluid management, anesthesia machine, and postoperative pain. Lecture/case study format. Registration Restriction: Open only to Doctor of Nurse Anesthesia Program majors Instruction Mode: Lecture Grading Option: Letter

ANST 503 Advanced Pharmacology of Anesthesia Practice II
Units: 4 Terms Offered: Sp Pharmacokinetic/pharmacodynamic principles of drugs covering different organs systems (cardiovascular, CNS, hematology, endocrine), herbal therapies, chemotherapeutics, antimicrobials. Application of pharmacology to anesthetic management using problem-based learning. *Prerequisite:* ANST 501 and ANST 502. Instruction Mode: Lecture Grading Option: Letter

ANST 504 Advanced Pathophysiology Related to Anesthesia Practice
Units: 4 Terms Offered: Sp In-depth study of cardiovascular, respiratory, renal, liver, endocrine and neurophysiology and pathophysiology with application of these principles to anesthetic case management using problem-based learning. *Prerequisite:* ANST 501, ANST 502. Instruction Mode: Lecture Grading Option: Letter

ANST 506 Advanced Principles of Nurse Anesthesia Practice
Units: 4 Terms Offered: FaSpSm Advanced theory of anesthesia management for general and specialized procedures, diagnostic procedures, pediatrics and obstetrics. *Prerequisite:* ANST 503 and ANST 504 Registration Restriction: Open only to Doctor of Nurse Anesthesia Program majors Instruction Mode: Lecture Grading Option: Letter

ANST 508 Research: Investigative Inquiry
Units: 3 Terms Offered: Fa Utilization of research, which includes the evaluation of research, problem identification within the practice setting, awareness of practice outcomes and the clinical application of research. *Recommended Preparation:* research course; basic statistics. Instruction Mode: Lecture Grading Option: Letter

ANST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree in nurse anesthesia. Maximum units which may be applied to the degree to be determined by the department. *Prerequisite:* ANST 508. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 591 Special Projects
Units: 1, 2, 3, 4, 5 Max Units: 12 Terms Offered: FaSpSm Supervised learning in an academic and/or clinical area of focus reflecting current trends and development in the field of nurse anesthesia. Registration Restriction: Only open to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 600 Gateway Tools
Units: 2 Emphasize strategies that build critical skills for the transition from clinician to doctoral level scholarship and clinical practice. Discussions used to develop self awareness, self regulation, internal motivation, empathy, social skills and role transition. Acceptance into the USC Program of Nurse Anesthesia. Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

ANST 601 Professional Integration to the Clinical Environment
Units: 2 Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory in the clinical environment with observation and supervised clinical instruction. Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Letter

ANST 602 Analytical Methods for Evidence-Based Practice
Units: 3 Evaluation of the appropriateness of statistical methods applied to answer research questions and impact of statistical choice on applying evidence-based medicine to nurse anesthesia practice. Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 603 Anatomy and Advanced Health Assessment
Units: 4 Terms Offered: FaSpSm Lectures and laboratory simulation in anatomy emphasizing structure and function of major organs to include brain, cardiovascular, lungs, liver, kidneys and musculoskeletal systems. Acceptance into the USC Program of Nurse Anesthesia. Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture Grading Option: Letter

ANST 604 Healthcare Policy for Advocacy in Health Care
Units: 3 Examining the health care system focusing on policy development, health care costs, quality and patient safety, access to care, disparities, and future trends. Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 605 Clinical Prevention and Population Health
Units: 3 Focuses on positive/protective social and behavioral factors influencing well-being of individuals and populations. Public health promotion strategies, clinical prevention and lifestyle choices will be reviewed. Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 607 Advanced Health Assessment
Units: 2 Terms Offered: Sm Advanced health assessment of all human systems utilizing advanced assessment techniques, concepts and approaches. Registration Restriction: Open only to Nurse Anesthesia students only. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 608 Advanced Clinical Anatomy for Nurse Anesthesia Practice
Units: 2 Investigation of the cardiovascular, respiratory, renal, hepatic, spine, head and neck, musculoskeletal and nervous system anatomy with emphasis on these systems relating to anesthesia management. *Concurrent Enrollment:* ANST 610 Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Letter

ANST 609 Advanced Health Assessment
Units: 3 Focuses on the patient's health history, on inspection, palpation, percussion and auscultation of major organ systems and differential diagnosis. Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Letter

ANST 610 Advanced Physiology for Nurse Anesthesia Practice
Units: 4 Terms Offered: FaSpSm An investigation of the human cardiovascular, respiratory, renal, hepatic, neurological, and hematological systems and cellular physiology with special emphasis on how these systems relate to anesthesia management. Registration Restriction: Open only to Doctor of Nurse Anesthesia Program majors Instruction Mode: Lecture Grading Option: Letter

ANST 611 Leadership and Collaborative Practice
Units: 3 Terms Offered: FaSpSm Emphasis on the professional components of nurse anesthesia practice including scope of practice, organizational leadership, accountability, ethics and collaborative practice. Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice majors Instruction Mode: Lecture Grading Option: Letter

ANST 613 Clinician-Technology Interface
Units: 3 Exploring informatics, the integration of computer science, cognitive science, and informational science to manage and communicate data, information, knowledge and wisdom in healthcare delivery. Instruction Mode: Lecture Grading Option: Letter

ANST 614 Clinical Residency in Nurse Anesthesia I
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory in the clinical setting with observation and supervised clinical residency. *Prerequisite:* ANST 501 and ANST 502 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 615 Clinical Residency in Nurse Anesthesia II
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory in the clinical setting with observation and supervised clinical residency. *Prerequisite:* ANST 614 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 616 Advanced Clinical Residency in Nurse Anesthesia I
Units: 2 Terms Offered: FaSpSm Correlating techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to geriatric, obstetrical, and pediatric anesthesia; anesthetic management includes medically compromised patients. *Prerequisite:* ANST 614 and ANST 615 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 617 Advanced Clinical Residency in Nurse Anesthesia II
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to neuroanesthesia, cardiac anesthesia, trauma anesthesia, critical care and pain management. *Prerequisite:* ANST 614 and ANST 615 and ANST 616 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 618 Advanced Clinical Residency in Nurse Anesthesia III
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to neuroanesthesia, cardiac anesthesia, trauma anesthesia, critical care and pain management. *Prerequisite:* ANST 614 and ANST 615 and ANST 616 and ANST 617 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 619 Advanced Clinical Residency in Nurse Anesthesia IV
Units: 3 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to neuroanesthesia, cardiac anesthesia, trauma anesthesia, critical care and pain management. *Prerequisite:* ANST 614 and ANST 615 and ANST 616 and ANST 617 and ANST 618 Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 631 Clinical Synthesis I
Units: 2 Terms Offered: FaSpSm Lecture and simulation curriculum promoting synthesis and mastery of topics integral to the art and science of nurse anesthesia planning, management and delivery. Registration Restriction: Open only to Doctor of Nurse Anesthesia students Duplicates Credit in former ANST 620a and former ANST 620b Instruction Mode: Lecture Grading Option: Letter

ANST 632 Clinical Synthesis II
Units: 2 Terms Offered: FaSpSm Part two of a four-semester curriculum promoting synthesis and mastery of topics integral to the art and science of nurse anesthesia planning, management and delivery. *Prerequisite:* ANST 631 Registration Restriction: Open only to Doctor of Nurse Anesthesia students Duplicates Credit in ANST 621b and former ANST 621a Instruction Mode: Lecture Grading Option: Letter

ANST 633 Clinical Synthesis III
Units: 2 Terms Offered: FaSpSm Lecture and advanced simulation curriculum promoting synthesis and mastery of topics integral to the art and science of nurse anesthesia planning, management and delivery. *Prerequisite:* ANST 632 Registration Restriction: Open only to Doctor of Nurse Anesthesia students Instruction Mode: Lecture Grading Option: Letter

ANST 634 Clinical Synthesis IV
Units: 2 Terms Offered: FaSpSm Part four of a four-semester curriculum promoting synthesis and mastery of topics integral to the art and science of nurse anesthesia planning, management and delivery. *Prerequisite:* ANST 633 Registration Restriction: Open only to Doctor of Nurse

Anesthesia students Instruction Mode: Lecture Grading Option: Letter

ANST 690 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research, in part, leading to a doctoral degree in nurse anesthesia. Maximum units which may be applied to the degree to be determined by the department. *Prerequisite:* ANST 508 Registration Restriction: Open only to Doctor of Nurse Anesthesia majors Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 691 The Doctor of Nurse Anesthesia Practice Essentials
Units: 2 Examination of elements involved in capstone project preparation. Emphasis placed on identification of a project through literature review, gap analysis and assessment of project feasibility. Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Letter

ANST 694a Doctoral Capstone Project
Units: 2 Terms Offered: FaSpSm Mentored research on an individualized topic of interest leading to the professional doctorate. The project will culminate in a formal written research paper or presentation. *Prerequisite:* ANST 691 Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 694b Doctoral Capstone Project
Units: 2 Terms Offered: FaSpSm Mentored research on an individualized topic of interest leading to the professional doctorate. The project will culminate in a formal written research paper or presentation. *Prerequisite:* ANST 694a Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 694c Doctoral Capstone Project
Units: 2 Terms Offered: FaSpSm Mentored research on an individualized topic of interest leading to the professional doctorate. The project will culminate in a formal written research paper or presentation. *Prerequisite:* ANST 694b Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 694d Doctoral Capstone Project
Units: 1 Terms Offered: FaSpSm Mentored research on an individualized topic of interest leading to the professional doctorate. The project will culminate in a formal written research paper or presentation. *Prerequisite:* ANST 694c Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture Grading Option: Credit/No Credit

Anthropology

ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology
Units: 4 Terms Offered: FaSp The body, illness and healing from a cultural perspective, including comparative studies of folk healing systems, curing rituals and Western biomedical practices. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ANTH 105g Culture, Medicine and Politics
Units: 4 Survey of the impact of public institutions, private interests and cultural practices on health and the delivery of health care. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as OT 105

ANTH 125g Social Issues in Human Sexuality and Reproduction
Units: 4 Terms Offered: FaSp Examination of the "natural" (biological) and "unnatural" (social and cultural) dimensions of human sexuality and reproduction. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 140g Mesoamerican Cosmovision and Culture
Units: 4 Terms Offered: Sp An exploration of the nature and contributions of pre-Columbian high civilizations (Maya, Aztecs, etc.) and their descendants as they resist and assimilate to the modern world. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 200Lg The Human Animal
Units: 4 Max Units: 12.0 (Enroll in HBIO 200Lg) Instruction Mode: Lecture Grading Option: Letter

ANTH 201g Introduction to Sociocultural Anthropology
Units: 4 Introduction to sociocultural anthropology, emphasizing the study of human values and social structures across diverse examples. Readings in ethnography and social analysis. Gateway course for the Anthropology Major. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 202g Archaeology: Our Human Past
Units: 4 Terms Offered: FaSp Archaeology as the means of investigating our shared human past, from the origins of humanity to the foundations of current civilization. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS 202, ARCG 202

ANTH 203 Global Media
Units: 4 An anthropological approach to examine social and cultural practices of media production, circulation and consumption, engaging with a variety of multimedia. Instruction Mode: Lecture Grading Option: Letter

ANTH 205g Introduction to Global Studies and Cross-cultural Research
Units: 4 The effects of globalization on social life in diverse communities, approaching related issues from an ethnographic perspective. Gateway course for the Global Studies Major. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 207 Introduction to Heritage Studies
Units: 4 Terms Offered: FaSp Explores the interdisciplinary field of heritage studies and investigates how cultural heritage is defined, valued and protected. Instruction Mode: Lecture Grading Option: Letter

ANTH 235g The Changing Pacific: History, Culture, Politics
Units: 4 Terms Offered: Fa Current social and political developments in the South Pacific analyzed from the perspective of the historical relationship between indigenous cultures and the West. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

ANTH 240gm Representing 9/11 and Hurricane Katrina
Units: 4 Terms Offered: FaSp Critical examination of visual, textual, and performative representations of culture and identity anchored by discussion of the terrorist attacks of 9/11 and Hurricane Katrina . *Recommended Preparation:* ANTH 263g Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 240

ANTH 250g Race and Sexual Politics in Southeast Asia
Units: 4 Southeast Asia is studied as a meeting place of different races and cultural traditions, with emphasis on the precolonial heritage of sexual equality and postcolonial reinterpretations of men's and women's worlds. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 263g Exploring Culture through Film
Units: 4 Concepts of social anthropology, using filmic representations of societies throughout the world. Gateway course for the Anthropology major. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions
Units: 4 Terms Offered: Fa An intensive study of local systems of belief and knowledge in selected societies in the Pacific, Asia, Africa, the Caribbean and Latin America with emphasis on ideas of the spirit world. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

ANTH 275 Anthropology of the Arts
Units: 4 Addresses what it means to study the arts anthropologically. Highlights anthropological methods for examining the making, doing, meaning-making and context-making processes integral to arts. *Recommended Preparation:* Introduction to Socio-Cultural Anthropology Instruction Mode: Lecture Grading Option: Letter

ANTH 300 Evolution, Ecology, and Culture
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm (Enroll in HBIO 300) Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 301g The Global Performance of Healing
Units: 4 Survey of the performance of healing in cross-cultural perspective. The course culminates in field research to Spiritist centers outside the United States. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ANTH 302 Humans and Ancient Environments
Units: 4 Terms Offered: FaSp Examine ways that humans have caused and adapted to environmental change in the past. *Recommended Preparation:* ANTH 202 and GEOL 105Lg or GEOL 150Lg. Instruction Mode: Lecture Grading Option: Letter

ANTH 303 Exploring Ancient Ways of Living: Experimental Archaeology
Units: 4 (Enroll in REL 303)

ANTH 304 Prehistoric Archaeology
Units: 4 Examination of the rise of human social complexity from the first Homo Sapiens through the development of agriculture, chiefdoms, states and empires. *Recommended Preparation:* HBIO 200Lg. Instruction Mode: Lecture Grading Option: Letter

ANTH 305 Childhood, Birth and Reproduction
Units: 4 Terms Offered: Fa Cross-cultural analysis and comparison of the experience and cultural conception of birth, maternity, parenthood, and childhood in western and non-western societies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-305

ANTH 306 Biology of the Non-Human Primates
Units: 4 Terms Offered: FaSpSm (Enroll in HBIO 306)

ANTH 307 Trojan Archaeology: Excavating USC
Units: 4 Archaeological excavation on USC's campus features training in research design, digging, survey, mapping, archive use, artifact analysis, public communication, and confronting political and ethical challenges. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ARCG 307

ANTH 308 Origins and Evolution of Human Behavior
Units: 4 (Enroll in HBIO 308)

ANTH 309L Virtual and Digital Culture, Heritage and Archaeology
Units: 2, 4 Max Units: 04 Terms Offered: FaSpSm (Enroll in ARCG 305L)

ANTH 310 Archaeology of the Americas
Units: 4 Terms Offered: Irregular Pre-Columbian culture from early hunters to the Spanish conquest in major geographical areas of Mexico, Central America, Peru, or the United States. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 310

ANTH 311 Old World Archaeology
Units: 4 Terms Offered: Irregular Neolithic revolution and origins of civilization in major culture centers such as Mesopotamia, Egypt, India, or China. Instruction Mode: Lecture Grading Option: Letter

ANTH 312 Documenting Latinx Los Angeles Food Cultures
Units: 4 Explores Latinx food in Los Angeles through an anthropological lens. Students experience, document and analyze local food knowledge and traditions through active field study. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 312

ANTH 314g The Nature of Maya Civilization
Units: 4 A seminar forum on Maya culture from the earliest form to present; problems of origins, classic florescence, systems collapse, conquests, persistence, and transformation today. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 315gw Native North Americans
Units: 4 Terms Offered: Fa Indigenous peoples of North America: major cultural themes, contemporary issues, language revitalization, native sovereignty, environmental issues, decolonization. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 316gmp Native Americans in American Public Life
Units: 4 Terms Offered: Sp Role of Native Americans in American public life from colonial times to the present; Native American societies and governments and their relations to the U.S. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as HIST 317gmp

ANTH 318 Ethics and Global Heritage
Units: 4 (Enroll in REL 304)

ANTH 320 Male and Female in Pacific Society
Units: 4 Terms Offered: Sp Cultural variations in gender systems and historical changes due to colonialism and development in Polynesia, Melanesia, Indonesia, and other Pacific Rim cultures. Instruction Mode: Lecture Grading Option: Letter

ANTH 321 Space, Place, Perception and Power
Units: 4 The social construction of spaces, places, and landscapes and their reciprocal relationships to human embodied experiences, processes of identity formation and society. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 334

ANTH 322 Anthropology of Bali
Units: 4 Terms Offered: Sp An introduction to the methodology of social anthropology, focusing on the culture of the Indonesian island of Bali. Instruction Mode: Lecture Grading Option: Letter

ANTH 323 Southeast Asian Cultures Today: Globalization and Multiple Modernities
Units: 4 The cultural and social diversity of Southeast Asia today, focusing on globalization, modernity, and change. Instruction Mode: Lecture Grading Option: Letter

ANTH 324gw Contemporary China: Cultural Politics and Social Realities
Units: 4 Everyday life, politics, social transformations, and cultural practices in the People's Republic of China, from cultural studies and social science perspectives. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC 324

ANTH 325 Global Studies Research Methods
Units: 4 Terms Offered: Fa Methods for field research in international settings include ethnography, archival work, surveying and documentation; preparation for overseas research and senior thesis. *Recommended Preparation:* ANTH 205. Instruction Mode: Lecture Grading Option: Letter

ANTH 326 European Cultures and Societies
Units: 4 Terms Offered: FaSpSm Europe as a geographic area in terms of its linguistic, ethnic and cultural diversity, explored especially through the study of folk traditions. Instruction Mode: Lecture Grading Option: Letter

ANTH 329 Archaeology and Global Cultural Heritage
Units: 4 Exploration of the role archaeology plays in the creation of modern national, ethnic, racial and other types of identities worldwide. Instruction Mode: Lecture Grading Option: Letter

ANTH 330m Culture, Gender and Politics in South Asia
Units: 4 Terms Offered: Fa Examination of violence, identity, law, religion, nationalism, development, caste, kinship, gender, and the South Asian diaspora. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-330

ANTH 332g Anthropology and Narrative Medicine
Units: 4 Terms Offered: Fa Exploration of illness, disability, and healing narratives, how narratives are culturally shaped, and their significance for western biomedical practices. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 333gm Forms of Folklore
Units: 4 Terms Offered: Fa Introduction to folklore as a discipline, including folklore research methods and theory. Core course for the minor in Folklore and Popular Culture. Satisfies New General Education in Category C: Social Analysis Instruction

Mode: Lecture, Discussion Grading Option: Letter

ANTH 336 Health, Gender and Ethnicity
Units: 4 Terms Offered: Sp (Enroll in SWMS 336)

ANTH 337 Anthropology of Warfare
Units: 4 Examination of the origins of warfare, its evolution and the changes it brought to human civilization. *Recommended Preparation:* ANTH 202, ANTH 304. Instruction Mode: Lecture Grading Option: Letter

ANTH 338g Food in Culture and Society
Units: 4 Terms Offered: FaSp An introduction to the field of food studies, as a historical and cross-disciplinary study of the place of food in culture and society. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ANTH 340 Anthropology In and Of the Museum
Units: 4 Terms Offered: FaSp Examines museums as objects of anthropological analysis. History and theory of museums as institutions that shape heritage and identity. *Recommended Preparation:* Introduction to Socio-Cultural Anthropology Instruction Mode: Lecture Grading Option: Letter

ANTH 344g Living with the Past: Encountering History through Ritual, Experience and Practice
Units: 4 Uses anthropology to explore the gaps between official histories and lived traditions. Ritual, practice and phenomenology in the production and transmission of historic knowledges. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ANTH 345 Politics, Social Organization, and Law
Units: 4 Terms Offered: Sp Political and legal systems of primitive societies, social control, and structure. Instruction Mode: Lecture Grading Option: Letter

ANTH 355 Urban Anthropology
Units: 4 Anthropological study of city life and urban social experience. Ethnography and social theory of cities including social space, public policy, ethnic politics, globalization. *Recommended Preparation:* Coursework in Anthropology Instruction Mode: Lecture Grading Option: Letter

ANTH 357g Cultures of Genocide, Cultures of Care
Units: 4 The comparative analysis of genocide in different cultures and historical moments as well as different cultural responses to it, including human rights and humanitarianism. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ANTH 360 Symbolic Anthropology
Units: 4 Terms Offered: Fa The role of symbols in the evolution of culture; symbolic aspects of myth, ritual, and social life. *Prerequisite:* sophomore standing. Instruction Mode: Lecture Grading Option: Letter

ANTH 365 Life History in Anthropological Perspective
Units: 4 Terms Offered: Irregular Examination of one's life within its sociocultural context; study of family history, autobiography, diary, journal, and film; research and writing of a life history. Instruction Mode: Lecture Grading Option: Letter

ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship
Units: 4 Terms Offered: Sp Comparative examination of family and kinship in tribal, peasant, and complex societies, emphasizing non-Western cultures, societal and normative consequences of forms and functions in family. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 370

ANTH 371gm Cross-Cultural Research on Urban Gangs
Units: 4 Terms Offered: FaSpSm Youth gang dynamics and their effects on institutions. Comparative analysis of Asian, African, and Mexican American gangs. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 372 Interpretation of Myth and Narrative
Units: 4 Terms Offered: Fa Oral narratives from non-Western cultures; communications about deeply-held beliefs, psychological tensions, social problems, and the structure of the mind. Instruction Mode: Lecture Grading Option: Letter

ANTH 373 Magic, Witchcraft and Healing
Units: 4 Analysis of the practices of witches and witch doctors, priests, diviners and traditional healers in Western and non-Western societies, relating their practices to religion and medicine. Instruction Mode: Lecture Grading Option: Letter

ANTH 375 Anthropology for Consulting and Design
Units: 4 Terms Offered: FaSpSm Practical training in qualitative research methods for design consulting and real-world problem solving in development, government, and corporate contexts. Socially-engaged ethnography; anthropology as cultural critique. *Recommended Preparation:* Previous course work in Anthropology Instruction Mode: Lecture Grading Option: Letter

ANTH 376 Scientific Analysis in Archaeology
Units: 4 Examination of the range of scientific techniques and technologies used for the analysis and interpretation of material culture recovered during archaeological excavations. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 376

ANTH 377g Archaeological Interpretation of Complex Societies
Units: 4 Archaeologists translate raw data sets into broader understanding through interpretation. Students engage specific examples and develop their own perspectives on past societies. (Block semester) *Recommended Preparation:* ANTH 202g Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 377

ANTH 380 Sex and Gender in Anthropological Perspective
Units: 4 Cultural construction of gender in a number of non-Western societies is compared to ideas of sex and sexual differences in American society. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-380

ANTH 385m Men and Masculinity
Units: 4 (Enroll in SWMS 385m)

ANTH 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ANTH 393 Directed Internship
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSp Real-world work experience in an internship position, while also learning to apply anthropological theory and research methods to complete a related research project. Enrollment requires permission from department. *Recommended Preparation:* ANTH 200 or 300-level course with a grade of B or higher Registration Restriction: Only open to juniors, seniors, and graduate anthropology and related majors Instruction Mode: Lecture Grading Option: Letter

ANTH 395m African American Humor and Culture
Units: 4 (Enroll in AMST 395m)

ANTH 400 Maya Resilience: Constructing Past and Present Identities
Units: 4 Terms Offered: Sm Examination of how the Maya, past and present, have forged their cultural identity. Issues are explored through visits to sites and communities. *Recommended Preparation:* ANTH 202g, ANTH 310, ANTH 314g or another anthropologically based archaeology course Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 400

ANTH 401 Environment and Politics in the Middle East
Units: 4 Terms Offered: FaSp (Enroll in MDES 401)

ANTH 405 Evolutionary Medicine
Units: 4 Terms Offered: Fa (Enroll in HBIO 405)

ANTH 406 Theory and Method in Human Evolutionary Biology
Units: 4 Terms Offered: FaSpSm (Enroll in HBIO 406)

ANTH 409 Indigenous Languages in the Contemporary World
Units: 4 Terms Offered: Sm Examination of indigenous languages in Northern Ireland, with a focus on the sociopolitical dimension of revitalization movement. Instruction Mode: Lecture Grading Option: Letter

ANTH 410 Ethnographic Research Methods
Units: 4 Terms Offered: Fa Survey of methods for acquiring and analyzing qualitative research data, emphasizing ethnographic methods for field research in Anthropology. *Recommended Preparation:* Prior ANTH coursework Duplicates Credit in former ANTH 410a Instruction Mode: Lecture Grading Option: Letter

ANTH 411 Thesis Seminar in Ethnographic Analysis
Units: 4 Terms Offered: Sp Social analysis of qualitative and ethnographic research data, advanced ethnographic writing and representation. Capstone course for Anthropology Major. *Recommended Preparation:* Upper-division Anthropology coursework Duplicates Credit in former ANTH 410b Instruction Mode: Lecture Grading Option: Letter

ANTH 415 Global Issues Seminar
Units: 4 Terms Offered: Fa Advanced seminar on a key theme or topic in Global Studies selected by the instructor, with specific focus subject to change with each offering. *Recommended Preparation:* Upper-division ANTH coursework Instruction Mode: Lecture Grading Option: Letter

ANTH 425 Peoples and Cultures of Latin America
Units: 4 Terms Offered: Irregular Cultures of the indigenous peoples of South America; results of Spanish conquest and colonization; present folk societies and their cultures. Instruction Mode: Lecture Grading Option: Letter

ANTH 435 Ethnic Identity and Minority Politics in China
Units: 4 Modern history and contemporary conditions of ethnic groups in the People's Republic of China, with a focus on the politics of race, belonging and border regions. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC 435

ANTH 440 History of Anthropological Theory
Units: 4 Terms Offered: Sp Ideas about man, culture, and society which have formed the field of anthropology as a research discipline; present trends and problems. Instruction Mode: Lecture Grading Option: Letter

ANTH 441w Cities of the Middle East
Units: 4 (Enroll in MDES 441w)

ANTH 445 African American Anthropology
Units: 4 Terms Offered: FaSp An examination of anthropological research on race and African American culture, from the 18th century to the present. *Recommended Preparation:* AMST 385, ANTH 263. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-445

ANTH 450 Field Research in Maya Archaeology
Units: 4 Terms Offered: Sm Hands on research experience at a Maya ruin, including archaeological survey and excavation in the jungle. *Prerequisite:* ANTH 202g or ANTH 310 or ANTH 314g *Corequisite:* ANTH 400 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 482

ANTH 460 Economic Anthropology
Units: 4 Terms Offered: Irregular Comparative study of human systems of valuation and exchange. Topics include labor and work; manufacturing, trade and infrastructure; monetization and commodification. Instruction Mode: Lecture Grading Option: Letter

ANTH 465 Archaeology and Society
Units: 4 Terms Offered: FaSpSm (Enroll in CLAS 465)

ANTH 470 Multidisciplinary Seminar in Visual Anthropology
Units: 4 Terms Offered: FaSp Audiovisual and more-than-textual methods and forms of anthropological research, analysis and dissemination. Instruction Mode: Lecture Grading Option: Letter

ANTH 472 Visual Techniques in Anthropology: Stills
Units: 4 Terms Offered: Fa Visual techniques for data collection and analysis in anthropological research. Visual anthropology research using 35 mm. photography skills, fieldwork procedures, data analysis, and presentation formats. Instruction Mode: Lecture Grading Option: Letter

ANTH 474 Posthuman Anthropology
Units: 4 Terms Offered: Sp Examines how posthumanism is reshaping our understanding of humankind, including the ways in which "vernacular posthumanisms" are increasingly enacted in our everyday lives. *Recommended Preparation:* Introductory courses in Anthropology and/or Philosophy Registration Restriction: Not open to freshmen Instruction Mode: Lecture Grading Option: Letter

ANTH 475 Ethnographic Film Analysis
Units: 4 Terms Offered: Irregular Analysis of film as a tool for investigating primitive and modern cultures and societies. Instruction Mode: Lecture Grading Option: Letter

ANTH 476 Ethnographic Film Theory from an Historical Perspective
Units: 4 Technologies and uses of, theoretical frameworks for, and the presentation styles of ethnographic materials are examined from an historical perspective. Instruction Mode: Lecture Grading Option: Letter

ANTH 478 Local Culture in A Globalizing World
Units: 4 Terms Offered: FaSpSm Globalization across, and in, locales; diverse experiences in the conjoining of global and local flows of culture in the contemporary world. Instruction Mode: Lecture Grading Option: Letter

ANTH 480 Heritage and Power
Units: 4 Capstone seminar critically explores the idea of heritage and how discourses of race, ethnicity and culture elide with what is referred to as "heritage." Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: Letter

ANTH 481L GIS for Investigating the Past
Units: 4 Training of archaeology students in the use of GIS through the understanding of basic principles and theoretical restrictions of geospatial sciences. *Recommended Preparation:* ANTH 202g, SSCI 382L Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ARCG 481

ANTH 485 Global Studies Capstone Seminar
Units: 4 Terms Offered: Sp Provides senior Global Studies majors with the practical and theoretical skills needed to complete the required Senior Capstone project in Global Studies. Registration Restriction: Senior Capstone for Global Studies majors. Enrollment requires departmental approval Instruction Mode: Lecture Grading Option: Letter

ANTH 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ANTH 491 Directed Research for Honors
Units: 4 Terms Offered: Irregular Individually guided research and readings culminating in the production of an honors thesis. *Prerequisite:* 3.0 GPA; ANTH 201 plus 8 units of upper-division anthropology courses. Instruction Mode: Lecture Grading Option: Letter

ANTH 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Current literature: social change, comparative institutions, urbanization, ideology. Instruction Mode: Lecture Grading Option: Letter

ANTH 501 History and Foundations of Anthropology
Units: 4 Terms Offered: Fa A brief critical introduction to the history of anthropological thought over the course of the discipline's long twentieth century, from the 1880s to the present. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

ANTH 502 Contemporary Theory in Anthropology
Units: 4 Terms Offered: Sp Explores the emergence and transformation of modern anthropology as an empirically based, but theoretically informed, practice of knowledge production about human sociality and culture. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

ANTH 503 Problematizing Locality: Comparative Ethnographies
Units: 4 A critical and comparative analysis of ideas of locality, space and place in the ethnographies of different cultural areas. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

ANTH 506 Primate Behavior and Sociobiology
Units: 4 Advanced course on the behavior, ecology and socio - biology of living primates. Takes a Darwinian approach to behaviors such as parenting, mating, diet and feeding, competition, and demography. Instruction Mode: Lecture Grading Option: Letter

ANTH 509 Key Topics in Linguistic Anthropology
Units: 4 Terms Offered: FaSp Introduction to key topics in linguistic anthropology with special focus on interrelations between language, identity, culture, gender, and power in the U.S. and beyond. Instruction

Mode: Lecture Grading Option: Letter Crosslisted as AMST-509

ANTH 510 Urban Anthropology
Units: 4 Terms Offered: Fa Intensive ethnographic analysis of specialized urban niches, microsettings, ethnicity, community studies. Instruction Mode: Lecture Grading Option: Letter

ANTH 554 Women in Global Perspective
Units: 4 (Enroll in SWMS 554)

ANTH 562 The Practice of Ethnography
Units: 4 Terms Offered: Sp Major approaches to ethnographic fieldwork are explored in classic cases. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-562

ANTH 575 Seminar in Ethnographic Film
Units: 4 Terms Offered: Fa A survey of ethnographic film using both the dimensions of natural history descriptions and process, contrasted with naturalism and structuralism as tools of controlled comparison and analysis. Instruction Mode: Lecture Grading Option: Letter

ANTH 576L Anthropological Media Seminar
Units: 4 Max Units: 8.0 A hands-on laboratory-based survey of preproduction techniques in video and audio production, including exercises to prepare students to shoot their own documentaries. *Recommended Preparation:* visual anthropology background. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ANTH 577L Advanced Anthropological Media Seminar
Units: 4 Max Units: 8.0 A hands-on laboratory-based survey of post-production technologies, including editing both new and older footage. Students should be finishing their own documentaries. *Prerequisite:* ANTH 576. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ANTH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 593 Practicum for Teaching in Anthropology
Units: 2 Practical principles for the long-term development of effective teaching within the discipline of Anthropology. Intended for teaching assistants in Anthropology. Registration Restriction: Open only to doctoral students in Anthropology Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 595 Ethnographic Postproduction
Units: 4 Provides supervision in developing a visual media thesis project and understanding the requirements - scholarly and technical - for producing a publication-ready work of scholarly media. *Recommended Preparation:* ANTH 576L Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Registration Restriction: Open only to graduate students in Anthropology and Visual Anthropology Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Letter

ANTH 601 Feminist Issues in Anthropology
Units: 4 Terms Offered: FaSpSm Feminist concerns in both Western and Non-Western societies are examined in relation to globalization; the practice of ethnography and issues of power. Instruction Mode: Lecture Grading Option: Letter

ANTH 602 The Anthropology of Popular Culture
Units: 4 Terms Offered: FaSpSm The relationship between anthropology and popular culture is explored through a critical examination of the category "popular culture." Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

ANTH 603 Experiments in Ethnography
Units: 4 A practice based course that explores different modalities of rendering ethnographic experience. Instruction Mode: Lecture Grading Option: Letter

ANTH 604 Bodies and Practices
Units: 4 Terms Offered: FaSpSm The cultural construction of body image, embodied practice, race, sexuality and healing. Instruction Mode: Lecture Grading Option: Letter

ANTH 605 Race: Performance, Politics, Cultural Production
Units: 4 Terms Offered: FaSpSm Focuses on the performance and social construction of race and its intersection with gender, sexuality, class, place, nation and empire. Instruction Mode: Lecture Grading Option: Letter

ANTH 606 Seminar on Nationalism and Ethnicity
Units: 4 Cross-cultural analysis of nationalism and ethnicity from an ethnographic perspective. Instruction Mode: Lecture Grading Option: Letter

ANTH 610 Museum Anthropology: History and Theory
Units: 4 The museum as object of anthropological study; history and theory of museums as western institutions of knowledge. *Recommended Preparation:* Introduction to Socio-Cultural Anthropology Instruction Mode: Lecture Grading Option: Letter

ANTH 650 Seminar in Ethnography and Interpretation
Units: 4 A seminar where issues in contemporary ethnography and interpretation are discussed, grouped around a theme of current concern, such as power and resistance, colonialism, Marxist approaches, feminism, etc. *Prerequisite:* ANTH 501. Instruction Mode: Lecture Grading Option: Letter

ANTH 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Minimum 8 units, maximum number of units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Arabic

ARAB 122 Arabic I
Units: 4 Terms Offered: FaSpSm Introduction to Modern Standard Arabic: Development of speaking, listening, reading, and writing skills in contemporary cultural contexts. Duplicates Credit in former MDES 122. Instruction Mode: Lecture Grading Option: Letter

ARAB 152 Arabic II
Units: 4 Terms Offered: FaSp Continuation of Arabic I. *Prerequisite:* ARAB 122. Duplicates Credit in former MDES 152. Instruction Mode: Lecture Grading Option: Letter

ARAB 222 Arabic III
Units: 4 Terms Offered: FaSp Intermediate Modern Standard Arabic. Continued development of speaking, listening, reading, and writing skills. *Prerequisite:* ARAB 152. Duplicates Credit in former MDES 222. Instruction Mode: Lecture Grading Option: Letter

ARAB 252 Arabic IV
Units: 4 Terms Offered: FaSp Continuation of Arabic III. Continued development of speaking, listening, reading, and

writing skills in Modern Standard Arabic. *Prerequisite:* ARAB 222. Duplicates Credit in former MDES 252. Instruction Mode: Lecture Grading Option: Letter

ARAB 300 Introduction to Translation
Units: 4 Introduces students to the fundamentals of Arabic-English translation and offers analytical, linguistic and cross-cultural factors affecting interpreting and translation. *Prerequisite:* ARAB 222 Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING 300

ARAB 322 Advanced Arabic I
Units: 4 Advanced expression in written and spoken Arabic, including reading of original texts, understanding different registers, and exposure to modern Arabic cultures. *Prerequisite:* ARAB 252. Duplicates Credit in former MDES 322. Instruction Mode: Lecture Grading Option: Letter

ARAB 333 Colloquial Arabic: Regional Dialects
Units: 4 Max Units: 8 Introduction to a regional Arabic dialect, focusing primarily on verbal skills. *Prerequisite:* ARAB 152 *Recommended Preparation:* ARAB 222 or ARAB 252 Duplicates Credit in the former MDES 333 Instruction Mode: Lecture Grading Option: Letter

ARAB 334 Media Arabic
Units: 4 Terms Offered: FaSp Introduction and development of language skills encountered in print and broadcast media Arabic. *Prerequisite:* ARAB 222. Duplicates Credit in former MDES 334. Instruction Mode: Lecture Grading Option: Letter

ARAB 352 Advanced Arabic II
Units: 4 Terms Offered: FaSp Continuation of Advanced Arabic I. *Prerequisite:* ARAB 322. Duplicates Credit in former MDES 352. Instruction Mode: Lecture Grading Option: Letter

Archaeology

ARCG 202g Archaeology: Our Human Past
Units: 4 Terms Offered: FaSp (Enroll in ANTH 202)

ARCG 298aL Introduction to Scientific Diving
Units: 2 Terms Offered: Sp (Enroll in ENST 298a)

ARCG 298bL Introduction to Scientific Diving
Units: 2 Terms Offered: Sp (Enroll in ENST 298b)

ARCG 304 Ethics and Global Heritage
Units: 4 (Enroll in REL 304)

ARCG 305L Virtual and Digital Culture, Heritage and Archaeology
Units: 2, 4 Max Units: 04 Terms Offered: FaSpSm In-depth exploration of 3D digital, immersive, virtual or extended reality visualizations of cultural heritage, archaeology, historical sites and artifacts, including their legal and ethical dimensions. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ANTH 309, REL 305

ARCG 306L Maritime Archaeology Survey and Technology
Units: 4 Introduction to the use of remote sensing technologies for underwater archaeology, mapping and research on submerged cultural heritage remains whether ancient sites or sunken ships. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCG 307 Trojan Archaeology: Excavating USC
Units: 4 (Enroll in ANTH 307)

ARCG 308 Techniques and Issues in 3D Imaging and Modeling
Units: 2 In-depth exploration of applications, techniques and standards involved in stereoscopic imaging and photogrammetric modeling. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCG 310 Archaeology of the Americas
Units: 4 Terms Offered: Irregular (Enroll in ANTH 310)

ARCG 321 Greek Art and Archaeology
Units: 4 Terms Offered: Fa (Enroll in AHIS 321)

ARCG 322 Roman Art and Archaeology
Units: 4 Terms Offered: Fa (Enroll in AHIS 322)

ARCG 323p Roman Archaeology: History, Methods and Field Work
Units: 4 Students learn archaeological methods and practices in the city and environs of Rome. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Duplicates Credit in AHIS 325 Instruction Mode: Lecture Grading Option: Letter

ARCG 334 Space, Place, Perception and Power
Units: 4 (Enroll in ANTH 321)

ARCG 370gp Digs and Dispute: Religion and Archaeology in Israel
Units: 4 Terms Offered: FaSp (Enroll in JS 370gp)

ARCG 376 Scientific Analysis in Archaeology
Units: 4 (Enroll in ANTH 376)

ARCG 377 Archaeological Interpretation of Complex Societies
(Enroll in ANTH 377)

ARCG 378 Jewish Magic in the Ancient World
Units: 4 Terms Offered: Sp (Enroll in JS 378)

ARCG 400 Maya Resilience: Constructing Past and Present Identities
Units: 4 Terms Offered: Sm (Enroll in ANTH 400)

ARCG 415 Object-Worlds: Histories and Theories of Things
Units: 4 (Enroll in AHIS 415)

ARCG 465 Archaeology and Society
Units: 3 Terms Offered: Fa (Enroll in CLAS 465)

ARCG 481L GIS for Investigating the Past
Units: 4 (Enroll in ANTH 481)

ARCG 482 Field Research in Maya Archaeology
Max Units: 4 Terms Offered: Sm (Enroll in ANTH 450)

ARCG 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Individual research and readings. Not available for graduate credit. *Recommended Preparation:* ANTH 202g or ANTH 307 or REL 494 Instruction Mode: Lecture Grading Option: Letter

ARCG 494 Lab Methods and Theories in Archaeology
Units: 4 (Enroll in REL 494)

Architecture

All courses must be taken in *sequential* order, *a* before *b*.

ARCH 100x A-LAB Architecture Development Program
Units: 4 Immersive, project-based architecture thinking, drawing, building, and making course, which includes aspects of professional development and college readiness. (Not available for major or minor credit.) Registration Restriction: Restricted to high school students participating in the School of Architecture A-LAB Development Program Credit Restriction: Not available for major credit Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 102a Architectural Design I
Units: 4 Terms Offered: FaSpSm Introduction to principles and processes; sequence of exercises emphasizing development of basic skills, ideas, and techniques used in the design of simplified architectural projects. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 102bL Architectural Design I
Units: 4 Terms Offered: FaSpSm Introduction to principles and processes; sequence of exercises emphasizing development of basic skills, ideas, and techniques used in the design of simplified architectural projects. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 105L Fundamentals of Design Communication
Units: 2 Terms Offered: Fa Visual communication techniques applicable to the design of the built environment; drawing, photography, modeling. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 106x Workshop in Architecture
Units: 2 Terms Offered: FaSp Introduction to the ways architecture is created and understood, for minors and non-majors. Hands-on discussion and laboratory session with some drawing and model building. Instruction Mode: Lecture Grading Option: Letter

ARCH 114 Architecture: Culture and Community
Units: 2 Terms Offered: Fa Introduction to the ways architecture represents aspirations of culture, satisfies practical and spiritual needs, shapes the social and urban environment, and helps preserve the planet. Instruction Mode: Lecture Grading Option: Letter

ARCH 202aL Architectural Design II
Units: 6 Terms Offered: FaSpSm Continuing development of principles and processes; sequence of projects selected to broaden awareness of design issues at various scales in the urban context. *Prerequisite:* ARCH 102bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 202bL Architectural Design II
Units: 6 Terms Offered: FaSpSm Continuing development of principles and processes; sequence of projects selected to broaden awareness of design issues at various scales in the urban context. *Prerequisite:*

ARCH 102bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 203 Visualizing and Experiencing the Built Environment
Units: 4 Methods for direct observation and recording of the directly experienced built environment through drawing, diagramming, photographing, and writing. Course includes exercises and field experience. Instruction Mode: Lecture Grading Option: Letter

ARCH 205aL Building Science I
Units: 4 Terms Offered: FaSp The process and communication of building design: physical building shell, systems for structure, enclosure, and space ordering. *Prerequisite:* CE 106. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 205bL Building Science I
Units: 4 Terms Offered: FaSp The process and communication of building design: physical building shell, systems for structure, enclosure, and space ordering. *Prerequisite:* CE 106. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 207 Computer Applications in Architecture
Units: 2 Terms Offered: Fa Introduction for the non-programmer to the uses of the computer in architecture, including the application of existing programs and their implications for design. Overview and use of software types. Instruction Mode: Lecture Grading Option: Letter

ARCH 211 Materials and Methods of Building Construction
Units: 3 Terms Offered: Sp Basic considerations and design implications of the problem of determination of the materials and construction details and processes for buildings. Instruction Mode: Lecture Grading Option: Letter

ARCH 213a Building Structures and Seismic Design
Units: 3 Terms Offered: FaSp Investigation and design of elements and systems for building structures; applied mechanics, strength of materials, structural investigation as a design tool. *Recommended Preparation:* PHYS 125 and MATH 108g. Satisfies New General Education in F Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

ARCH 213b Building Structures and Seismic Design
Units: 3 Terms Offered: FaSp Investigation and design of structure systems: their resistance to seismic and wind forces and integration with architectural design for synergy of form and structure. *Recommended Preparation:* PHYS 125 and MATH 108g. Satisfies New General Education in F Quantitative Reasoning Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 214ag World History of Architecture
Units: 3 Terms Offered: Sp A world-wide perspective of architectural history as a product of social, cultural, religious, and political dimensions, 4500 BCE to 1500 CE. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

ARCH 214bg World History of Architecture
Units: 3 Terms Offered: Fa A world-wide perspective of architectural history as a product of social, cultural, religious, and political dimensions, 1500 CE to present. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

ARCH 215 Design for the Thermal and Atmospheric Environment
Units: 3 Terms Offered: Fa Ideas, problems, and computations related to the design of buildings in response to the thermal and atmospheric environment; passive solar systems, mechanical control systems. Instruction Mode: Lecture Grading Option: Letter

ARCH 220 The Architect's Sketchbook
Units: 2 Terms Offered: FaSp The architect's sketchbook as a portable laboratory for perceiving and documenting space introduces the study of the built environment. On-site sessions develop drawing, observation, and visualization skills. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 302aL Architectural Design III
Units: 6 Terms Offered: FaSp Special integrative year including design issues relating to housing. *Prerequisite:* ARCH 202bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 302bL Architectural Design III
Units: 6 Terms Offered: FaSp Special integrative year including design issues relating to housing. *Prerequisite:* ARCH 202bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 303 Principles of Spatial Design I
Units: 4 Introduction to design principles and processes; sequence of exercises emphasizing development of basic skills, ideas, and techniques used in the creation of simplified urban space design projects. *Prerequisite:* ARCH 203. Instruction Mode: Lecture Grading Option: Letter

ARCH 304x Intensive Survey: Prehistory to the Present
Units: 4 Terms Offered: Fa An intensive historical overview of architecture from prehistory to the present, emphasizing interrelationships of various global cultures and how social considerations were translated into form. Instruction Mode: Lecture Grading Option: Letter

ARCH 305aL Building Science II
Units: 4 Terms Offered: FaSp The design of a building as a complex of interacting systems; relations of subsystems; influences of production and marketing on design. *Prerequisite:* ARCH 205aL, ARCH 205bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 305bL Building Science II
Units: 4 Terms Offered: FaSp The design of a building as a complex of interacting systems; relations of subsystems; influences of production and marketing on design. *Prerequisite:* ARCH 205aL, ARCH 205bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 306m Shelter
Units: 4 Terms Offered: Sp Investigation of issues, processes, and roles of individuals, groups and communities in relation to present and future shelter needs and aspirations. Instruction Mode: Lecture Grading Option: Letter

ARCH 307 Digital Tools for Architecture
Units: 3 Exploration of digital tools with an emphasis on building information modeling (BIM), parametric modeling, and interoperability including special topics in Architecture/ Engineering/ Construction (AEC) and sustainable design. *Recommended Preparation:* basic computer skills. Instruction Mode: Lecture Grading Option: Letter

ARCH 313 Design of Building Structures
Units: 3 Terms Offered: Fa Problems and processes of design of building structures; structural investigation for design; codes and standards; design of elements and systems of wood, steel, masonry, and concrete for gravity and lateral loads. *Prerequisite:* ARCH 213a. Instruction Mode: Lecture Grading Option: Letter

ARCH 314 History of Architecture: Contemporary Issues
Units: 3 Terms Offered: Fa Examination of the buildings, issues and images, the polemics and personalities that are animating current architectural discourse and practice. *Prerequisite:* ARCH 214bg. Instruction Mode: Lecture Grading Option: Letter

ARCH 315 Design for the Luminous and Sonic Environment
Units: 3 Terms Offered: Sp Ideas, problems, and computations related to the design of buildings in response to the luminous and sonic environment. Instruction Mode: Lecture Grading Option: Letter

ARCH 316 Place and Culture
Units: 3 Terms Offered: FaSpSm (Study abroad programs only) Study of the relationships between places and culture through readings, lectures, discussion and weekly field trips. Instruction Mode: Lecture Grading Option: Letter

ARCH 326 The Modern Movement in Architecture
Units: 4 Terms Offered: Sp Major theories of modern architecture are presented by studying the work of masters such as: Gropius, Mies van der Rohe, Corbusier, and Kahn. Instruction Mode: Lecture Grading Option: Letter

ARCH 341 History of Italian Architecture 1400–1990
Units: 4 Terms Offered: Sp Introduction to the important buildings, architects and architectural movements in Italy from the Renaissance to the present. Instruction Mode: Lecture Grading Option: Letter

ARCH 370 Architectural Studies — Expanding the Field
Units: 2 Survey of opportunities, specializations, and professions related to architecture provides a resource for professional growth for architecture majors, and introduction to the field for non-majors. Instruction Mode: Lecture Grading Option: Letter

ARCH 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ARCH 402aL Architectural Design IV
Units: 6 Terms Offered: FaSpSm Selected areas of specialization; three projects chosen with advisement from a variety of studio offerings that concentrate on different areas of vital concern. *Prerequisite:* ARCH 302bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 402bL Architectural Design IV
Units: 6 Terms Offered: FaSpSm Selected areas of specialization; three projects chosen with advisement from a variety of studio offerings that concentrate on different areas of vital concern. *Prerequisite:* ARCH 302bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 403 Principles of Spatial Design II
Units: 4 Emphasis on developing advanced urban spatial design solutions set within contemporary urban conditions, with a particular emphasis on ecology, public space, neighborhoods and districts. *Prerequisite:* ARCH 303. Instruction Mode: Lecture Grading Option: Letter

ARCH 404 Topics in Modern Architecture in Southern California
Units: 3 Terms Offered: Sp Investigation of modern architecture in southern California within its cultural and historic contexts. Instruction Mode: Lecture Grading Option: Letter

ARCH 405aL Building Science III
Units: 4 Terms Offered: FaSp Design of building systems as an experimental process. *Prerequisite:* ARCH 305aL, ARCH 305bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 405bL Building Science III
Units: 4 Terms Offered: FaSp Design of building systems as an experimental process. *Prerequisite:* ARCH 305aL, ARCH 305bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 406 Global Studies: Topics in Architecture, Urbanism, History and Art
Units: 2 Max Units: 6.0 Offered for particular geographic areas of study. Required prerequisite for all full semester undergraduate global programs. Also intended for general interest in focused study on particular geographic area. *Prerequisite:* ARCH 214ag, ARCH 214bg or ARCH 304. Instruction Mode: Lecture Grading Option: Letter

ARCH 407 Advanced Computer Applications
Units: 4 Terms Offered: Sp Investigation of computer graphic applications, emphasizing the role of computers in helping designers create and communicate using color (rendering), form (modeling), and time (animation) and the implications of future technological advancements. *Prerequisite:* ARCH 207. Instruction Mode: Lecture Grading Option: Letter

ARCH 409L Design Foundation
Units: 2 Terms Offered: Fa Introduction to basic architectural design principles for problem solving scenarios; foundational architectural design course for systematic thinking. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 410 Computer Transformations
Units: 2 Terms Offered: FaSpSm To explore the potential of computer-integrated design software; to develop techniques for critical analysis of architectural precedents; to expand the ability to visualize options; to expand perception; and to learn the basics of computer-integrated design. Instruction Mode: Lecture Grading Option: Letter

ARCH 411 Architectural Technology
Units: 3 Terms Offered: Sp Architectural design considered as a technological problem; influence of technology on design; buildings as integrated sets of subsystems. *Prerequisite:* ARCH 313. Instruction Mode: Lecture Grading Option: Letter

ARCH 412L GeoDesign Practicum
Units: 4 Terms Offered: FaSp (Enroll in SSCI 412L)

ARCH 414 Perspectives in History and Theory in Architecture
Units: 2 Max Units: 6.0 Perspectives in Architecture and Urbanism is an advanced course that allows students to delve deeply into one aspect of world history, theory and/or contemporary issues to develop more focused and critical understanding of that discourse. *Prerequisite:* ARCH 214ag, ARCH 214bg or ARCH 304. Instruction Mode: Lecture Grading Option: Letter

ARCH 417 Computer Programming in Architecture
Units: 3 Terms Offered: Fa Principles underlying computer programming, emphasizing algorithms, procedures, and program structures applicable to architecture. Instruction Mode: Lecture Grading Option: Letter

ARCH 418 Designing with Natural Forces
Units: 3 Terms Offered: Fa Investigation of natural force effects and their relationships to architecture; laboratory work includes drawing, photography, model building and tests on models. Instruction Mode: Lecture Grading Option: Letter

ARCH 419 Architectural Sustainability Tools and Methods
Units: 3 Terms Offered: Sp Lectures, comparative studies and exercises on international architectural sustainability rating and certification systems. Instruction Mode: Lecture Grading Option: Letter

ARCH 420 Visual Communication and Graphic Expression
Units: 3 Terms Offered: Fa An exploratory study of fundamental and innovative visual communication principles and graphic expression techniques to facilitate the design enquiry process for architects. Registration Restriction: Not open to Freshman and Sophomore students Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 421 Digital Architectural Photography
Units: 2 Terms Offered: FaSp Perceiving and documenting the built environment through the perspective and frame of the digital camera. Mastering the basic principles of the digital image through an understanding of frame, light, exposure, color correction, and printing output. Instruction Mode: Lecture Grading Option: Letter

ARCH 422L Architectural Photography — Film and Digital
Units: 3 Terms Offered: FaSp See how light alters the visual impact of architectural forms; master high-resolution images both with film and digital; become a professional image developer/processor utilizing photographic software. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 423 Light, Color and the Character of Material
Units: 2 Terms Offered: Sp Color theory, constructed drawings, constructed shadows, descriptive geometry, constructed perspective drawing, and layered wash techniques lead to experimentation with methods representing materiality and construction in design projects. Registration Restriction: Not open to Freshman and Sophomore students Instruction Mode: Lecture Grading Option: Letter

ARCH 424L Field Studies in Architecture
Units: 2 Terms Offered: FaSpSm (Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in architecture. *Prerequisite:* Department approval. *Recommended Preparation:* core curriculum. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 425L Field Studies in Urbanism
Units: 2 Terms Offered: FaSpSm (Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in urbanism. *Prerequisite:* Departmental approval. *Recommended Preparation:* core curriculum. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 426L Field Studies in Tectonics
Units: 2 Terms Offered: FaSpSm (Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in tectonics. *Prerequisite:* Departmental approval. *Recommended Preparation:* core curriculum. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 430 Design Teaching Methods
Units: 2 The teaching of architectural design is introduced through readings, seminar discussions, and the observation of teaching in action. In addition to a one hour per week seminar, each student will participate in a design practicum. *Prerequisite:* ARCH 302L. Instruction Mode: Lecture Grading Option: Letter

ARCH 432 People, Places and Culture: Architecture of the Public Realm
Units: 4 Terms Offered: Sp Critical observation of the architecture of public buildings and places and the importance of design in promoting a better contemporary public life. Instruction Mode: Lecture Grading Option: Letter

ARCH 439 Landscape Architecture Foundations Workshop
Units: 2 Terms Offered: Fa Introductory field studies and media workshop for new landscape architecture students. Topics include: regional ecology, field drawing, measured drawings, computer software (Adobe Creative Suite, Autocad, Rhinoceros, GIS). Registration Restriction: Open only to master students in Landscape Architecture Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 440m Literature and the Urban Experience
Units: 4 Terms Offered: Sp Post-industrial revolution urban environments and dynamic relationships in cities such as Manchester, Paris, St. Petersburg, New York, and Los Angeles, as revealed in novels, architecture, and urban forms. Instruction Mode: Lecture Grading Option: Letter

ARCH 442m Women's Spaces in History: "Hussies," "Harems" and "Housewives"
Units: 4 Terms Offered: Fa Methods for studying patterns of spatial differentiation of women throughout history from home to city embodied in gender specific language and gendered spaces. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-442

ARCH 444 Great Houses of Los Angeles
Units: 4 Terms Offered: FaSp An introduction to the architectural philosophies of seven influential California architects through readings and site visits to significant case studies. Duplicates Credit in former ARCH 322. Instruction Mode: Lecture Grading Option: Letter

ARCH 447 Ecological Factors in Design
Units: 3 Lectures, laboratory exercises and field trips introduce basic knowledge of incorporating ecological factors in urban design and interaction of landscape science with the human environment. Duplicates Credit in former ARCH 361 Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 454 Contemporary Asian Architecture
Units: 4 Terms Offered: Fa Exploration of various "Asian" architectures, comparisons of areas, identifying current trends and impact of Asia on Southern California and Los Angeles. Instruction Mode: Lecture Grading Option: Letter

ARCH 465 The Landscape Imaginary
Units: 4 A cross-cultural introduction to ideas about and attitudes toward nature, landscape and the environment. Instruction Mode: Lecture Grading Option: Letter

ARCH 469 Mixed Use Development Process
Units: 4 Terms Offered: Sp (Enroll in RED 469)

ARCH 470a Architectural Studies Capstone
Units: 1 Introduction to methods of inquiry, research framework, and scholarly writing necessary to develop a comprehensive foundation for the Architectural Studies Capstone (ARCH 470b). Registration Restriction: Open only to seniors in Architectural Studies Duplicates Credit in former ARCH 470 Instruction Mode: Lecture Grading Option: Letter

ARCH 470b Architectural Studies Capstone
Units: 3 Collaborative research project and research paper in an area of concentration. *Prerequisite:* ARCH 470a Registration Restriction: Open only to seniors in Architectural Studies Duplicates Credit in former ARCH 470 Instruction Mode: Lecture Grading Option: Letter

ARCH 472 Building Skins: Materials and Methods for Facades and Enclosures
Units: 2 Terms Offered: FaSp Broad-based survey course focused on facade system technology and explores the potent leverage of the building skin in the realization of intelligent and sustainable buildings and urban habitat. Instruction Mode: Lecture Grading Option: Letter

ARCH 480 Conversations on the Expanded Role of the Architect
Units: 1 Max Units: 10 Modeled after Renaissance Salons, this "flipped classroom" course relies on lectures by luminaries and discussions as a means to interrogate the role of the architect. Instruction Mode: Lecture Grading Option: Letter

ARCH 481 Furniture Design
Units: 3 Terms Offered: FaSp An investigation into 20th century furniture design and its relationships to architecture, art and design. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ARCH 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in various specialty areas of architecture. Instruction Mode: Lecture Grading Option: Letter

ARCH 500aL Comprehensive Architectural Design
Units: 6 Terms Offered: Fa Selected areas of specialization; projects chosen from a variety of studio offerings, all with an emphasis on the comprehensive design of buildings. *Prerequisite:* ARCH 402a and ARCH 402b *Corequisite:* ARCH 501. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 500zL Comprehensive Architectural Design
Units: 0 Terms Offered: Fa Selected areas of specialization; projects chosen from a variety of studio offerings, all with an emphasis on the comprehensive design of buildings. *Prerequisite:* 402abL; *Corequisite:* ARCH 501. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ARCH 501 Critical Topics in Architecture
Units: 2 Terms Offered: Fa Seminar supporting the research, development, and writing of Degree Project Paper provides a comprehensive base of information for the final Bachelor of Architecture studio. *Prerequisite:* ARCH 402bL. Instruction Mode: Lecture Grading Option: Letter

ARCH 502aL Architectural Design V
Units: 6 Terms Offered: Sp The final architectural project under the guidance of a faculty adviser to demonstrate architectural knowledge, skills, and professional interests and goals. *Prerequisite:* ARCH 500aL and ARCH 501 Registration Restriction: Open only to Architecture seniors Instruction Mode: Lecture, Lab Required Grading Option: In Progress and Letter

ARCH 502zL Architectural Design V
Units: 0 Terms Offered: Sp The final comprehensive architectural project under the guidance of a faculty adviser to demonstrate architectural knowledge, skills, and professional interests and goals. Instruction Mode: Lecture, Lab Required Grading Option: In-progress & Letter Grade

ARCH 505aL Graduate Architecture Design I
Units: 6 Terms Offered: FaSp A general introduction to architectural principles, intended to develop design and critical thinking skills and proficiency to communicate those ideas effectively. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 505bL Graduate Architecture Design I
Units: 6 Terms Offered: FaSp A general introduction to architectural principles, intended to develop design and critical thinking skills and proficiency to communicate those ideas effectively. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 507 Theories of Computer Technology
Units: 3 Terms Offered: FaSp Fundamental theories and meanings of computation as a technique in architectural design. Instruction Mode: Lecture Grading Option: Letter

ARCH 510 Independent Degree Project Preparation
Units: 1 Terms Offered: Fa Research and analysis, including written and graphic components, that tests a question/ proposition in detail in preparation for Independent Degree Project Document. *Corequisite:* ARCH 501. Instruction Mode: Lecture Grading Option: Letter

ARCH 511L Building Systems: Materials and Construction
Units: 4 Terms Offered: Fa Studies of construction system development within the architectural design context; processes and issues of selection, evaluation, optimization, integration, design control, and innovation. *Prerequisite:* Departmental approval. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 512 Material + Process: Material Systems
Units: 2 Confronts the conventional concepts behind modern building science and material applications, reapplying the processes of fabrication and methods of construction to investigate materiality. *Prerequisite:* ARCH 211 or ARCH 511L. Instruction Mode: Lecture Grading Option: Letter

ARCH 513L Seminar: Advanced Structures
Units: 4 Terms Offered: Fa Issues and problems in the development of structural systems for buildings; design criteria, system choice, design development, optimization, subsystem integration. Instruction Mode: Lab Required Grading Option: Letter

ARCH 514a Global History of Architecture
Units: 3 Terms Offered: FaSp A historical survey of global architecture, analyzed as a product of social, cultural, religious and political forces. 4500 BCE to 1500 CE. Instruction Mode: Lecture Grading Option: Letter

ARCH 514b Global History of Architecture
Units: 3 Terms Offered: FaSp A historical survey of global architecture, analyzed as a product of social, cultural, religious and political forces. 1500 CE to present.

Instruction Mode: Lecture Grading Option: Letter

ARCH 515L Seminar: Advanced Environmental Systems
Units: 4 Terms Offered: Fa A compressed course in design criteria and calculation methods for mechanical and passive solar systems (loads, plant system, duct, and storage sizing) and lighting and acoustics (CIE and IES methods, dBA and NC systems). Instruction Mode: Lab Required Grading Option: Letter

ARCH 517 Current Topics in Building Science
Units: 1 Max Units: 6.0 Critical studies in building science ranging from sustainability, lighting, acoustics, materials and methods, structures, energy issues, digital media, and fabrication. Students focus on minimum of two topics. Instruction Mode: Lecture Grading Option: Letter

ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure
Units: 2 Terms Offered: Fa Studies in contemporary building systems through analysis, research, and computational methods leading to the design of a prototypical building surface. *Recommended Preparation:* A prior knowledge of fundamental building systems and 3D modeling. Instruction Mode: Lecture Grading Option: Letter

ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings
Units: 3 Terms Offered: Fa Methodologies and exercises on contextual design and environmentally sound technologies (EST's) applications for the sustainability of urban infrastructures, operative landscapes, and building integration in the urban system. Instruction Mode: Lecture Grading Option: Letter

ARCH 520 Housing and Community Design for an Aging Population
Units: 2 Exploration of the role design plays in enhancing independence and well-being for older people by examining cross-cultural models of housing and community design. Instruction Mode: Lecture Grading Option: Letter

ARCH 521 Health and the Designed Environment: Landscape, Place, and Architecture
Units: 4 Case study-oriented course presenting critical relationships between human health and well-being and architectural and landscape architectural design at three scales: buildings, public space, and the urban landscape. Instruction Mode: Lecture Grading Option: Letter

ARCH 522 Healthcare Design
Units: 2 The evolution of healthcare design and construction is traced from small scale to major medical centers with emphasis on technology, landscape design and public health. Registration Restriction: Not open to freshmen and sophomores Instruction Mode: Lecture Grading Option: Letter

ARCH 523aL Structural Design and Analysis
Units: 3 Terms Offered: FaSp Introduction to behavior and analysis of building structures. Structural loading, materials, and element types will be explored to understand the basic building blocks of buildings. *Recommended Preparation:* One-semester college-level course in physics or calculus. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 523bL Structural Design and Analysis
Units: 3 Terms Offered: FaSp Investigation and design of building structural systems for gravity, wind and seismic loading. Comprehensive design exploration of framing type, materials, detailing, layout, form and integration. *Recommended Preparation:* One-semester college-level course in physics or calculus. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 524 Professional Practicum
Units: 1 Max Units: 2.0 Terms Offered: FaSpSm Comparative studies of professional practice between U.S. firms and firms in other countries. Registration Restriction: Open to international upper-division undergraduate and graduate architecture students only Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 525 Professional Practice: Pre-Design, Project and Office Administration
Units: 3 Design methodology, typology programming, site analysis, budget formulation and pro-forma procedures. Office management, emphasizing professional service and professional ethics as well as project management focusing on the architect's responsibilities during construction. Instruction Mode: Lecture Grading Option: Letter

ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation
Units: 3 Terms Offered: Sp Design methodology, typology programming, site analysis, budget formulation and pro-forma procedures. Office management, emphasizing professional service and professional ethics as well as project management focusing on the architect's responsibilities during construction. *Prerequisite:* ARCH 500a or ARCH 605b. Instruction Mode: Lecture Grading Option: Letter

ARCH 527 Case Studies: The Development of Urban Housing
Units: 2 Terms Offered: Fa An exploration of the various elements and stages of the housing development process. *Recommended Preparation:* a preliminary understanding of real estate or housing. Instruction Mode: Lecture Grading Option: Letter

ARCH 528 Urban Housing: Types and Typologies
Units: 2 Terms Offered: Fa Applications and precedents for the architect interested in designing multi-family housing. Review of the sources of modern housing types, the impact of building codes and technology on the form and construction of housing, and study of housing densities; comparative analysis of multi-family residential patterns. Major emphasis on critical knowledge of historic housing typologies as they are applied to site conditions and groupings, building form, section, organization, and the design of individual dwellings. *Recommended Preparation:* two years of undergraduate architectural studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 529 Urban Housing: Programs, Precedents, and Recent Case Studies
Units: 2 Terms Offered: Sp Historical overview of the major domestic and international housing developments and innovations since the early 20th century. Case study format examining a wide range of issues that determine the form of urban housing in various cultures. Major emphasis on the detail analysis of social, technical, and design factors affecting recent housing developments. *Recommended Preparation:* two years of undergraduate architectural studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 530 Landscape Architecture Practice
Units: 3 Terms Offered: FaSp Introduction to the principles and ethics, scope and activities, and types of organization for landscape architecture practice. Duplicates Credit in former ARCH 630. Instruction Mode: Lecture Grading Option: Letter

ARCH 531 Urban Ecology
Units: 4 Terms Offered: FaSp Lectures, laboratory exercises and field trips introducing basic knowledge of the continually transforming landscape as a base for human settlement. Instruction Mode: Lecture Grading Option: Letter

ARCH 532 Elements of the Urban Landscape
Units: 2 Terms Offered: Fa Study of the basic spatial and infrastructure elements of the city, and how urban places are formed. Typological analysis of buildings, open space, and urban patterns. Instruction Mode: Lecture Grading Option: Letter

ARCH 533 Urban Landscape Case Studies
Units: 2 Terms Offered: Sp Lectures, discussion, and individual research on the physical, formal, and spatial characteristics of historical urban centers. Instruction Mode: Lecture Grading Option: Letter

ARCH 534 Landscape Construction: Topographic Design
Units: 3 Terms Offered: Sp Techniques, strategies, materials, and standards to topographic design and construction in landscape architecture. In-class labs practice basic grading, drainage design, and stormwater management. Instruction Mode: Lecture Grading Option: Letter

ARCH 535 Landscape Construction: Performance Approaches
Units: 3 Terms Offered: Fa Develop tools and knowledge to expand the performative boundaries of landscape architecture beyond common typologies. Topics range from ecological infrastructure to design with weather patterns. A systematic approach to case studies, landscape technologies, and field trips seeds the knowledge base and respresentational methods necessary to design and build these complex landscape performances. Instruction Mode: Lecture Grading Option: Letter

ARCH 536 The Landscape Planning Process
Units: 3 Terms Offered: FaSp Methods of assessing urban places regarding natural, social, cultural and political factors; identification of landscape architecture

planning and project implementation issues and strategies. Instruction Mode: Lecture Grading Option: Letter

ARCH 537 Plant Ecology + Identification
Units: 2 Terms Offered: Fa Principles and concepts of plant ecology and regional plant identification; introduction to California native plant species and communities with field trips and case studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 538L Planting Design
Units: 2 Principles of planting design for landscape architecture focusing on form/space and sustainable performance. Planting design strategies for improved planetary health and resilience. *Prerequisite:* ARCH 537 Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 539L Media for Landscape Architecture
Units: 3 Terms Offered: Fa Development of methods and skills for the study of landscape architecture design and for project presentation, including natural resource and urban mapping. Registration Restriction: Open only to Planning and Landscape Architecture majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 540 Topics in Media for Landscape Architecture
Units: 2 Max Units: 6.0 Terms Offered: FaSp Exploration of emerging techniques for landscape architecture study, presentation and documentation; topics vary from year to year; may be repeated for credit when subject matter is different. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 541aL Landscape Architecture Design
Units: 6 Terms Offered: FaSp Projects on urban sites with emphasis on cultural and ecological purpose and on urban place and form; use of traditional and digital media. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 541bL Landscape Architecture Design
Units: 6 Terms Offered: FaSp Projects in urban settings with emphasis on landscape continuities as well as development of integrative schematic proposals and detailed open space design. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 542aL Landscape Architecture Design
Units: 6 Terms Offered: FaSp Project strategies for urban infrastructure repair and intervention, phasing, and design of initial catalytic projects. *Prerequisite:* ARCH 541bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 542bL Landscape Architecture Design
Units: 6 Terms Offered: FaSp Projects for the public realm with emphasis on urbanity and connectivity, place and meaning. *Prerequisite:* ARCH 541bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 543 Research Methods
Units: 1 Terms Offered: Fa Introduction to methods of inquiry and documentation including critical review of published materials, techniques for systematic observation, generating findings from comparative studies of relevant precedents and problems, and legible presentation of outcomes. Instruction Mode: Lecture Grading Option: Letter

ARCH 544 Landscape as Urbanism: Case Studies
Units: 3 Terms Offered: Fa Cities predominantly in the Global South are studied in relationship to landscape systems. Focus on historic and future urbanization at the interface of natural systems and climate dynamics. Instruction Mode: Lecture Grading Option: Letter

ARCH 545 Contemporary Theories of Landscape Architecture
Units: 3 Terms Offered: Sp Explores contemporary landscape architecture theories, propositions and projects in the context of cities. The exploration methodology includes the study of epochal projects and theoretical texts. Instruction Mode: Lecture Grading Option: Letter

ARCH 546 Topics in Landscape Architecture: Issues and Practices
Units: 2 Max Units: 06 A broad range of developing urban landscape conditions and issues, both domestic and global, are given focused attention. Instruction Mode: Lecture Grading Option: Letter

ARCH 547 Advanced Topics in Urban Ecology
Units: 3 Terms Offered: Sp Builds on knowledge related to the impacts of anthropocentrism on our current environmental / landscape condition - stresses on biodiversity, urban heat island, sea-level rise, etc, and strategies at mitigating these conditions - urban forestry, building soils, etc. *Recommended Preparation:* ARCH 531 Instruction Mode: Lecture Grading Option: Letter

ARCH 548 Media for Landscape Architecture: 3D Design
Units: 3 Developing and communicating landscape architecture design intent using visualization tools for three-dimensional studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 549 Fundamentals of Heritage Conservation
Units: 3 Terms Offered: FaSm Concepts and strategies for conservation of significant elements of the built environment: buildings, sites and communities as revealed by readings, site visits, and case studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 550 Heritage Conservation Policy and Planning
Units: 3 Terms Offered: Sp Conservation practice within an economic, political, and cultural context looking at the regulatory environment, public advocacy and policy, real estate development, heritage tourism, environmental sustainability, cultural diversity, and interpretation. *Recommended Preparation:* ARCH 549. Instruction Mode: Lecture Grading Option: Letter

ARCH 551 Conservation Methods and Materials
Units: 3 Terms Offered: Sp Concepts and techniques for building conservation including identification of treatments, recordation and research, material properties and behavior, building forensics, and project implementation. *Recommended Preparation:* ARCH 549. Instruction Mode: Lecture Grading Option: Letter

ARCH 552 Introduction to Historic Site Documentation
Units: 2 Terms Offered: Sp Survey of basic guidelines and standards for documentation in historic preservation, including cultural resource surveys, historic structures reports and Historic American Building Survey and Historic American Engineering Record recordation. Instruction Mode: Lecture Grading Option: Letter

ARCH 553 History of American Architecture and Urbanism
Units: 3 Terms Offered: Fa History of American architecture and urbanism from prehistory to World War II examined in relation to European influences and indigenous developments. Instruction Mode: Lecture Grading Option: Letter

ARCH 554 Heritage Conservation Practicum — Advanced Documentation
Units: 3 Max Units: 12.0 Terms Offered: FaSp Heritage conservation practicum utilizing in-depth documentation methodology to explore the historic built environment of greater Los Angeles. Topics will vary from year to year; may be repeated for credit when subject matter is different. Instruction Mode: Lecture Grading Option: Letter

ARCH 555 Global Perspectives in Heritage Conservation
Units: 2 Max Units: 4.0 Terms Offered: Fa In-depth analysis of international heritage conservation practice with a focus on a single country, continent, or world region outside the United States. Topics will vary from year to year; may be repeated for credit when subject matter is different. Instruction Mode: Lecture Grading Option: Letter

ARCH 556 Readings in Heritage Conservation Theory
Units: 2 Terms Offered: Fa Trans-disciplinary intensive reading and discussion course related to issues in contemporary heritage conservation. *Prerequisite:* ARCH 549. Instruction Mode: Lecture Grading Option: Letter

ARCH 557 Sustainable Conservation of the Historic Built Environment
Units: 2 Terms Offered: Fa Analysis of the intersection between "green building" and historic resources with an emphasis on stewardship and sustainability. Instruction Mode: Lecture Grading Option: Letter

ARCH 558 Fundamentals of Place-Making
Units: 2 Concepts and strategies for urban design and place-making for heritage conservation as revealed by place-making exercises, site visits, and case studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 559 Cultural Resource Management
Units: 3 An introduction to the field of cultural resource management/archaeology as it is practiced in the United States, examining archaeological theory, methods, legal frameworks and research. *Recommended Preparation:* ARCH 549

Instruction Mode: Lecture Grading Option: Letter

ARCH 560 A History of Architectural Theory: 1400-1914
Units: 2 A seminar on architectural history from Alberti to Scott, reviewing primary texts and subsequent criticisms. Duplicates Credit in former ARCH 441 Instruction Mode: Lecture Grading Option: Letter

ARCH 561 Urbanism Themes and Case Studies
Units: 2 Terms Offered: Fa Examines urbanism through case studies in theory and design to understand the impacts of globalization, technology, and sustainability on the contemporary city. Instruction Mode: Lecture Grading Option: Letter

ARCH 562 Architecture Themes and Case Studies
Units: 2 Terms Offered: Fa Architectural themes and case studies focusing on the design and development of architecture, from the industrial city to today. Instruction Mode: Lecture Grading Option: Letter

ARCH 563 Contemporary Architectural Theory
Units: 2 Terms Offered: Sp Investigates, compares, and critiques modern and contemporary theories of the designed and built environment by focusing on key figures, movements, and texts. Instruction Mode: Lecture Grading Option: Letter

ARCH 564 Descriptive and Computational Architectural Geometry
Units: 2 Terms Offered: Sp Introduction to the history, methods, and cases of descriptive and computational geometry impacting representational, modeling, and historically significant paradigms of architectural design. Introduces a range of geometric first principles, technologies and techniques through contemporary design tools. Instruction Mode: Lecture Grading Option: Letter

ARCH 565 Global History of Designed Landscapes
Units: 3 Terms Offered: Fa Understanding of the global history of landscape design in relation to social, political, religious, environmental and aesthetic principles; current design theory, projects and their historical references are critically reviewed and analyzed. Duplicates Credit in ARCH 465 Instruction Mode: Lecture Grading Option: Letter

ARCH 566 Cross Cultural Topics in Landscape Architecture History
Units: 3 Max Units: 6.0 Terms Offered: FaSp Comparative analysis and appreciation of landscape architecture as a manifestation of nature, society, and design. Topics and world regions vary from year to year; may be repeated for credit when subject matter is different. Instruction Mode: Lecture Grading Option: Letter

ARCH 567L Landscape Architecture Vertical Workshop and Debate Series
Units: 0.5 Max Units: 3 Terms Offered: FaSp A dynamic and topical supplement that provides critical content in the form of a post-mid review workshop and series of debates led by distinguished guests. *Corequisite:* ARCH 541aL and ARCH 541bL and ARCH 542aL and ARCH 542bL and ARCH 642L and ARCH 698bL Registration Restriction: Open only to master students in Landscape Architecture Instruction Mode: Lab Required Grading Option: Letter

ARCH 569 The Invented Landscape of Southern California
Units: 3 An analysis of the successive stages of land planning, garden design and plant introductions that have influenced the Southern California landscape. Instruction Mode: Lecture Grading Option: Letter

ARCH 570 Cultural Landscape Practicum
Units: 3 An introduction to the theories, tools and techniques for documenting and researching cultural landscapes. Instruction Mode: Lecture Grading Option: Letter

ARCH 571 Community-Based Design, Conservation and Planning
Units: 2 Introduces methods of designing with communities rather than for them. It focuses on public history, cultural asset mapping and participatory design. Instruction Mode: Lecture Grading Option: Letter

ARCH 572 Advanced Building Skins: Designing High-Performance Facade Systems
Units: 3 Terms Offered: FaSp Fundamental technical skillset applicable to the design and delivery of high-performance facade systems. The predominant focus will be the design of contemporary glazed curtainwalls and rainscreen systems in their many forms. Instruction Mode: Lecture Grading Option: Letter

ARCH 573 Seismic Design
Units: 2 Terms Offered: Fa Theory, design methodology and practice of how seismicity affects architecture and structural system selection required for robust earthquake performance and seismic sustainability. *Recommended Preparation:* Basic knowledge of physics and/or exposure to architectural design. Two semesters of building structures required for MArch students. Instruction Mode: Lecture Grading Option: Letter

ARCH 574 Parametric Design
Units: 3 An in depth and critical look into the reasons and uses for parametric design and its relationship to contemporary form, fabrication, and construction of the built environment. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 575a Systems
Units: 3 Terms Offered: Sp Application of the scientific principles governing the thermal environment and human physiology to contemporary issues of environmentally responsive building energy concepts and systems. *Recommended Preparation:* ARCH 505aL, ARCH 505bL. Instruction Mode: Lecture Grading Option: Letter

ARCH 575b Systems
Units: 3 Terms Offered: Sp The fundamental scientific principles governing light and sound in the built environment will be examined in the context of human physiological, psychological and biological needs. *Prerequisite:* ARCH 575a *Recommended Preparation:* ARCH 505aL, ARCH 505bL Instruction Mode: Lecture Grading Option: Letter

ARCH 576 Sustainable Design for Healthy Indoor Environments
Units: 3 Course outlines the building design and its performance diagnostic processes required to assure indoor environmental quality and the building occupants' environmental health, productivity, and physiological comfort. Instruction Mode: Lecture Grading Option: Letter

ARCH 577L Lighting Design
Units: 4 Terms Offered: FaSp The physics, technical knowledge, professional knowledge, design, and documentation processes used in architectural lighting design, including first principles, manual calculations and computer simulations. *Recommended Preparation:* Some knowledge of physics and exposure to the design process and design presentation skills. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 578 Technology-Enabled Architecture, Engineering and Construction (AEC) Projects
Units: 4 Terms Offered: Sp (Enroll in CE 578)

ARCH 579 Sustainable Building and Environment using LEED Metrics
Units: 3 Fundamental knowledge of sustainable building concepts, current environmental design building rating systems, building performance and diagnostics metrics, as well as reference standards related to sustainable design. Instruction Mode: Lecture Grading Option: Letter

ARCH 580L Field Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Off-campus field studies using direct observation, site recordings/ documentation, analysis and evaluation supplemented by discussions and readings. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 581 Techniques in Digital Fabrication
Units: 3 A practical introduction to digital fabrication. Covered topics include 3D surface milling, thermoforming, materials, casting and shop technology as applied to repeatable surfaces in architecture. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 585 Visual Storytelling and Entrepreneurship in Media
Units: 2 Investigating visual stories as an active tool to critically explore and express design ideas; positions social media and crowdfunding as a foundation for creative action. Registration Restriction: Not open to Freshmen and Sophomores. Instruction Mode: Lecture Grading Option: Letter

ARCH 586 City Cine: Visuality, Media and Urban Experience
Units: 4 Explores the relationship between urban experience and visual media (from the photographic, to the filmic, to the digital) from circa 1880 to the present. Duplicates Credit in the former ARCH 434 Instruction Mode: Lecture Grading Option: Letter

ARCH 588 Physical Computing: Linking Architectural Computing with the Physical World
Units: 3 Provides hands-on prototyping experience with environmental sensing, actuation, and embedded computing technologies. *Recommended Preparation:* While no experience working with electronics is required, basic knowledge and willingness to learn programming and physical prototyping is assumed.

Registration Restriction: Not open to freshmen and sophomores Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 596 Building Science Thesis Preparation
Units: 1 Terms Offered: Fa Exploration of topics leading to the development of a thesis prospectus. Topics may be in the areas of building structures, seismic design, environmental control, passive and active energy, or other relevant topics. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in various specialty areas of architecture. Instruction Mode: Lecture Grading Option: Letter

ARCH 605zL Graduate Architecture Design II
Units: 0 Terms Offered: Sm Advanced topical investigations emphasizing diverse areas of specialization. Projects will be faculty-led research investigations that concentrate on diverse areas of vital concern. *Prerequisite:* ARCH 605b

ARCH 605aL Graduate Architecture Design II
Units: 6 Terms Offered: Fa Basic principles of structural (seismic/wind and gravity), HVAC, building envelope, access/ egress, building service systems; and sustainable strategies are critical to the proper execution of performative goals. The integration of building systems will be delineated to demonstrate the tectonic viability a design solution. *Prerequisite:* ARCH 505b. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 605bL Graduate Architecture Design II
Units: 6 Terms Offered: Sp Comprehensive project emphasizing the interaction between general principles and local sites, building technologies and total building design. *Prerequisite:* ARCH 505b. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 606 Advanced Architectural Theory
Units: 2 Terms Offered: Fa Interrogates the architectural and cultural landscape of our contemporary cities through a combination of lectures and seminars on theories of place, identity, aesthetics, and technology. Instruction Mode: Lecture Grading Option: Letter

ARCH 607 Advanced Computation
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Introduction to a range of new technologies and techniques examining their technical and theoretical implications including advanced computational design techniques and geospatial design tools. Instruction Mode: Lecture Grading Option: Letter

ARCH 608 Urban Theory: Los Angeles Case Study
Units: 2 Terms Offered: Fa Critically investigates the urban condition of Los Angeles through lectures, readings, and field visits. Aims to heighten awareness of the entwinement of environment, culture, architecture and the contemporary city. Instruction Mode: Lecture Grading Option: Letter

ARCH 609 Advanced Fabrication
Units: 2 Max Units: 6.0 Terms Offered: FaSm Introduction to a range of new technologies and techniques examining technical and theoretical implications including a range of digital fabrication technologies, robotics and film-making techniques. Instruction Mode: Lecture Grading Option: Letter

ARCH 610L Advanced Graduate Architecture Design
Units: 6 Terms Offered: FaSpSm Elective advanced design and research studio investigations. As faculty-led topical themes, the design-based projects will engage critical topics engaging diverse areas of specialization. *Prerequisite:* ARCH 605b. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 611 Advanced Building Systems Integration
Units: 4 Terms Offered: Sp Design criteria development, material and construction process methods, occupancy based load profiles, performance/material life-cycle-mandates, durability for advanced building systems including integrity in sustainable urban systems. Instruction Mode: Lecture Grading Option: Letter

ARCH 613L Seminar: Structures Research
Units: 4 Terms Offered: Sp An overview of research topics in building structures; detailed investigation of selected major issues. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 614 Contemporary Issues in Architecture: A Critical Dialectic
Units: 3 Terms Offered: Fa Issues that are important to the contemporary built environment are explored using a dialectical format to encourage debate, augmented by invited speakers and topical readings. *Prerequisite:* ARCH 214a, ARCH 214b and ARCH 514a, ARCH 514b. Instruction Mode: Lecture Grading Option: Letter

ARCH 615L Seminar: Environmental Systems Research
Units: 4 Terms Offered: Sp A detailed examination of current issues in the thermal, acoustical, and radiant environment; recent developments in criteria, systems, controls, design tools and simulations; an understanding of the relationships between environmental factors, economics, and architectural goals. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 619 Digital Fabrication - Materials and Methods of Production
Units: 3 Terms Offered: FaSp Overview of multiple fabrication, manufacturing, and construction techniques used in the production of architecture, furniture and industrial design. Registration Restriction: Not open to freshman, sophomore and junior students Instruction Mode: Lecture Grading Option: Letter

ARCH 635 Landscape Construction: Assembly and Documentation
Units: 3 Terms Offered: Sp Learn and practice the process by which a landscape design is assembled through materials systems and design documentation. Instruction Mode: Lecture Grading Option: Letter

ARCH 639 Media for Landscape Architecture: Dynamic Systems
Units: 3 Terms Offered: Fa Computational capacities of parametric software, including flow dynamics, procedural media, and geospatial analysis, to analyze and generate both existing and emergent systems at the landscape scale. *Prerequisite:* ARCH 548 Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 642L Landscape Architecture Design
Units: 6 Terms Offered: Fa Fully integrated landscape place design; reclamation sites at significant urban or natural locations. *Prerequisite:* ARCH 542aL, ARCH 542bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 672 Future Building Skins: Advanced Applications in Architecture
Units: 3 Terms Offered: FaSp Focuses on the development of novel facade solutions that respond to shortcomings of contemporary facades applications in both new and existing buildings. Instruction Mode: Lecture Grading Option: Letter

ARCH 690aL Directed Research
Units: 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSpSm Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ARCH 690bL Directed Research
Units: 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSpSm Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ARCH 691a Heritage Conservation Thesis Preparation and Thesis
Units: 1 Terms Offered: Sp Introduction to, and exploration of, topics leading to the development of a thesis prospectus and directed research towards the completion of the master's thesis in heritage conservation. *Prerequisite:* ARCH 549 Registration Restriction: Open only to Master of Heritage Conservation students. Instruction Mode: Lecture Grading Option: In Progress/Credit/ No Credit

ARCH 691b Heritage Conservation Thesis Preparation and Thesis
Units: 4 Terms Offered: Sp Introduction to, and exploration of, topics leading to the development of a thesis prospectus and directed research towards the completion of the master's thesis in heritage conservation. *Prerequisite:* ARCH 549 Registration Restriction: Open only to master students in Heritage Conservation Instruction Mode: Lecture Grading Option: In Progress/Credit/ No Credit

ARCH 691z Heritage Conservation Thesis Preparation and Thesis
Units: 0 Terms Offered: Sp Introduction to, and exploration of, topics leading to the development of a thesis prospectus and directed research towards the completion of

the master's thesis in heritage conservation. *Prerequisite:* ARCH 549 and ARCH 553. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ARCH 692aL Building Science Thesis
Units: 6 Terms Offered: FaSpSm Research and thesis for the Master of Building Science degree. *Prerequisite:* ARCH 596. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 692bL Building Science Thesis
Units: 6 Terms Offered: FaSpSm Research and thesis for the Master of Building Science degree. *Prerequisite:* ARCH 692aL Registration Restriction: Open only to Master of Building Science students. Instruction Mode: Lecture, Lab Grading Option: In Progress/Credit/No Credit

ARCH 692zL Building Science Thesis
Units: 0 Terms Offered: FaSpSm Research and thesis for the Master of Building Science degree. *Prerequisite:* ARCH 596. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 693aL M.Arch. Thesis, Option I
Units: 2 Terms Offered: FaSpSm Directed research option for M.Arch. degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 693bL M.Arch. Thesis, Option I
Units: 8 Terms Offered: FaSpSm Directed research option for M.Arch. degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 693zL M.Arch. Thesis, Option I
Units: 0 Terms Offered: FaSpSm Directed research option for M.Arch. degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 694 Research Publication Methods for Building Science
Units: 2 Technical documentation, graphic representation, and verbal presentation for writing and presenting journal articles and conference presentations in building science. *Recommended Preparation:* completion of MBS Core Seminars Registration Restriction: Open only to Master of Building Science students. Instruction Mode: Lecture Grading Option: Letter

ARCH 695aL M.Arch. Thesis, Option II
Units: 2 Terms Offered: FaSpSm Design thesis for the Master of Architecture degree. Registration Restriction: Open only to Master's level Architecture students. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 695bL M.Arch. Thesis, Option II
Units: 8 Terms Offered: FaSpSm Design thesis for the Master of Architecture degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 695zL M.Arch. Thesis, Option II
Units: 0 Terms Offered: FaSpSm Design thesis for the Master of Architecture degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 696a Building Science Thesis
Units: 1 Research and thesis for the Master of Building Science degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 696b Building Science Thesis
Units: 6 Research and thesis for the Master of Building Science degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 696c Building Science Thesis
Units: 8 Research and thesis for the Master of Building Science degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 696zL Building Science Thesis
Units: 0 Research and thesis for the Master of Building Science degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 697aL MLArch Thesis, Option II
Units: 2 Terms Offered: FaSpSm Field studies and thesis for the MLArch degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 697bL MLArch Thesis, Option II
Units: 8 Terms Offered: FaSpSm Field studies and thesis for the MLArch degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 697zL MLArch Thesis, Option II
Units: 0 Terms Offered: FaSpSm Field studies and thesis for the MLArch degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 698aL Advanced Design-Research
Units: 3 Terms Offered: FaSpSm Directed research option for the MLArch degree. Registration Restriction: Open only to master students in Landscape Architecture and in Planning/Landscape Architecture Instruction Mode: Lecture Grading Option: Letter

ARCH 698bL Advanced Design-Research
Units: 6 Terms Offered: FaSpSm Directed research option for the MLArch degree. *Prerequisite:* ARCH 698aL Registration Restriction: Open only to master students in Landscape Architecture and in Planning/Landscape Architecture Instruction Mode: Lecture, Lab Required Grading Option: In Progress and Letter

ARCH 698zL Advanced Design-Research
Units: 0 Terms Offered: FaSpSm Directed research option for the MLArch degree. Instruction Mode: Lecture, Lab Required Grading Option: In Progress and Letter

ARCH 702L Advanced Graduate Architecture Design – Themes
Units: 6 Advanced thematic topical investigations emphasizing diverse areas of specialization. Projects will be faculty-led research investigations that concentrate on diverse areas of vital concern. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 705L Advanced Graduate Architecture Design – Topics
Units: 6 Max Units: 12.0 Terms Offered: FaSm Advanced topical investigations emphasizing diverse areas of specialization. Projects will be faculty-led research investigations that concentrate on diverse areas of vital concern. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 790 Doctoral Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the School of Architecture. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 791 Proposal for Doctoral Dissertation
Units: 1 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 793aL Architecture Directed Design Research Option I
Units: 2 Terms Offered: FaSp Directed Design Research option for graduate level architecture degree. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 793bL Architecture Directed Design Research Option I
Units: 6 Terms Offered: FaSp Directed Design Research option for graduate level architecture degree. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 793z Architecture Directed Design Research Option I
Units: 0 Directed Design Research option for graduate level architecture degree. Credit on acceptance of research project. *Prerequisite:* ARCH 793b. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ARCH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ARCH 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ARCH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ARCH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ARCH 795aL Architecture Thesis Option II
Units: 2 Terms Offered: FaSp Thesis option for graduate level architecture degree. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ARCH 795bL Architecture Thesis Option II
Units: 6 Terms Offered: FaSp Thesis option for graduate level architecture degree. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 795z Architecture Thesis Option II
Units: 0 Thesis option for graduate level architecture degree. Credit on acceptance of research project. *Prerequisite:* ARCH 795b. Instruction Mode: Lecture Grading Option: Credit/No Credit

Art

ART 105 Art and Design Studio I
Units: 4 Terms Offered: FaSp Introduction to the fundamental elements in art making, design creation and thinking, including key principles of process and critical analysis. Instruction Mode: Lecture Grading Option: Letter Crosslisted as DES 105

ART 106 Art and Design Studio II
Units: 4 Terms Offered: FaSp Introduction to the fundamental elements in art making, design creation and thinking, including the key principles of process and critical analysis. Instruction Mode: Lecture Grading Option: Letter Crosslisted as DES 106

ART 110 Drawing for Art and Design
Units: 4 Terms Offered: FaSpSm An introduction to drawing, both skill and perception oriented, as the basic tool for all the visual arts and design. Duplicates Credit in former FADW 101 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as DES 110

ART 120 Painting I
Units: 4 Terms Offered: FaSpSm Practical introduction to oil and acrylic pigments, painting equipment, processes, and media. Primary experience in: color, composition and perception through representational and abstract painting. Duplicates Credit in former FAPT 105 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 130 Ceramics I
Units: 4 Terms Offered: FaSp Practical and theoretical exploration of the nature of surface, form, volume and mass as fundamental elements of clay sculpture and the ceramic object. Duplicates Credit in former FACE 112 Instruction Mode: Lecture Grading Option: Letter

ART 140 Sculpture I
Units: 4 Terms Offered: FaSp Practical and theoretical introduction to sculpture as dimensional manipulation. Primary exploration of form, mass, gravity, surface, structure and associative recognition in three-dimensional art. Duplicates Credit in former FASC 106 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 141xg Creating and Understanding Visuals
Units: 4 Terms Offered: FaSpSm Lecture-studio course on the theory and history behind contemporary art, design, and visual communication; students also create work, informed by ideas from the lecture. Satisfies New General Education in Category A: The Arts Credit Restriction: Not available for credit for Roski majors Instruction Mode: Lecture Grading Option: Letter

ART 150 Introduction to Photography: Process and Concept
Units: 4 Terms Offered: FaSp Digital photography as a medium of contemporary art. Includes concept development, DSLR cameras, lighting, digital workflow, software, large format printing and installation. Duplicates Credit in former FAPH 209 Instruction Mode: Lecture Grading Option: Letter

ART 207a Two-Dimensional Art Workshop
Units: 2 Max Units: 08 Terms Offered: FaSpSm Studio practice to develop standards of judgment and appreciation of the visual arts. Duplicates Credit in former FA 207a Instruction Mode: Lecture Grading Option: Letter

ART 207b Two-Dimensional Art Workshop
Units: 2 Max Units: 08 Terms Offered: FaSpSm Continuation of ART 207a. *Prerequisite:* ART 207a Duplicates Credit in former FA 207b Instruction Mode: Lecture Grading Option: Letter

ART 208a Three-Dimensional Art Workshop
Units: 2 Terms Offered: FaSpSm Studio practice to develop standards of judgment and appreciation of the visual arts. Duplicates Credit in former FA 208a Instruction Mode: Lecture, Lab Grading Option: Letter

ART 208b Three-Dimensional Art Workshop
Units: 2 Terms Offered: FaSpSm Continuation of ART 208a. *Prerequisite:* ART 208a Duplicates Credit in former FA 208b Instruction Mode: Lecture, Lab Grading Option: Letter

ART 230 Wheel Throwing
Units: 4 Terms Offered: FaSp An introductory course using wheel throwing techniques for ceramics to explore a variety of forms through three-dimensional exercises. Duplicates Credit in former FACE 212 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 243 Construction Techniques
Units: 2 Terms Offered: FaSp Exploration of art fabrication and the techniques and philosophies of working with a variety of materials. *Recommended Preparation:* ART 140 Duplicates Credit in former FASC 246 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 255 Black and White Film and Darkroom Photography
Units: 4 Terms Offered: FaSp Introduces film cameras, development, and darkroom techniques, photographic history, theory and practice within an art context. Duplicates Credit in ART 150 Instruction Mode: Lecture Grading Option: Letter

ART 260 Introduction to Video: Projection and Virtual Worlds in Art
Units: 4 Terms Offered: FaSp An introductory course exploring contemporary processes and practices of video experimentation in art including the camera, editing, digital manipulation and spatial and virtual platforms. Duplicates Credit in former FAIN 220 Instruction Mode: Lecture Grading Option: Letter

ART 280 Studio Critique I
Units: 2 Terms Offered: FaSp Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Registration Restriction: Open only to sophomores in Art and Fine Arts majors Instruction Mode: Lecture Grading Option: Letter

ART 300 Professional Practices
Units: 2 Terms Offered: FaSpSm Instruction on producing written and visual documentation of art/design work, proposals, statements, and portfolios; applications for art/design employment opportunities, grants, research projects, and graduate school. Registration Restriction: Open only to sophomores, juniors and seniors Duplicates Credit in former FA 300 Instruction Mode: Lecture Grading Option: Letter

ART 310 Drawing II
Units: 4 Terms Offered: FaSpSm Directed examination of personal approaches in drawing; emphasis on making visual and artistic decisions and developing an appropriate attitude towards individual expression. *Prerequisite:* ART 110 or FADW 101 Duplicates Credit in former FADW 301 Instruction Mode: Lecture Grading Option: Letter

ART 311 Anatomical Drawing from Life
Units: 2 Terms Offered: FaSpSm An advanced, concentrated study of the human figure; expands on skills depicting and visualizing the human form. *Prerequisite:* ART 110 or FADW 101 Duplicates Credit in former FADW 321 Instruction Mode: Lecture Grading Option: Letter

ART 312 Comics Project
Units: 4 Max Units: 08 Terms Offered: FaSp All aspects of comics will be covered, from writing and composition to inking and marketing through the production of an individual 15-page comic creation. *Recommended Preparation:* Any drawing, graphic design or creative writing course Instruction Mode: Lecture Grading Option: Letter

ART 314 Illustration for Art and Design
Units: 2 Terms Offered: FaSp Illustration techniques across the range of fine art, cartooning, street art, narrative arts, animation, scientific imaging, editorial cartooning and others. Digital and hybrid approaches. *Recommended Preparation:* ART 110, ART 120, or any graphic design course Instruction Mode: Lecture Grading Option: Letter Crosslisted as DES 314

ART 320 Painting II
Units: 4 Terms Offered: FaSpSm Directed examination of aesthetic concepts; investigation into personal ideas related to the development of a creative visual language in painting. *Prerequisite:* ART 120 or FAPT 105 Duplicates Credit in former FAPT 305 Instruction Mode: Lecture Grading Option: Letter

ART 330 Ceramics II
Units: 4 Terms Offered: FaSp Directed examination of aesthetic concepts and investigation into personal ideas as they relate to the development of a creative visual language in ceramics. *Prerequisite:* ART 130 or FACE 112 Duplicates Credit in former FACE 312 Instruction Mode: Lecture Grading Option: Letter

ART 331 Clay and Glazes
Units: 2 Terms Offered: Sp A foundation in the formulation of clay bodies and glaze materials through lectures and studio exercises to suit specific needs with the artist in mind. *Recommended Preparation:* ART 130 or ART 230 Duplicates Credit in former FACE 313 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 340 Sculpture II
Units: 4 Terms Offered: FaSp Directed examination of three-dimensional aesthetic concepts; development of an individual creative vision. *Prerequisite:* ART 140 Duplicates Credit in former FASC 306 Instruction Mode: Lecture Grading Option: Letter

ART 350 Intermediate Photography: Studio, Field, Independent Projects
Units: 4 Terms Offered: FaSp Continued examination of the conceptual, technical, aesthetic and historical tools necessary for a well-informed deliberate art practice. Emphasis on generating self-directed ideas. *Prerequisite:* ART 150 Duplicates Credit in former FAPH 309b Instruction Mode: Lecture Grading Option: Letter

ART 360 Video Installation and Moving Image Environments
Units: 4 Terms Offered: FaSp Advanced studio course. Investigates video installation as an evolving contemporary art form that extends the conversation of video art beyond the frame and into live, hybrid media, site-specific and multiple channel environments. *Prerequisite:* ART 260 or FAIN 220 Duplicates Credit in former FAIN 320 Instruction Mode: Lecture Grading Option: Letter

ART 361 Post-Internet Art and Aesthetics
Units: 4 Terms Offered: FaSp A technically and conceptually intensive studio exploring contemporary processes and practices of Internet art and online expression. *Prerequisite:* ART 260 *Recommended Preparation:* ART 150 Duplicates Credit in former FAIN 315 Instruction Mode: Lecture Grading Option: Letter

ART 362 Ideas in Intermedia
Units: 4 Terms Offered: FaSp An examination of the impact of digital media on contemporary culture, with attention to a particular, changing topic each semester. Duplicates Credit in former FAIN 330 Instruction Mode: Lecture Grading Option: Letter

ART 370 Printmaking
Units: 4 Terms Offered: FaSp Introductory course in various printmaking techniques; necessary skills and inherent expressive qualities of different printmaking methods are explored. Duplicates Credit in former FAPR 311 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 380 Studio Critique II
Units: 2 Terms Offered: FaSp A continuation of ART 280 for third-year students, providing an interdisciplinary forum for artistic practice and a deepening critique of one's work and the work of peers. *Prerequisite:* ART 280 Registration Restriction: Open only to juniors in Art and Fine Arts majors Instruction Mode: Lecture Grading Option: Letter

ART 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former FA 390 Instruction Mode: Lecture Grading Option: Letter

ART 410 Topics in Advanced Drawing
Units: 4 Max Units: 12 Terms Offered: FaSpSm Continued directed examination of personal approaches in drawing, emphasis on making visual and artistic decisions and developing an appropriate attitude toward visual expression. *Prerequisite:* ART 310 or FADW 301 Duplicates Credit in former FA 401 and FADW 401 Instruction Mode: Lecture Grading Option: Letter

ART 415 Studies in Drawing and Painting
Units: 4 Max Units: 12 Terms Offered: FaSp A studio examination of rotating topics in drawing/painting, either media-based or content-driven, with individual and collaborative projects; topics change each semester. *Recommended Preparation:* ART 310; ART 320; or permission of instructor Duplicates Credit in former FADW 331 and former ART 315 Instruction Mode: Lecture Grading Option: Letter

ART 418 Independent Studies in Studio Arts
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Independent research of specific topics under the direction of a faculty member. Administrative and faculty approval required. *Recommended Preparation:* appropriate 300-level course work Duplicates Credit in former FA 418 Instruction Mode: Lecture Grading Option: Letter

ART 419 Professional Internship in the Arts
Units: 2 Max Units: 04 Terms Offered: FaSpSm An experiential/academic opportunity in a museum, gallery, community cultural center or related facility. Lectures, seminars, written analysis and working internship. Registration Restriction: Open only to upper-division fine arts majors Duplicates Credit in former FA 419 Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as DES 419

ART 420 Topics in Advanced Painting
Units: 4 Max Units: 12 Terms Offered: FaSpSm Directed painting with continued emphasis on personal choices regarding appropriation of conceptual images and arrangement, material processes, scale, number of paintings. Ongoing critical response to painting. *Prerequisite:* ART 320 or FAPT 305 Duplicates Credit in former FAPT 405 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 430 Topics in Advanced Ceramics
Units: 4 Max Units: 12 Terms Offered: FaSpSm Continued directed examination of aesthetic concepts and investigation into personal ideas as they relate to the development of a creative visual language in ceramics. *Prerequisite:* ART 330 or FACE 312 Duplicates Credit in former FACE 412 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 434 Sound Art
Units: 2 Terms Offered: Sp A survey of developments in non-traditional musical instrument making in clay including design, fabrication and composition, culminating in a musical performance. *Recommended Preparation:* ART 130 or FACE 112 Duplicates Credit in former ART 414 Instruction Mode: Lecture Grading Option: Letter

ART 440 Topics in Advanced Sculpture
Units: 4 Max Units: 12 Terms Offered: FaSp Individual direction of the study of aesthetic issues in sculpture; investigation of an individual creative vision. *Prerequisite:* ART 340 or FASC 306 Duplicates Credit in former FASC 406 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 441 Installation Art
Units: 4 Terms Offered: FaSp Students challenge the traditional art object as they explore the use of space and time in their artwork. *Prerequisite:* ART 140 *Recommended Preparation:* any upper division art or design course Instruction Mode: Lecture Grading Option: Letter

ART 442 Art and Technology
Units: 4 Terms Offered: Sp An interdisciplinary course between art and engineering that addresses creative thinking in the manipulation of media and the communication of ideas. Duplicates Credit in former FASC 436 Instruction Mode: Lecture Grading Option: Letter

ART 443 Woodworking
Units: 2 Terms Offered: FaSp Exploration of the essential skills in woodworking through lecture, demonstration and hands-on training. Includes instruction in joinery and relevant machinery and hand tools. Instruction Mode: Lecture Grading Option: Letter

ART 444 Modeling and Mold Making
Units: 2 Terms Offered: FaSp Introduction to plaster mold making using clay and wax for both ceramics and sculpture. Exploration of various casting materials. Duplicates Credit in former FASC 136 and former ART 142 Instruction Mode: Lecture Grading Option: Letter

ART 445 Metal
Units: 2 Terms Offered: FaSp Introduction to metal in fine art. Emphasis on technical proficiencies and effective solutions working in a variety of metals. *Recommended Preparation:* ART 140 Duplicates Credit in former FASC 236 and former ART 242 Instruction Mode: Lecture Grading Option: Letter

ART 450 Topics in Advanced Photography
Units: 4 Max Units: 12 Terms Offered: FaSp In-depth exploration of photographic and artistic concepts as they apply to the articulation of personal work. *Prerequisite:* ART 350 or FAPH 309b Duplicates Credit in former FAPH 409 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 460 Post-Material Studio
Units: 4 Max Units: 08 Terms Offered: FaSp Advanced studio and discussion course that affords the student a conceptual and practical platform from which to discuss and realize a major work or series. *Recommended Preparation:* any upper division studio course or permission of instructor Duplicates Credit in former FAIN 440 Instruction Mode: Lecture Grading Option: Letter

ART 461 Techniques in After Effects
Units: 2 Terms Offered: FaSp An intensive investigation of the mechanics and methodology of contemporary software

for video art. Recommended to be taken concurrently with ART 260. Instruction Mode: Lecture Grading Option: Letter

ART 462 Performance Art Workshop
Units: 4 Terms Offered: FaSp Introduce contextual understanding of performance art history and basic principles of using the body in time and space in relation to an audience in order to convey meaning. *Recommended Preparation:* ART 260 or ART 362 Instruction Mode: Lecture Grading Option: Letter

ART 463 Performance Art and the Frame
Units: 2 Terms Offered: FaSp Exploration of iconic performance documentation and creation of a snapshot and/or moving image narrative, manipulating temporal space to lock it into a frame. *Recommended Preparation:* Background in visual arts of any form (e.g., performance art, time-based media, video art, installation and any form of 2D or 3D art), cinema, media, music, communications, narrative studies Instruction Mode: Lecture Grading Option: Letter

ART 470 Topics in Advanced Printmaking
Units: 4 Max Units: 12 Terms Offered: FaSp Directed examination of specific printmaking media in relation to personal aesthetic goals and expressive concepts. *Prerequisite:* ART 370 or FAPR 311 Duplicates Credit in former FAPR 411 Instruction Mode: Lecture Grading Option: Letter

ART 480 International Art Study Tour
Units: 2 Max Units: 02 Terms Offered: FaSp An immersive experience in the artistic culture of a specific city or region that includes a short (less than two weeks) international trip. Instruction Mode: Lecture Grading Option: Letter

ART 484 Contemporary Issues in Art
Units: 4 Max Units: 12 Terms Offered: FaSp An advanced studio and discussion course aims to expand a student's relationship to, and understanding of, contemporary artistic dissemination, discourse, and display via a series of rotating topics. *Recommended Preparation:* junior status or permission of instructor Instruction Mode: Lecture Grading Option: Letter

ART 485 Studio Capstone
Units: 4 Terms Offered: Sp A faculty-mentored course supporting advanced conceptual exploration and the development of an ambitious, self-defined series or body of work; may culminate in a group exhibition or individual project. Registration Restriction: Open only to seniors in Art and Fine Arts majors Instruction Mode: Lecture Grading Option: Letter

ART 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. Credit Restriction: Not available for graduate credit Duplicates Credit in former FA 490 Instruction Mode: Lecture Grading Option: Letter

ART 494a Senior Thesis
Units: 2 Max Units: 04 Terms Offered: FaSp Individual research under guidance of faculty member for senior-level BFA students, leading to a substantial paper or other project. Registration Restriction: Open only to seniors in Fine Arts Instruction Mode: Lecture Grading Option: Letter

ART 494b Senior Thesis
Units: 2 Terms Offered: FaSp Individual research under the guidance of faculty for senior level BFA students, leading to a substantial paper or project. *Prerequisite:* ART 494a Registration Restriction: Open only to seniors in Fine Arts Instruction Mode: Lecture Grading Option: Letter

ART 499 Special Topics
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Comprehensive exploration of particular aspects of visual art. Duplicates Credit in former FA 499 Instruction Mode: Lecture Grading Option: Letter

ART 515 Visiting Artist and Scholar Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp Lecture and discussion course in the professional practice of art featuring formal presentations by visiting artists and scholars. Duplicates Credit in FA 515. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CRIT 515

ART 520 Individual Studies
Units: 2 Max Units: 8.0 Terms Offered: FaSp Investigation of creative problems through various media. Course may be repeated. Duplicates Credit in former FA 520. Instruction Mode: Lecture Grading Option: Letter

ART 525 Making and Curating Art: Pedagogy and Praxis
Units: 4 Terms Offered: Sp (Enroll in CRIT 525)

ART 530 Art and Globalization
Units: 4 Terms Offered: SpSm Tracks the historical emergence and proliferation of globalization and its relationship to political, economic and cultural phenomena. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CRIT 530

ART 535 Group Critique
Units: 2 Max Units: 8 Terms Offered: FaSp Presentation and critique which builds students' skills in presenting and contextualizing their artwork for peer review; analytic discussion regarding directions in contemporary art. Instruction Mode: Lecture Grading Option: Letter

ART 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to graduate degree. Maximum units which may be applied to degree determined by department. Duplicates Credit in former FA 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

ART 594a Master's Thesis
Units: 2 Credit on acceptance of Thesis. Registration Restriction: Open only to masters students. Duplicates Credit in former FA 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ART 594b Master's Thesis
Units: 2 Credit on acceptance of Thesis. Registration Restriction: Open only to masters students. Duplicates Credit in former FA 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ART 594z Master's Thesis
Units: 0 Credit on acceptance of Thesis. Registration Restriction: Open only to masters students. Duplicates Credit in former FA 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ART 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Comprehensive exploration of particular aspects of the history of art. Duplicates Credit in former FA 599. Instruction Mode: Lecture Grading Option: Letter

Arts and Letters

ARLT 100g Arts and Letters
Units: 4 Terms Offered: FaSp Critical analysis of significant works of literature, philosophy, visual arts, music and/or film; intensive reading and writing to develop knowledge of analytical techniques in the humanities. Limited to freshmen and sophomores. Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in ARLT 101 and in former LTA 100 and in former LTA 101. Instruction Mode: Lecture Grading Option: Letter

ARLT 101g Studies in Arts and Letters
Units: 4 Terms Offered: FaSp Critical analysis of significant works of literature, philosophy, visual arts, music and/or film; intensive reading and writing to develop knowledge of analytical techniques in the humanities. Limited to students with sophomore status or higher. Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in ARLT 100 and in former LTA 100 and in former LTA 101. Instruction Mode: Lecture, Discussion Grading Option: Letter

ARLT 105g First Year Seminar: Arts and Letters
Units: 4 Terms Offered: FaSpSm Critical analysis of significant literary, philosophical, and artistic texts; intensive reading and writing to develop analytical skills in interpreting and responding to original works. Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in ARLT 100g and ARLT 101g. Instruction Mode: Lecture Grading Option: Letter

Arts Leadership

ARTL 310 Music and Dance In Paris Salon Culture
Units: 2 Terms Offered: Sp During this twenty-four day Maymester course in Paris, students will explore moments in Parisian salon culture as sites of artistic inspiration and collaboration. Registration Restriction: Priority will be given to majors in Thornton and Kaufman, then minors in Thornton and Kaufman, then the general USC population. Instruction Mode: Lecture Grading Option: Letter

ARTL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

ARTL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

ARTL 500 Arts Leadership and Arts Entrepreneurship
Units: 2 Terms Offered: FaSp Introduction

to key issues involved in both managing an arts organization and creating sustainable enterprise. For students in music, arts, public policy, and related fields. Instruction Mode: Lecture Grading Option: Letter

ARTL 501 Executive Leadership in the Arts
Units: 2 Terms Offered: FaSp Investigation into a variety of leadership approaches within an arts organization, with a focus on the development of the student's own leadership capacity. Instruction Mode: Lecture Grading Option: Letter

ARTL 502 Issues in the Arts and the Contemporary World
Units: 2 Terms Offered: FaSp Examination of major environmental trends including changing demographics, new business models, rapidly developing technology and globalization, and understanding their implications for the arts. Instruction Mode: Lecture Grading Option: Letter

ARTL 503 Arts Organizations: Innovation and New Models
Units: 2 Terms Offered: FaSp Designed for current and future arts leaders interested in looking critically at organizational practice and bringing innovative solutions to old problems in a contemporary context. Instruction Mode: Lecture Grading Option: Letter

ARTL 504 Arts and the Community: Current Practice and New Visions
Units: 2 Terms Offered: FaSp Exploration of a range of ideas, ideologies and strategies that have historically been used to connect arts organizations to their communities. Instruction Mode: Lecture Grading Option: Letter

ARTL 510 Arts Leadership Practicum
Units: 2 Max Units: 4.0 Terms Offered: FaSp Year-long practicum which puts ideas and concepts into practice. Each student will conceptualize, develop, and complete an arts project of his/her own choosing. Instruction Mode: Lecture Grading Option: Letter

ARTL 512 Essentials of Orchestra Management
Units: 2 Ten day seminar that provides in depth, participative instruction in orchestra management and the practicalities of being a successful leader of an arts organization. Instruction Mode: Lecture Grading Option: Letter

ARTL 520 Arts Leadership Intensive
Units: 1 Five-day, intensive course that serves as a deep-dive introduction to the field for all Arts Leadership students. Instruction Mode: Lecture Grading Option: Letter

ARTL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARTL 598 Internship for Arts Leadership
Units: 1, 2, 3, 4 Max Units: 04 Practical work experience in the student's field of study, at an off-campus location. Students are individually supervised by faculty. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARTL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

ARTL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Communication and Journalism

ASCJ 020x Annenberg Skills
Units: 1 Intensive skills boot camps teach the verbal, written, and digital skills needed for "real world" jobs. Not available for degree credit. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASCJ 100 The Changing World of Communication and Journalism
Units: 2 Survey of major themes in media and communication; exploring what it means to be a professional in the fields of communication, journalism, and public relations. Instruction Mode: Lecture Grading Option: Letter

ASCJ 200 Navigating Media and News in the Digital Age
Units: 4 Terms Offered: FaSp Students will be engaged as discriminating media/news consumers and contributors. Emphasis on critical skills needed to understand, employ, enjoy and help shape our media landscape. Instruction Mode: Lecture, Lab Grading Option: Letter

ASCJ 210 Contours of Change in Media and Communication
Units: 4 Provides an introduction to cultivating a curious, critical, and proactive approach to the challenges of social change. Students will be encouraged to develop an expansive and critical definition and understanding of change as it relates to the role of media and communication in producing and responding to political and cultural transformations that shape our status as citizens and our ideas of citizenship. Instruction Mode: Lecture, Discussion Grading Option: Letter

ASCJ 220x Annenberg Experimental
Units: 0, 1, 2 Max Units: 6.0 Cutting-edge, experimental, experiential, interdisciplinary, results-based classes taught in new ways and places. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASCJ 420 Annenberg Collaboratory
Units: 0, 1, 2, 3, 4 Max Units: 8.0 Collaborative, cutting-edge, experimental, experiential, interdisciplinary, results-based classes taught in new ways and places. *Recommended Preparation:* ASCJ 220. Instruction Mode: Lecture Grading Option: Letter

Astronautics and Space Technology

ASTE 101L Introduction to Astronautics
Units: 4 Terms Offered: Fa Gateway to the Astronautical Engineering major. Introduction to space, space exploration and the space business. Elements of orbits, spacecraft systems, rocket propulsion, and communications. Laboratory: introduction to graphics, computation and simulation. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ASTE 280 Foundations of Astronautical Engineering
Units: 3 Terms Offered: Sp Coordinate systems and transformations. Spherical trigonometry. Orientation angles. Spacecraft orbits and orbital maneuvers. Introduction to rocket propulsion, spacecraft attitude dynamics and control and space environment. *Prerequisite:* MATH 226g and PHYS 151Lg *Recommended Preparation:* Skill in MATLAB programming. Instruction Mode: Lecture Grading Option: Letter

ASTE 291 Team Projects I
Units: 1 Max Units: 4.0 Terms Offered: FaSp Participation in ASTE undergraduate student team projects. Intended for lower-division students or those with little prior project experience. Instruction Mode: Lecture Grading Option: Letter

ASTE 305 Astronautical Gas Dynamics
Units: 4 Terms Offered: Sp Introduction to compressible and rarefied gas flows with applications to rocket propulsion and the dynamics of supersonic and hypersonic vehicles and spacecraft; ionized gases and plasmas. *Prerequisite:* (PHYS 153L or PHYS 163L) and AME 310 *Corequisite:* MATH 245 Instruction Mode: Lecture Grading Option: Letter

ASTE 331a Spacecraft Systems Engineering
Units: 3 Terms Offered: Fa Introduction to spacecraft systems: propulsion, attitude dynamics and control, structures, communications, power, thermal control. Space environment. Systems engineering as applied to spacecraft. *Prerequisite:* ASTE 280 *Recommended Preparation:* Skill in MATLAB programming and spreadsheets *Corequisite:* PHYS 153L Duplicates Credit in former ASTE 330 Instruction Mode: Lecture Grading Option: Letter

ASTE 331b Spacecraft Systems Engineering
Units: 3 Terms Offered: Sp Introduction to spacecraft systems: propulsion, attitude dynamics and control, structures, communications, power, thermal control. Space environment. Systems engineering as applied to spacecraft. *Prerequisite:* ASTE 331a *Recommended Preparation:* Skill in MATLAB programming and spreadsheets Duplicates Credit in former ASTE 330 Instruction Mode: Lecture Grading Option: Letter

ASTE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only.

ASTE 404 Computational Programming and Numerical Methods
Units: 3 Terms Offered: Fa Development of simulation code with high-performance languages such as C++ and Fortran; numerical techniques for continuum and rarefied gas flows, GPU utilization; data visualization, machine learning. *Recommended Preparation:* Basic programming experience with Matlab, C/C++, Python, or other programming languages, and/or similar exposure on the level of ITP 115 or ITP 165 Instruction Mode: Lecture Grading Option: Letter

ASTE 421x Space Mission Design
Units: 3 Terms Offered: Sp Space systems engineering process: requirements definition; trade studies; system integration;

technical reviews; cost and schedule development; case studies; ethics. Capstone design experience. *Prerequisite:* ASTE 330 . Registration Restriction: Open only to seniors. Instruction Mode: Lecture Grading Option: Letter

ASTE 445 Molecular Gas Dynamics
Units: 3 Terms Offered: FaSp Physical description of kinetic nature of gas flows; distribution function; introduction to the Boltzmann equation; free-molecule flow; surface and molecular reflection properties; Monte Carlo flow calculations. *Recommended Preparation:* AME 309 or ASTE 305 Instruction Mode: Lecture Grading Option: Letter

ASTE 470 Spacecraft Propulsion
Units: 3 Introduction to rocket engineering. Space missions and thrust requirements. Compressible gas dynamics. Propellant chemistry and thermodynamics. Liquid- and solid-fueled rockets. Nuclear and electric propulsion. *Prerequisite:* senior or graduate standing. Instruction Mode: Lecture Grading Option: Letter

ASTE 480 Spacecraft Dynamics
Units: 3 Two-body motion, rigid-body motion, attitude dynamics and maneuvers, spacecraft stabilization: gravity gradient, reaction wheels, magnetic torques, thruster attitude control. *Prerequisite:* senior standing. Instruction Mode: Lecture Grading Option: Letter

ASTE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ASTE 491 Team Projects II
Units: 1 Max Units: 4.0 Terms Offered: FaSp Participation in ASTE undergraduate student team projects. Intended for students with prior project experience. Instruction Mode: Lecture Grading Option: Letter

ASTE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content to be selected each semester from current developments in astronautics, space technology, and related fields. Instruction Mode: Lecture Grading Option: Letter

ASTE 501a Physical Gas Dynamics
Units: 3 Terms Offered: FaSp Molecular structure; radiative processes; microscopic description of gas phenomena; translational, rotational, vibrational, and electronic freedom degrees; particle energy distributions; microscopic representation of thermodynamic functions. *Prerequisite:* graduate standing or departmental approval. Instruction Mode: Lecture Grading Option: Letter

ASTE 501b Physical Gas Dynamics
Units: 3 Terms Offered: FaSp Kinetic concepts in gas physics; thermal non-equilibrium; intermolecular potentials; transport of radiation and particles in high-temperature gas; dissociation and ionization equilibrium; energy relaxation. *Prerequisite:* ASTE 501a. Instruction Mode: Lecture Grading Option: Letter

ASTE 505a Plasma Dynamics
Units: 3 Terms Offered: FaSp Charged particle dynamics. Kinetic fluid theories. Rarefied and collisional plasma flows. Plasma-surface interactions. Waves, instabilities, turbulence. Applications in engineering and space technology. *Recommended Preparation:* Graduate standing in engineering or physics. Duplicates Credit in EE 572ab. Instruction Mode: Lecture Grading Option: Letter

ASTE 505b Plasma Dynamics
Units: 3 Terms Offered: FaSp Charged particle dynamics. Kinetic fluid theories. Rarefied and collisional plasma flows. Plasma-surface interactions. Waves, instabilities, turbulence. Applications in engineering and space technology. *Recommended Preparation:* Graduate standing in engineering or physics. Duplicates Credit in EE 572ab. Instruction Mode: Lecture Grading Option: Letter

ASTE 520 Spacecraft System Design
Units: 3 System components; vehicle structure, propulsion systems, flight dynamics, thermal control, power systems, telecommunication. Interfaces and tradeoffs between these components. Testing, system reliability, and integration. Instruction Mode: Lecture Grading Option: Letter

ASTE 523 Design of Low Cost Space Missions
Units: 3 Terms Offered: Sp Reviews all aspects of space mission design for practical approaches to reducing cost. Examines "LightSat" mission experience and potential applicability to large-scale missions. Graduate standing in engineering or science. *Recommended Preparation:* ASTE 520 or some experience in space engineering. Instruction Mode: Lecture Grading Option: Letter

ASTE 524 Human Spaceflight
Units: 3 Engineering, technologies, and systems for human spaceflight. Life support, space environments, crew accommodations. Mission operations, safety. Astrodynamics, launch and space vehicles, space stations, planetary bases. Instruction Mode: Lecture Grading Option: Letter

ASTE 527 Space Studio Architecting
Units: 3 Terms Offered: Sp Programmatic/conceptual design synthesis/choice creation methods for complex space missions. Aerospace system engineering/architecture tools to create innovative projects. Evaluated by faculty/industry/NASA experts. *Recommended Preparation:* ASTE 520 or experience in space industry. Instruction Mode: Lecture Grading Option: Letter

ASTE 528 Reliability of Space Systems
Units: 3 Terms Offered: Fa Reliable space system design and operations for human and robotic space, applications, and commercial space. Reliability of space systems, subsystems, hardware, software and human reliability. *Recommended Preparation:* ASTE 520 or equivalent course on fundamentals of space systems Registration Restriction: Open only to graduate students in science or engineering Instruction Mode: Lecture Grading Option: Letter

ASTE 529 Safety of Space Systems and Space Missions
Units: 3 Engineering methodology and analysis techniques for safety certification and mission assurance of robotic and human space systems and space missions by government and commercial industry. *Recommended Preparation:* ASTE 520 or some experience in space engineering. Registration Restriction: Open only to Engineering graduate students. Instruction Mode: Lecture Grading Option: Letter

ASTE 535 Space Environments and Spacecraft Interactions
Units: 3 Space environments and interactions with space systems. Vacuum, neutral and ionized species, plasma, radiation, micrometeoroids. Phenomena important for spacecraft operations. Instruction Mode: Lecture Grading Option: Letter

ASTE 545 Computational Techniques in Rarefied Gas Dynamics
Units: 3 Terms Offered: Irregular Particle-based computational simulation methods for rarefied, high-speed flows. Molecular collision kinetics. Monte Carlo direct simulation and related techniques. *Recommended Preparation:* ASTE 501a and skill in FORTRAN programming. Instruction Mode: Lecture Grading Option: Letter

ASTE 546 Computational Plasma Dynamics
Units: 3 Terms Offered: Sp Plasma simulation techniques; particle-in-cell (PIC); PIC with Monte Carlo; computational electromagnetics; computational magnetohyrdodynamics. Parallelization. Applications in engineering and space plasma physics. *Prerequisite:* ASTE 505a. Instruction Mode: Lecture Grading Option: Letter

ASTE 552 Spacecraft Thermal Control
Units: 3 Terms Offered: Sp Spacecraft and orbit thermal environments; design, analysis, testing of spacecraft thermal control system and components; active and passive thermal control, spacecraft and launch vehicle interfaces. Instruction Mode: Lecture Grading Option: Letter

ASTE 553 Systems for Remote Sensing from Space
Units: 3 The operation, accuracy, resolution, figures of merit, and application of instruments which either produce images of ground scenes or probe the atmosphere as viewed primarily from space. Instruction Mode: Lecture Grading Option: Letter

ASTE 554 Spacecraft Sensors
Units: 3 Terms Offered: Fa Spacecraft sensors from concept and design to building, testing, interfacing, integrating, and operations. Optical and infrared sensors, radiometers, radars, phased arrays, signal processing, noise reduction. *Recommended Preparation:* ASTE 520. Instruction Mode: Lecture Grading Option: Letter

ASTE 555 Space Cryogenic Systems and Applications
Units: 3 Terms Offered: Fa Theory and practice in cryogenic engineering as applied to space systems, emphasizing sensor cooling techniques; cryostats; cryoradiators; mechanical cryocoolers; introductions to superfluidity and superconductivity. *Recommended Preparation:* ASTE 520 or equivalent course on fundamentals of space systems Registration Restriction: Graduate standing in science or engineering Instruction Mode: Lecture Grading Option: Letter

ASTE 556 Spacecraft Structural Dynamics
Units: 3 Applied analytical methods (vibrations of single and multidegree of freedom systems, finite element modeling, spacecraft applications); requirements definition process; analytical cycles; and design verification. Instruction Mode: Lecture Grading Option: Letter

ASTE 557 Spacecraft Structural Strength and Materials
Units: 3 Spacecraft structural strength analysis and design concepts overview; spacecraft material selection; analysis of composite materials; finite element method; spacecraft configuration; structural testing; bolted joint design. Instruction Mode: Lecture Grading Option: Letter

ASTE 561 Human Factors of Spacecraft Operations
Units: 3 Terms Offered: Fa Engineering fundamentals and experimental methods of human factors design and evaluation for spacecraft which incorporate human-in-the-loop control. Instruction Mode: Lecture Grading Option: Letter

ASTE 562 Spacecraft Life Support Systems
Units: 3 Terms Offered: Sp Engineering fundamentals of spacecraft systems design and analysis to support human life in the space environment. *Prerequisite:* ASTE 524 Instruction Mode: Lecture Grading Option: Letter

ASTE 566 Ground Communications for Satellite Operations
Units: 3 Terms Offered: Sp Theory, practice, architecture, operations of ground satellite communications with satellites. Practical implementation of satellite communications system and reception and analysis of satellite transmitted signals. *Prerequisite:* ASTE 520 Registration Restriction: Open only to USC Viterbi School of Engineering students Instruction Mode: Lecture, Lab Grading Option: Letter

ASTE 570 Liquid Rocket Propulsion
Units: 3 Terms Offered: Sp Liquid-propelled rocket propulsion systems. Capillary devices for gas-free liquid acquisition in zero gravity. Ground and in-orbit operations. Propellant life predictions and spacecraft end-of-life de-orbiting strategies. *Prerequisite:* ASTE 470 Instruction Mode: Lecture Grading Option: Letter

ASTE 571 Solid Rocket Propulsion
Units: 3 Terms Offered: Fa Fundamental concepts, implementation and applications of solid rocket propulsion. Propellants, performance, ballistics, structures and systems used for space launch vehicles, sounding rockets and rocket motors. *Prerequisite:* ASTE 470 or ASTE 575 Instruction Mode: Lecture Grading Option: Letter

ASTE 572 Advanced Spacecraft Propulsion
Units: 3 Terms Offered: Sp Nuclear, electric, sails, and far-term propulsion systems. Overviews of nozzles, heat transfer, electromagnetics, rarefied gases, and plasma physics. Analysis of electrothermal, electrostatic and electromagnetic thrusters. Graduate standing in engineering or science. *Prerequisite:* ASTR 470 Instruction Mode: Lecture Grading Option: Letter

ASTE 574 Space Launch Vehicle Design
Units: 3 Terms Offered: Fa Fundamentals, technologies, and design of space launch vehicles. Propulsion, trajectory analysis and optimization, static and dynamic structural loads, stability, control, and safety. *Recommended Preparation:* ASTE 470 or equivalent course work in spacecraft propulsion Instruction Mode: Lecture Grading Option: Letter

ASTE 575 Rocket and Spacecraft Propulsion
Units: 3 Terms Offered: Sp Space missions, rocket dynamics, and propulsion requirements. Thermodynamics and combustion; compressible gas dynamics in nozzles. Liquid- and solid-propellant rockets; launch systems. Advanced propulsion. Registration Restriction: Open only to graduate students Duplicates Credit in ASTE 470 Instruction Mode: Lecture Grading Option: Letter

ASTE 577 Entry and Landing Systems for Planetary Surface Exploration
Units: 3 Terms Offered: Sp Multi-disciplinary engineering theory, simulation techniques, and unique technologies for landing robotic and human space vehicles on the surface of planets and moons. *Recommended Preparation:* ASTE 520 or similar course in fundamentals of space systems Registration Restriction: Open only to engineering students Instruction Mode: Lecture Grading Option: Letter

ASTE 580 Orbital Mechanics I
Units: 3 Physical principles; two-body and central force motion; trajectory correction maneuvers; position and velocity in conic orbits; Lambert's problem; celestial mechanics; orbital perturbations. Instruction Mode: Lecture Grading Option: Letter

ASTE 581 Orbital Mechanics II
Units: 3 Terms Offered: Fa Theory of perturbations of orbits; numerical methods in orbital mechanics; satellite dynamics; averaging methods; resonance; mission analysis. *Prerequisite:* ASTE 580. Instruction Mode: Lecture Grading Option: Letter

ASTE 583 Space Navigation: Principles and Practice
Units: 3 Terms Offered: Sp Statistical orbit determination: (weighted) least squares, batch and sequential (Kalman) processing, illustrative examples; online ephemeris generation: potentially hazardous asteroids, comets, satellites; launch: vehicles, payloads, staging. Graduate standing in engineering or science. *Recommended Preparation:* ASTE 580. Instruction Mode: Lecture Grading Option: Letter

ASTE 584 Spacecraft Power Systems
Units: 3 Terms Offered: Sp Introduction to solar arrays, batteries, nuclear power sources, mechanical energy storage. Application theory of operation, practical considerations. Subsystem topologies and performance. Design optimization techniques. Instruction Mode: Lecture Grading Option: Letter

ASTE 585 Spacecraft Attitude Control
Units: 3 Terms Offered: SpSm Review of attitude dynamics, gravity gradient stabilization, attitude stabilization with a spin, attitude maneuvers, control using momentum exchange devices, momentum-biased stabilization, reaction thruster control. *Prerequisite:* AME 451 or EE 482; *Recommended Preparation:* a course in dynamics. Instruction Mode: Lecture Grading Option: Letter

ASTE 586 Spacecraft Attitude Dynamics
Units: 3 Dynamics of systems of particles and rigid bodies; spacecraft attitude systems; attitude maneuvers (spin, precession, nutation, etc.); attitude stabilization and attitude determination; simulation methods. Instruction Mode: Lecture Grading Option: Letter

ASTE 589 Solar System Navigation
Units: 3 Terms Offered: Fa Free-return trajectories for exploration of the moon, optimization and control of interplanetary trajectories, and mission design using the Interplanetary Superhighway. *Prerequisite:* ASTE 580 *Recommended Preparation:* Proficiency in use of MATLAB for exercises on standard desktop and laptop computers. Registration Restriction: graduate standing in engineering of physics Instruction Mode: Lecture Grading Option: Letter

ASTE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the division. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASTE 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ASTE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content to be selected each semester from current developments in astronautics, space technology, and related fields. Instruction Mode: Lecture Grading Option: Letter

ASTE 683 Advanced Spacecraft Navigation
Units: 3 Advanced topics in spacecraft navigation: rendezvous, frozen/sun synchronous orbits, stationkeeping. Nonlinear filtering for orbit and attitude determination. Optical navigation. Mission applications. *Prerequisite:* ASTE 580 and ASTE 583; *Recommended Preparation:* skill in MATLAB programming. Instruction Mode: Lecture Grading Option: Letter

ASTE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Laboratory studies of specific problems by candidates for the degree Engineer in Astronautical Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASTE 694a Thesis
Units: 2 Terms Offered: FaSpSm Required for the degree Engineer in Astronautical Engineering. Credit on acceptance of

thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 694b Thesis
Units: 2 Terms Offered: FaSpSm Required for the degree Engineer in Astronautical Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 694z Thesis
Units: 0 Terms Offered: FaSpSm Required for the degree Engineer in Astronautical Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the division. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASTE 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ASTE 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

Astronomy

ASTR 100Lgx The Universe
Units: 4 Terms Offered: FaSp Survey of the universe: planets, satellites, comets, stars, nebulae, galaxies. Practical component includes planetary observations and dark-sky field trip. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Credit Restriction: Not available for major credit. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

ASTR 104L Special Laboratory
Units: 1 Terms Offered: FaSp Laboratory component for ASTR 100Lgx for transfer students with equivalent lecture credit from another institution. For transfer students only. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ASTR 200Lg Life in the Universe
Units: 4 Terms Offered: FaSp Survey of the prospects for life in our solar system and beyond, based on the evolution of life on Earth. Satisfies New General Education in Category E: Physical Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

ASTR 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ASTR 400 The Solar System
Units: 4, 2 years Terms Offered: Fa Earth's motions; planets and their satellites; comets; meteorites; interplanetary matter; elementary celestial mechanics. *Prerequisite:* MATH 226. Instruction Mode: Lecture Grading Option: Letter

ASTR 422 Galaxies and Large-Scale Structures in the Universe
Units: 4, 2 years Terms Offered: Sp Galaxies and clusters of galaxies: their content, structure, dynamics, distribution, and motions; the cosmic microwave background: theory and observation; elements of observational cosmology. *Prerequisite:* PHYS 153L or PHYS 163L. Instruction Mode: Lecture Grading Option: Letter

ASTR 424 Cosmology
Units: 4 Terms Offered: Sp Concepts of space-time, general relativity applied to an homogeneous and expanding universe. Universe's content and thermal history. Introduction to current observational tests of cosmology. *Prerequisite:* PHYS 153L or PHYS 163L Instruction Mode: Lecture Grading Option: Letter

ASTR 450 Stellar Astrophysics
Units: 4, 2 years Terms Offered: Fa Observation and theory of stellar atmospheres and stellar interiors. Theory of stellar evolution. Physical and astronomical significance of the end states of stellar evolution. *Prerequisite:* PHYS 153L or PHYS 163L. Instruction Mode: Lecture Grading Option: Letter

ASTR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. *Prerequisite:* one upper-division course in astronomy and departmental approval. Instruction Mode: Lecture, Lab Grading Option: Letter

ASTR 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Special Topics in Astronomy. Instruction Mode: Lecture Grading Option: Letter

ASTR 540 Advanced Cosmology
Units: 3 Perturbed Einstein's and Boltzman equations, Universe's content, anisotropies: initial conditions, linear evolution, comparison with observations. *Prerequisite:* PHYS 504, PHYS 508a, PHYS 508b, PHYS 510, PHYS 518. Instruction Mode: Lecture Grading Option: Letter

ASTR 740 Selected Topics in Astrophysics
Units: 3 Max Units: 6.0 Selected topics in cosmology. Course content includes dark matter, dark energy, gravitational lensing, the cosmic microwave background, inflation, galaxy and galaxy cluster surveys. *Prerequisite:* ASTR 540 Instruction Mode: Lecture Grading Option: Letter

Business Entrepreneurship

BAEP 310 Launching Disruptive Ventures
Units: 4 Terms Offered: FaSp Fundamentals of entrepreneurship tracing new venture evolution, including recognition of disruptive opportunities, entrepreneurial financial analysis, and understanding the innovator's and investor's mindsets. *Prerequisite:* ACAD 181 or BUAD 201x. Duplicates Credit in BAEP 423, BAEP 450, BAEP 451, BUAD 301. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-310

BAEP 423 Management of Small Businesses
Units: 4 Terms Offered: FaSp Strategic, organizational, financial, and human issues facing the small business. Duplicates Credit in BAEP 310 and BAEP 450 and BAEP 451 and BUAD 301. Instruction Mode: Lecture Grading Option: Letter

BAEP 450 Fundamentals of Entrepreneurship
Units: 4 Terms Offered: FaSpSm Starting and managing one's own business: developing a viable concept, organizing the enterprise, market and financial planning, and controlling the organization. Duplicates Credit in BAEP 310, BAEP 423, BAEP 451, BUAD 301. Instruction Mode: Lecture Grading Option: Letter

BAEP 451 The Management of New Enterprises
Units: 4 Terms Offered: FaSpSm Development of analytical and conceptual skills in entrepreneurship and venture management. Duplicates Credit in BAEP 310, BAEP 423, BAEP 450, BUAD 301. Instruction Mode: Lecture Grading Option: Letter

BAEP 452 Feasibility Analysis
Units: 4 Terms Offered: FaSp Students develop, analyze, and validate entrepreneurial concepts (including marketing, operational, and financial considerations) using customer feedback and risk assessment to conclude worthiness to pursue. *Prerequisite:* BAEP 310 or BAEP 423 or BAEP 450 or BAEP 451 or BUAD 301. Instruction Mode: Lecture Grading Option: Letter

BAEP 453 Venture Management
Units: 4 Terms Offered: FaSp Design and application of organization structures and systems in management of new ventures. *Prerequisite:* BAEP 310 or BAEP 423 or BAEP 450 or BAEP 451 or BUAD 301 Instruction Mode: Lecture Grading Option: Letter

BAEP 454 Venture Initiation: Launching and Scaling Your Startup
Units: 4 Terms Offered: Sp Learn to build a startup from concept to reality. Focus on real-world entrepreneurial action and execution. *Prerequisite:* BAEP 452. Instruction Mode: Lecture Grading Option: Letter

BAEP 455 Founder's Dilemmas
Units: 4 Terms Offered: FaSp Prepares potential founders, hires, and investors for the decisions they will face both before and during their involvement with new ventures. Registration Restriction: Open only to sophomores, juniors, and seniors Instruction Mode: Lecture Grading Option: Letter

BAEP 460 Seminar in Entrepreneurship
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Perspectives into the art and science of entrepreneurship under the

guidance of a master instructor. Specific topics vary. Instruction Mode: Lecture Grading Option: Letter

BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup
Units: 2 Terms Offered: FaSp Learn to use digital tools and technologies, such as social media, mobile, cloud computing, and e-commerce, to start and grow entrepreneurial ventures. Instruction Mode: Lecture Grading Option: Letter

BAEP 469 Growth Hacking: Scaling Startups
Units: 2 Terms Offered: FaSp Accelerate the growth of an entrepreneurial business with applied analytics tools and methods. Instruction Mode: Lecture Grading Option: Letter

BAEP 470 The Entrepreneurial Mindset — Taking the Leap
Units: 2 Terms Offered: Sp A deeper insight into the entrepreneurial mind, how it approaches opportunities and challenges and gives leadership to an organization. Instruction Mode: Lecture Grading Option: Letter

BAEP 471 Social Innovation Design Lab
Units: 4 Terms Offered: Sp Introduction to design thinking as applied to innovation and entrepreneurship. Hands-on projects to create solutions to specific societal problems faced by underprivileged communities. Registration Restriction: Open only to sophomores, juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

BAEP 472 The Science of Peak Performance
Units: 2 Terms Offered: Sp Ingrains expertise and application of the science of peak performance, broadens preparation for personal challenge, and builds business-centered critical thinking and applied analytical skills. Registration Restriction: Open only to sophomores, juniors and seniors Instruction Mode: Lecture Grading Option: Letter

BAEP 473 Sales Mindset for Entrepreneurs
Units: 2 Terms Offered: FaSp The sales planning decisions that entrepreneurs make, including how to accelerate startup revenue, what metrics drive success and how to build great sales teams. Instruction Mode: Lecture Grading Option: Letter

BAEP 474 The Entrepreneur's Guide to Intellectual Property
Units: 2 Terms Offered: FaSp The fundamentals of intellectual property -- its value, its basic workings, and its role in entrepreneurship, business in general, science, the arts, and the professions. Instruction Mode: Lecture Grading Option: Letter

BAEP 475 Entertainment Entrepreneurship
Units: 2 Terms Offered: FaSp Explore the current entrepreneurial trends and opportunities in the entertainment industry and uncover the key success factors for entrepreneurs in this industry. Instruction Mode: Lecture Grading Option: Letter

BAEP 477 Entrepreneurial Imagination: Past, Present and Future
Units: 4 Terms Offered: FaSp A case-based study of entrepreneurs and entrepreneurial endeavors over time to understand how the past can inform the successful launch of new ventures. Instruction Mode: Lecture Grading Option: Letter

BAEP 480 Entrepreneurial Family Business
Units: 4 Terms Offered: FaSp Explores the dynamics of family and privately held businesses. Exploring generational and extended family issues, opportunities and obstacles faced in today's environment. Instruction Mode: Lecture Grading Option: Letter

BAEP 491 Introduction to Social Entrepreneurship
Units: 4 Terms Offered: FaSp Analysis of social enterprise models from micro-finance to job development. Analysis of basic issues regarding the difference between socially responsible companies, for-profit, and non-profit-run enterprises. Instruction Mode: Lecture Grading Option: Letter

BAEP 495 Practicum in Business Issues (Internship)
Units: 1 Terms Offered: FaSpSm Combined classroom discussion and field application of business theories and practices; part-time internship employment. Project to be jointly defined by student, employer and professor. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 496 The Digital Startup Launchpad
Units: 2 Terms Offered: FaSp Real-life challenge of imagining, prototyping, testing and iterating, building, pricing, marketing, distributing and selling a digital product or service. *Prerequisite:* BAEP 452 and ITP 466 and ITP 476 *Corequisite:* ITP 496 Instruction Mode: Lecture Grading Option: Letter

BAEP 497 Field Project in Entrepreneurship
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Individual or team projects solving real problems for an enterprise. Situation analyses; research proposal composition; field research techniques; statistical analysis; oral and written presentations. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Current developments in the field of entrepreneurship: topics to be selected each semester. Instruction Mode: Lecture Grading Option: Letter

BAEP 549 The Entrepreneurial Journey
Units: 2 Terms Offered: FaSpSm An introduction to entrepreneurship with a focus on opportunity recognition and the entrepreneurial mindset. Development of knowledge and skills in launching new ventures. Registration Restriction: Online registration open only to BUSV, ENTR, and MMM majors Duplicates Credit in BAEP 550, BAEP 551, GSBA 550a and GSBA 550b Instruction Mode: Lecture Grading Option: Letter

BAEP 550 Entrepreneurship and Venture Management
Units: 1.5 Terms Offered: FaSp Develop conceptual and practical knowledge in entrepreneurship and new venture management. Registration Restriction: Online registration limited to graduate business and accounting students Duplicates Credit in BAEP 549, BAEP 551, GSBA 550a and GSBA 550b Instruction Mode: Lecture Grading Option: Letter

BAEP 551 Introduction to New Ventures
Units: 3 Terms Offered: FaSp Study and development of analytical and conceptual skills in the management of new enterprises and new ventures within large organizations. Registration Restriction: Online registration limited to graduate business and accounting students Duplicates Credit in BAEP 549, BAEP 550, GSBA 550a and GSBA 550b Instruction Mode: Lecture Grading Option: Letter

BAEP 552 Venture Feasibility
Units: 3 Terms Offered: FaSpSm Develop, evaluate, and pursue new business concepts through the application of analytical techniques and hands-on customer discovery activities. *Corequisite:* BAEP 549 or BAEP 550 or BAEP 551 or GSBA 550b Registration Restriction: Online registration open only to graduate business and accounting majors Duplicates Credit in BAEP 566 Instruction Mode: Lecture Grading Option: Letter

BAEP 553 Cases in New Venture Management
Units: 1.5, 3 Terms Offered: FaSpSm Cases and readings expose students to the challenges of developing long-range strategies for entrepreneurial ventures. Case work emphasizes developing new industries, growth through strategic alliances, and issues involved in the long-term strategic positioning of emerging companies. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

BAEP 554 Venture Initiation
Units: 3 Terms Offered: Sp Learn to launch and scale a new business through entrepreneurial action and execution. *Prerequisite:* BAEP 552 or BAEP 556 or BAEP 566. Instruction Mode: Lecture Grading Option: Letter

BAEP 555 Founder's Dilemmas: Anticipate and Avoid Startup Pitfalls
Units: 3 Terms Offered: Sp Delves into founders' early decisions about when and whether to found, co-founders, hires, and investors that tend to get them into trouble down the road. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BAEP 556 Technology Feasibility
Units: 3 Terms Offered: Fa Learn critical thinking and analytical skills they need to evaluate, value, and manage technology as intellectual property. Understand the technology commercialization process, use data mining and assessment techniques for patent databases, and study the unique business issues facing high technology start-ups. Registration Restriction: Online registration open only to graduate business and accounting students. Duplicates Credit in BAEP 552 Instruction Mode: Lecture Grading Option: Letter

BAEP 557 Technology Commercialization
Units: 3 Terms Offered: Sp Identification,

evaluation and commercialization of new technologies. Emphasis will be placed on the legal, financial and marketing aspects of technology transfer and development. Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BAEP 558 The Entrepreneurial Advisor: Problem Solving for Early-Stage Companies
Units: 1.5, 3 Terms Offered: FaSp Experiential course designed to develop skills in framing and solving complex problems in young companies. Apply skills to real ventures participating in course projects. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BAEP 559 Investing in New Ventures
Units: 3 Terms Offered: FaSp Focus on the entrepreneurial skill set applied to new venture opportunities. Taught from the business plan reader's point of view; focus on selecting opportunities, structuring the relationship, adding value and realizing the value of that investment. Registration Restriction: Online registration open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BAEP 560 Acquiring Your Own Business or Opportunity
Units: 3 Terms Offered: Sp Issues faced by the entrepreneur who wishes to acquire an enterprise; appropriateness of an enterprise, understanding funding sources and valuation methods, developing a plan for due diligence, negotiating and consummating the transaction. The acquisition process, approaches to valuation, and the roles of the various parties in negotiating and consummating an acquisition of an existing business. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences
Units: 1.5 Terms Offered: Sp The challenges of new venture creation in the biotechnology, medical device, and healthcare areas; experience, evaluate, and analyze profits of current impact in the life sciences. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BAEP 562 Entrepreneurship in eCommerce
Units: 1.5 Terms Offered: FaSp Introduction to building, funding, and running an entrepreneurial eCommerce venture. Registration Restriction: Online registration open to only graduate and business students Instruction Mode: Lecture Grading Option: Letter

BAEP 563 Corporate Entrepreneurship
Units: 3 Terms Offered: Fa How established organizations build successful new businesses through corporate venturing and intrapreneurship. Learn to apply an entrepreneurial mindset and entrepreneurial frameworks within an established organization. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BAEP 564 Investing in Impact Ventures
Units: 3 Terms Offered: Sp Exploring the field of social impact investing, learn how social entrepreneurs attract for-profit investors and how conscious investors are utilizing investments to achieve social impact. Registration Restriction: Online registration open only to graduate business and accounting majors. Instruction Mode: Lecture Grading Option: Letter

BAEP 565 Venture Lab
Units: 3 Terms Offered: FaSpSm Interact with startups and venture capitalists to develop skills and processes to source deals, perform diligence, evaluate investments, draft investment memoranda and manage portfolio companies. Registration Restriction: Online registration open only to graduate accounting and business majors Instruction Mode: Lecture Grading Option: Letter

BAEP 566 Cases in Feasibility Analysis for Social Ventures
Units: 3 Terms Offered: Fa Study of analytical techniques used to evaluate business concepts with a specific focus on the development of a new social venture. *Recommended Preparation:* BAEP 589 or BAEP 591 Registration Restriction: Online registration open only to graduate business and accounting majors Duplicates Credit in BAEP 552 Instruction Mode: Lecture Grading Option: Letter

BAEP 567 Social Entrepreneurship: Design, Develop, and Deliver
Units: 3 Terms Offered: Sp Develop the analytical, conceptual, and practical skills required to design, develop, and deliver a new social business concept and opportunity. *Prerequisite:* BAEP 566 Registration Restriction: Open only to master students in Social Entrepreneurship Instruction Mode: Lecture Grading Option: Letter

BAEP 571 Social Innovation Design
Units: 3 Terms Offered: Fa Use innovative problem-solving approaches to design radically affordable solutions to challenges faced by under-resourced communities. Engage in early-stage market and rapid prototyping. Registration Restriction: Open only to master students in Social Entrepreneurship Instruction Mode: Lecture Grading Option: Letter

BAEP 575 Entrepreneurship in the Media and Entertainment Industry
Units: 1.5 Terms Offered: FaSp Introduction to the ever-evolving field of media and entertainment with a focus on entrepreneurial opportunities within the industry. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

BAEP 585 Seminar: The Entrepreneurial Mindset
Units: 1.5 Terms Offered: FaSp Explore the art and science of entrepreneurship under the guidance of a master entrepreneur. Registration Restriction: Online registration open to only graduate accounting and business majors Instruction Mode: Lecture Grading Option: Letter

BAEP 589 Social Entrepreneurship
Units: 2 Terms Offered: Sm Lead and manage with entrepreneurial methodology for charities, non-government organizations, social oriented enterprises and not for profit organizations. Registration Restriction: Open only to MS in Social Entrepreneurship students Duplicates Credit in BAEP 591 Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 591 Social Entrepreneurship
Units: 2, 3 Terms Offered: Sp Lead and manage with entrepreneurial methodology for charities, non-government organizations, social oriented enterprises and not for profit organizations. Registration Restriction: Online registration open only to graduate business and accounting majors Duplicates Credit in BAEP 589 Instruction Mode: Lecture Grading Option: Letter

BAEP 592 Field Research in Business Entrepreneurship
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12 Terms Offered: FaSpSm Individual or team projects studying the business practices of an entrepreneurial industry, company, government agency, country, etc. Proposal, data collection, analyses, and written report. (Recommended Preparation: completion of required MBA, MAcc, MBT, MKT, MSEI or MSSE course work) *Recommended Preparation:* Completion of required MBA, MAcc, MBT, MKT, MSEI or MSSE course work Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 593 Independent Research in Business Entrepreneurship
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4, Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 595 Internship in Business Entrepreneurship
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job business experience in the student's area of interest. (Curricular Practical Training.) Recommended preparation: completion of required MBA, MAcc, MBT, MKT, MSEI, or MSSE course work. *Recommended Preparation:* Completion of required MBA, MAcc, MBT, MKT, MSEI, or MSSE course work. Registration Restriction: Application required. Open only to specified graduate accounting and business students. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 596 Research Practicum in Business Entrepreneurship
Units: 0.5-2, Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a faculty member in the Lloyd Greif Center for Entrepreneurial Studies

on an ongoing research project. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 597 Consulting Project in Business Entrepreneurship
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Registration Restriction: Open only to Master and Doctoral Students. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Current developments in the field of entrepreneurship: topics to be selected each semester. Graded CR/NC. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 599 Special Topics
Units: 1.5, 2, 2.5, 3 Max Units: 09 Terms Offered: Irregular Current developments in the field of entrepreneurship: topics to be selected each semester. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

Biochemistry

BIOC 501 Recent Advances in Biochemistry
Units: 2, 3, 4 Max Units: 16 Terms Offered: FaSpSm Lectures on areas of intermediary metabolism and the chemistry of natural products. *Prerequisite:* BISC 435 and CHEM 431 Instruction Mode: Lecture Grading Option: Letter

BIOC 502 Biochemistry Seminar
Units: 1 Max Units: 12.0 Terms Offered: FaSp Formal presentations and discussion by students of material from research literature. Instruction Mode: Lecture Grading Option: Letter

BIOC 504 Molecular Biology of Cancer
Units: 4 Terms Offered: Sp (Enroll in INTD 504)

BIOC 510 Introductory Molecular Biology
Units: 2 Terms Offered: Sp Principles of molecular biology with applications to the medical sciences. Nucleic acid structure, function, and analysis. *Recommended Preparation:* a course in biochemistry. Instruction Mode: Lecture Grading Option: Letter

BIOC 511 Foundations for Molecular Medicine
Units: 4 Terms Offered: Fa Structure, function and metabolism of nucleic acids, proteins, carbohydrates and lipids and related regulatory mechanism including transcription factor and upstream signaling pathways initiated at the cell membrane. Instruction Mode: Lecture Grading Option: Letter

BIOC 515 Logic and Design of Disease Mechanism Studies
Units: 4 Experimental logic used to determine the mechanism of disease development, identity and validate therapeutic targets, and design therapeutic approaches. *Recommended Preparation:* BIOC 511, BIOC 581 Instruction Mode: Lecture Grading Option: Letter

BIOC 522 Applications of Physical Methods in Biochemistry
Units: 2 Terms Offered: FaSp Applications of physical analytical methods commonly utilized in research in biochemistry and molecular biology. *Concurrent Enrollment:* Concurrent enrollment: CHEM 521. (Langen) Instruction Mode: Lecture Grading Option: Letter

BIOC 531 Cell Biology
Units: 4 (Enroll in INTD 531)

BIOC 536 Molecular Biology of Cellular Communication in the Nervous System
Units: 2 Terms Offered: Sp Discussion of cellular communications in the nervous system through neurotransmitters and their receptors, neuromodulators; biochemical changes during development and the impact of human genomic research. *Recommended Preparation:* one year of general biochemistry or molecular biology. (Tokes) Instruction Mode: Lecture Grading Option: Letter

BIOC 542 Cellular and Molecular Basis of Animal Development
Units: 4 Terms Offered: Fa Processes of cell type specification, determination, and morphogenesis in metazoans from vertebrates to insects. Genetic, paragenetic and molecular biological approaches to developmental processes. *Prerequisite:* INTD 571. (Maxson) Instruction Mode: Lecture Grading Option: Letter

BIOC 549 Protein Chemistry – Structure and Function
Units: 4 Terms Offered: FaSpSm (Enroll in INTD 549)

BIOC 551 Prokaryotic Molecular Genetics
Units: 4 Terms Offered: Fa (Enroll in MICB 551)

BIOC 555 Biochemical and Molecular Bases of Disease
Units: 4 (Enroll in INTD 555)

BIOC 557 Biochemistry of Anti-Cancer Agents
Units: 2 Explore how the development of various classes of anti-cancer drugs came about: the rationales behind their design, what was discovered about their biochemical mechanisms of action and whether their clinical activities came up to the original expectations. Other aspects such as the origin of the concepts of combination chemotherapy and biochemical modulation will also be addressed. Instruction Mode: Lecture Grading Option: Letter

BIOC 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

BIOC 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

BIOC 573 Optimal Research Presentations
Units: 1 Max Units: 12 Terms Offered: FaSp Lectures by peers; formal critique; prepare and present own research to faculty and peer audiences. Instruction Mode: Lecture Grading Option: Letter

BIOC 574 Medical Physiology II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

BIOC 575 Predictive and Prognostic Biomarkers in Cancer Treatment
Units: 2 Exploration of how appropriate biomarkers can predict response to cancer therapy, tumor recurrence after surgery, rapid detection of tumor response and overall prognosis. *Recommended Preparation:* INTD 571 and a basic understanding of molecular biology. Instruction Mode: Lecture Grading Option: Letter

BIOC 581 Toolbox for Biochemistry and Molecular Biology
Units: 4.0 Terms Offered: Fa Explores the principles and applications of traditional and state-of-the-art methods in molecular biology and biochemistry with live demonstrations of techniques when feasible. *Recommended Preparation:* Fundamental knowledge of DNA, RNA and protein *Concurrent Enrollment:* BIOC 571 Instruction Mode: Lecture Grading Option: Letter

BIOC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master of science degree. Maximum units which may be applied to the degree will be determined by the department. Graded CR/NC. Instruction Mode: Lecture Grading Option: Credit/No Credit

BIOC 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

BIOC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

BIOC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BIOC 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction

Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Biological Sciences

BISC 101Lgx Cellular and Molecular Biology
Units: 4 Terms Offered: FaSp Cellular and molecular biology with examples related to human biology and diseases. Fundamental life processes examined at the genetic, cellular and molecular levels. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category III: Scientific Inquiry Credit Restriction: Not for major credit Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 102Lgx Humans and Their Environment
Units: 4 Terms Offered: FaSp An examination of the physical and biological laws that influence agriculture, pollution, population dynamics (including humans), climate, biodiversity and ecosystem structure and function. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 103Lgx General Biology for the Environment and Life
Units: 4 Study of common skills in biology, including basics of evolution, systematics, ecology, genetics, biochemistry and molecular biology, physiology, and anatomy. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Grading Option: Letter

BISC 104Lgx How the Body Works
Units: 4 Terms Offered: Fa Structure and function of the human body, including the role of organ systems, tissues, and cells in normal function. Malfunctions relating to disease, substance abuse and lifestyle. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 108L Special Laboratory I
Units: 1 Laboratory component for BISC 120 for entering freshmen or transfer students with advanced placement or equivalent lecture credit from another institution. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 109L Special Laboratory II
Units: 1 Laboratory component for BISC 220 for entering freshmen or transfer students with advanced placement or equivalent lecture credit from another institution. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 110g Good Genes, Bad Genes
Units: 4 Terms Offered: Sp Introduction to the scientific method; basic instruction in molecular biology with emphasis on how biological research advancement has impacted medicine, commerce and society in general. *Recommended Preparation:* High school biology Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 112Lxg Data, Denial or Doom?: Talking about Climate Change
Units: 4 Terms Offered: Sp Interdisciplinary approach to understanding the effects of climate change on extreme weather, biodiversity and human societies; challenges with telling climate histories and predicting climate futures. Satisfies New General Education in Category D: Life Sciences Credit Restriction: Not available for major credit for Biology or English majors Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ENGL 112

BISC 115Lxg The Biology of Food
Units: 4 Terms Offered: FaSp Exploration of molecular biology, biochemistry, microbiology, nutrition and the history of biology through the study of food, focusing on food's relationship to the biological world. Satisfies New General Education in Category D: Life Sciences Credit Restriction: Not available for credit for Biology majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 120Lg General Biology: Organismal Biology and Evolution
Units: 4 Terms Offered: Fa In-depth survey of key topics related to advances in our knowledge of the diversity of life and evolution; origin of life; eukaryotes/prokaryotes; ecology. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in BISC 112L, BISC 113L, and BISC 121L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 121Lg Advanced General Biology: Organismal Biology and Evolution
Units: 4 Terms Offered: Fa Equivalent to BISC 120, but taught at a higher level for exceptionally well-prepared students. Admission to the course by departmental approval only. *Corequisite:* CHEM 115aLg. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in BISC 112L, BISC 113L, and BISC 120L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 140g Our Blue Planet in a Changing Climate
Units: 4 Terms Offered: Sp Introduction to biological oceanography and marine ecosystems. Impact of climate changes on marine ecosystems. Analysis of ocean-related case studies being discussed by mainstream media. Satisfies New General Education in D Life Sciences Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 150Lgx The Nature of Human Health and Disease
Units: 4 Terms Offered: FaSp The human organism; the nature of inherited and acquired diseases; the biological and societal basis for the AIDS epidemic; therapy, drug design and the future. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 180Lgx Evolution
Units: 4 Terms Offered: Sp Changes in the physical and biological universe over time; origins of life, dinosaurs, human evolution. Implications of evolutionary mechanisms and mass extinctions for human survival. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Credit Restriction: Not available for credit in any major. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 193 Introduction to Research I
Units: 1 Terms Offered: Fa A series of lectures and discussions at which faculty of the department introduce their research activities to students entering biology and related majors. *Recommended Preparation:* At least one introductory biology course or equivalent AP credit in biology Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 194 Introduction to Research II
Units: 1 Terms Offered: Sp A series of lectures and discussions at which faculty of the department introduce their research activities to students entering biology and related majors. *Recommended Preparation:* At least one introductory biology course or equivalent AP credit in biology Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 199 Neuroscience Colloquium
Units: 1 Terms Offered: Sp Introduction to research activities conducted by Neuroscience faculty at USC. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as NEUR 199

BISC 220Lg General Biology: Cell Biology and Physiology
Units: 4 Terms Offered: Sp In-depth survey of key topics related to advances in our knowledge of cellular biology and physiology; cell composition/metabolism; gene action; organism structure and function. *Recommended Preparation:* high school chemistry; BISC 120Lg or BISC 121Lg. Satisfies New General Education in Category D: Life Sciences Duplicates Credit in BISC 110L, BISC 111L, and BISC 221L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 221Lg Advanced General Biology: Cell Biology and Physiology
Units: 4 Terms Offered: Sp Equivalent to 220L, but taught at a higher level for exceptionally well-prepared students. Admission to the course by departmental approval only. *Prerequisite:* BISC 120Lg

or BISC 121Lg; *Corequisite:* CHEM 105bL or CHEM 115bL. Satisfies New General Education in Category D: Life Sciences Duplicates Credit in BISC 110L, BISC 111L, and BISC 220L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 230Lgx The Biology of the Brain
Units: 4 Terms Offered: FaSpSm Exploration of the unique properties of brain cells that allow complex perceptions and behaviors; examination of structure and activity of brain cells that underlie function. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Credit Restriction: Not available for major credit Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 290 Introduction to Biological Research
Units: 2, 4 Max Units: 04 Terms Offered: FaSpSm Experience in basic techniques through supervised research in the research laboratory of a departmental faculty member. *Prerequisite:* (BISC 120Lg or BISC 121Lg) and (BISC 220Lg or BISC 221Lg) and (CHEM 105bL or CHEM 108L or CHEM 115bL) Instruction Mode: Lecture Grading Option: Letter

BISC 300L Introduction to Microbiology
Units: 4 Terms Offered: Sp Comparative approach to bacteria, Archaea and viruses; their structure, life cycles, geochemical activity, ecology and nutrition. Fundamentals of metabolism and microbial genetics. *Prerequisite:* (BISC 312x or BISC 320Lg) and (CHEM 322aL or CHEM 325aL) Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 305g Statistics for Biological Sciences
Units: 4 Terms Offered: Fa Statistical methods in biological science and medicine, including populations and samples, random sampling, confidence intervals, paired samples and regression. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 307L General Physiology
Units: 4 Terms Offered: Sp Physiological functions of the circulatory, digestive, endocrine, integumentary, musculoskeletal, nervous, respiratory, and urogenital systems of animals. *Prerequisite:* BISC 220Lg or BISC 221Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 310 Statistical Thinking for Quantitative Biology
Units: 4 Terms Offered: Sp (Enroll in QBIO 310)

BISC 312x Molecular Biochemistry
Units: 4 Terms Offered: FaSp Structure and function of biological macromolecules; major metabolic pathways including glycolysis and photosynthesis. DNA replication, repair, and recombination; gene expression, regulation and epigenetics. *Recommended Preparation:* BISC 220 or BISC 221 Instruction Mode: Lecture Grading Option: Letter

BISC 313L Evolution and Population Genetics
Units: 4 Terms Offered: Sp History of evolutionary thought; molecular basis for evolution; dynamics of genes in populations; speciation and macro evolution; patterns of evolution. *Prerequisite:* BISC 220Lg or BISC 221Lg; BISC 120Lg or BISC 121Lg; *Recommended Preparation:* BISC 320Lg, BISC 325, and familiarity with algebra, basic chemistry, and basic physics. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 315L Introduction to Ecology
Units: 4 Terms Offered: Fa Organism-environment interactions; dynamics of populations, communities, and ecosystems; evolutionary forces. *Prerequisite:* BISC 103Lgx or BISC 120Lg or BISC 121Lg Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 320Lg Molecular Biology
Units: 4 Terms Offered: Fa Structure and synthesis of nucleic acids and proteins; molecular biology of prokaryotes and eukaryotes; principles of genetics and cell biology. *Prerequisite:* CHEM 105bL or CHEM 108L or CHEM 115bL Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 321 Multidisciplinary Seminar: Science, Technology and Society
Units: 2 Terms Offered: Sp Builds upon a basic science background to provide students with an awareness of cutting edge scientific research, its technological applications and its societal ramifications. *Prerequisite:* (BISC 120Lg or BISC 121Lg or BISC 220Lg or BISC 221Lg) and (CHEM 105aLg or CHEM 107Lg or CHEM 115aLg) and (PHYS 135ag or PHYS 151Lg) Duplicates Credit in former MDA 321 Instruction Mode: Lecture Grading Option: Letter

BISC 325 Genetics
Units: 4 Terms Offered: Fa Transmission genetics and genotype/phenotype; mapping methods; complex traits; genetics of human disease and population genetics. *Prerequisite:* (BISC 120Lg or BISC 121Lg) and (BISC 220Lg or BISC 221Lg) Instruction Mode: Lecture Grading Option: Letter

BISC 330L Biochemistry
Units: 4 Terms Offered: FaSp Basic biochemical principles; classes of molecules - structure and function; cellular energetics. *Prerequisite:* CHEM 322aL or CHEM 325aL Duplicates Credit in former BISC 316 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CHEM 330

BISC 335 Science, Health and the Environment
Units: 4 Terms Offered: Sp (Enroll in ENST 335)

BISC 352 Conservation Biology
Units: 4 Terms Offered: Sp Principles of conservation science in marine and terrestrial ecosystems with emphasis on protecting biological diversity and balancing the needs of nature with those of humans. *Recommended Preparation:* Introductory course in biology such as BISC 103, BISC 120 or BISC 121, or AP Biology credit. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ENST-352

BISC 363L Mammalogy
Units: 4 Terms Offered: FaSp Introduction to the morphology, classification, distribution and physiology of mammals; study of major mammalian groups worldwide and identification and field study of local species. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 365 Phylogenetics and Evolution
Units: 2 Terms Offered: FaSp Underlying biological philosophies of systematics and phylogenetic algorithms used to infer phylogenetic relationships between organisms. Interpretation and production of cladograms and phylogenetic trees. *Recommended Preparation:* BISC 120Lg or HBIO 200Lg Instruction Mode: Lecture Grading Option: Letter

BISC 369L Ecology and the Natural History of California
Units: 4 Terms Offered: Sp Marine, freshwater, and terrestrial communities of California. Life histories, morphology, special evolutionary adaptations. Relationships between organisms and their biological-physical-chemical environment. Offered on Catalina. Emphasis on field biology. *Prerequisite:* BISC 120Lg or BISC 121Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 371L Molecular Approaches to the Diversity of Life
Units: 4 Patterns of evolutionary change investigating the molecular basis of heredity utilizing DNA data. History, principles and application of molecular systematics, and genetic variation. Taught on Catalina Island. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; *Recommended Preparation:* BISC 320Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 379L Our Future Changing Ocean
Units: 4 Terms Offered: Sm Human-induced oceanic global change, including fisheries collapse, acidification and pollution; management and conservation strategies to prevent and mitigate damage to the ocean environment. *Recommended Preparation:* An introductory course in biology, earth sciences, or environmental studies, and math Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

BISC 401 Introduction to Computational Analysis of Biological Data
Units: 4 Terms Offered: FaSp (Enroll in QBIO 401)

BISC 403 Advanced Molecular Biology
Units: 4 Terms Offered: Fa Molecular mechanisms and control of DNA replication, DNA repair, recombination, gene expression, cell growth, and development in prokaryotic and eukaryotic organisms, from bacteria to humans. *Prerequisite:* BISC 320 *Recommended Preparation:* BISC 313 or BISC 325. Instruction Mode: Lecture Grading Option: Letter

BISC 405L General Embryology
Units: 4 Terms Offered: Fa Vertebrate and human development: cellular differentiation;

germ cell development and growth; hormonal regulation of reproductive cycles; cleavage through neurulation and subsequent development of primary organs. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; *Recommended Preparation:* two from BISC 313, BISC 320Lg, BISC 325 and BISC 330L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 406L Biotechnology
Units: 4 Terms Offered: Fa Techniques in molecular biology and biochemistry applied to prokaryotic and eukaryotic model systems; applications of recombinant DNA and genomic technology. *Prerequisite:* BISC 320Lg; *Recommended Preparation:* BISC 313 or BISC 325. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 407 Cellular and Molecular Neuroscience
Units: 4 Terms Offered: FaSp An examination of individual nerve cell development, target location, and establishment of functional synapses; how dysfunction in these processes contributes to neurological and neuropsychiatric diseases. *Recommended Preparation:* BISC 421 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as NEUR 407

BISC 408 Systems Neuroscience: From Synapses to Perception
Units: 4 Terms Offered: Sp Sensory systems to illustrate basic concepts regarding the functional organization of the brain, from the microscopic arrangement of neural circuits to global processes such as perception. *Prerequisite:* BISC 421. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as NEUR-408

BISC 410 Applications of Molecular Biology to Medicine
Units: 4 Terms Offered: Sp Advances and trends in the understanding, diagnosis and treatment of human diseases. *Prerequisite:* BISC 312x or BISC 330L or CHEM 350g Registration Restriction: Open only to seniors or other exceptionally well-prepared students with instructor permission Instruction Mode: Lecture Grading Option: Letter

BISC 411 Advanced Cell Biology
Units: 4 Terms Offered: FaSpSm The synthesis, transport and assembly of the complex structures that mediate eukaryotic cellular function. Electrical and biochemical mechanisms underlying intercellular communication. *Prerequisite:* BISC 220Lg or BISC 221Lg; BISC 320Lg. Instruction Mode: Lecture Grading Option: Letter

BISC 412 Oceans, Climate, and the Environment
Units: 4 Terms Offered: FaSp (Enroll in GEOL 412)

BISC 414 Biology of Cancer
Units: 4 Terms Offered: Sp Focus on the advances in molecular biology of cancer, from fundamental molecular signaling pathways to DNA repair to stem cell biology, through primary research literature reviews. *Prerequisite:* BISC 320Lg *Recommended Preparation:* BISC 325 Instruction Mode: Lecture Grading Option: Letter

BISC 419L Microbiology for a Sustainable Future
Units: 4 Terms Offered: Fa Qualitative and quantitative appraisal of microbial activities related to sustainable human communities and climate; microbial biogeochemistry; effects of microorganisms on their surroundings; advanced research training. *Recommended Preparation:* BISC 300L Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 421 Neurobiology
Units: 4 Terms Offered: Fa Structure, function, and development of nervous systems; neural integration and mechanisms of behavior; organization and operation of brains. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as NEUR 421

BISC 422L Neurobiology Laboratory
Units: 2 Terms Offered: Sp Experimentation on excitable cells, synapses, and neural circuits; intracellular and extra cellular techniques for recording, stimulation, and identification of nerve and muscle cells. *Corequisite:* BISC 421. Instruction Mode: Lab Required Grading Option: Letter

BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders
Units: 4 Terms Offered: Sp Examination of various neurological disorders originating from developmental signaling and/or anatomical abnormalities. *Prerequisite:* BISC 421 Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 423

BISC 424 Brain Architecture
Units: 4 Terms Offered: Sp How the parts of the brain are interconnected to form a complex biological computer, from historical, evolutionary and developmental perspectives. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 424

BISC 425 Genetics through the Scientific Literature
Units: 4 Terms Offered: Sp Literature-based seminar in current and classical topics in genetics. *Recommended Preparation:* BISC 325 Instruction Mode: Lecture Grading Option: Letter

BISC 426 Principles of Neural Development
Units: 4 Terms Offered: Sp Basic phenomena and principles of neural development, their relation to functional development of neural circuits, behavior, and disease. General concepts and experimental approaches are emphasized. *Prerequisite:* BISC 421. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR-426

BISC 427 The Global Environment
Units: 4 Terms Offered: FaSpSm Earth's development as a habitable planet, from origin to human impacts on global biogeochemical cycles in the ocean, land, atmosphere. Discussion of environmental alternatives. *Prerequisite:* (BISC 103Lgx or BISC 120Lg or BISC 121Lg) and (CHEM 103Lgx or CHEM 105bL or CHEM 108L or CHEM 115bL) Registration Restriction: Open only to Biological Sciences, Environmental Studies, and Geological Sciences majors Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST 427, GEOL 427

BISC 428 The Biology of Tropical Diseases
Units: 4 Max Units: 8.0 Terms Offered: Sm Biological and biochemical approaches to the prevention and treatment of infectious and chronic tropical diseases. Course is offered off campus and summer only. Instruction Mode: Lecture Grading Option: Letter

BISC 429 Cancer Immunology
Units: 4 Terms Offered: Sp In-depth study of the role of the immune system in oncogenesis. Discussion of cellular transformation, immune surveillance, immune-based therapies, and new approaches in cancer treatment. *Prerequisite:* BISC 220Lg or BISC 221Lg *Recommended Preparation:* Familiarity with Molecular Biology, Genetics, Principles of Immunology Instruction Mode: Lecture Grading Option: Letter

BISC 431L Aquatic Microbiology
Units: 4 Terms Offered: FaSpSm Introduction to the habitat, phylogenetic, physiological and metabolic diversity of microbial life in aquatic environments. *Prerequisite:* BISC 220Lg or BISC 221Lg Duplicates Credit in BISC 419L Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 434 Introduction to Genome Science
Units: 4 Terms Offered: Sp Characterization of the sequence, function and evolution of genomes; study of the molecular basis of phenotypes and the relationship between genomics and synthetic biology. *Recommended Preparation:* BISC 325 Instruction Mode: Lecture Grading Option: Letter

BISC 435 Advanced Biochemistry
Units: 4 Terms Offered: Sp Macro molecular structure and function; enzymology; metabolic regulation. *Prerequisite:* BISC 330L. Instruction Mode: Lecture Grading Option: Letter

BISC 437L Comparative Physiology of Animals
Units: 4 Terms Offered: Sp Control of the internal environment of animals in relation to their external environment. Thermal regulation, osmoregulation, excretion, and ion balance. Offered on Catalina. *Prerequisite:* BISC 120 or BISC 121; BISC 220 or BISC 221; *Recommended Preparation:* two from BISC 313, BISC 320Lg, BISC 325 and BISC 330L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 438 Nutritional Biochemistry
Units: 4 Terms Offered: FaSp Metabolism of carbohydrates, proteins, fats. Biochemical basis of nutrition's impact on metabolic functions, including vitamins, minerals and biologically active non-nutrients; medical aspects of nutrition. *Prerequisite:* BISC 330L Instruction Mode: Lecture Grading Option: Letter

BISC 440 Biodemography of Aging
Units: 4 (Enroll in GERO 440)

BISC 444 Practical Analysis of Biological Data in R
Units: 2 Terms Offered: FaSp Instruction in the open-source statistical program

environment R to analyze biological data; manipulation of large datasets and customization of statistical tests using simulations. Instruction Mode: Lecture Grading Option: Letter

BISC 445L Fundamentals of Vertebrate Biology
Units: 4 Terms Offered: Sp Evolution and comparative anatomy of vertebrates. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; *Recommended Preparation:* two from BISC 313, BISC 320Lg, BISC 325 and BISC 330L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 447L Island Biogeography and Field Ecology
Units: 4 Terms Offered: Sp Biogeography, geology, ecology, climate, flora, and fauna of terrestrial and marine environments of Catalina and the Channel Islands including laboratory and field techniques of ecology. Taught on Catalina Island. *Prerequisite:* BISC 120Lg or BISC 121Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 450L Principles of Immunology
Units: 4 Terms Offered: Fa Immune processes, humoral and cellular; immunoglobulins; antibody formation; antigen-antibody interactions; immune dyscrasias; transplantation and tumor immunology; basic hematology and immuno-hematology. *Prerequisite:* BISC 220Lg or BISC 221Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 455L Molecular Approaches to Microbial Diversity — Catalina Semester
Units: 4 Terms Offered: Fa Overview and practical application of genetic and immunological techniques for examining diversity and community structure of natural microbial assemblages in aquatic ecosystems. *Prerequisite:* BISC 320Lg; *Corequisite:* BISC 431L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 456L Conservation Genetics
Units: 4 Terms Offered: Sp Biological principles underlying conservation including ecology, evolution, genetics and biogeography. Covers both marine and terrestrial environment, with special emphasis on island biology. Catalina semester only. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; *Recommended Preparation:* BISC 320Lg; BISC 313 or BISC 325. Duplicates Credit in BISC 373L. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ENST-456

BISC 457L Methods in Marine Biology and Biological Oceanography
Units: 4 Terms Offered: Sp Introduction to standard methods used in oceanography and marine biology through a combination of lectures, laboratory exercises and field experiences. *Prerequisite:* BISC 103 or BISC 120 or BISC 121 Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 460 Seminar in Marine and Environmental Biology
Units: 2 Max Units: 4.0 Terms Offered: FaSp Topical seminar in marine and environmental biology. Instruction Mode: Lecture Grading Option: Letter

BISC 461 Seminar in Molecular and Computational Biology
Units: 2 Terms Offered: FaSpSm Topical seminar in molecular and computational biology. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GERO-461

BISC 462 Seminar in Neurobiology
Units: 2 Max Units: 04 Terms Offered: FaSp Topical seminar in neurobiology. Registration Restriction: Open only to juniors, seniors, master and doctoral students Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 462

BISC 469L Marine Biology
Units: 4 Terms Offered: Sp Oceanography and marine biology, sampling techniques, evolutionary adaptations, morphology, systematics. *Prerequisite:* BISC 103Lgx or BISC 120Lg or BISC 121Lg *Recommended Preparation:* BISC 473L Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 473L Biological Oceanography
Units: 4 Terms Offered: Fa Biological, physical, chemical dynamics and analysis of the ocean; primary production of phytoplankton, secondary production by zooplankton, bacterial remineralization; physiology, ecology of fishes, marine mammals. *Prerequisite:* BISC 103 or BISC 120 or BISC 121Lg Registration Restriction: Junior, Senior, or with permission from the instructor Instruction Mode: Lecture, Lab Grading Option: Letter

BISC 474L Ecosystem Function and Earth Systems
Units: 4 Terms Offered: Fa General principles of ecosystem function, energy flow and materials cycling in marine systems at various scales and the importance of microbial processes in these systems. Taught on Catalina Island. *Prerequisite:* BISC 120Lg or BISC 121Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as GEOL-474

BISC 478 Computational Genome Analysis
Units: 4 Terms Offered: Sp Introduction to algorithms and statistics for genome analysis and their applications. Analysis of DNA sequencing, sequence comparison, genetic variation, gene expression, disease association and evolution. Instruction Mode: Lecture Grading Option: Letter Crosslisted as QBIO 478

BISC 479L Computational Genome Analysis Laboratory
Units: 4 Terms Offered: Sp (Enroll in QBIO 479L)

BISC 480L Developmental Biology
Units: 4 Terms Offered: FaSp Basic mechanisms of animal development are considered at different levels of analysis. Emphasis is on molecular, genetic and cellular processes underlying vertebrate and invertebrate development. General concepts and evolutionary mechanisms are emphasized. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 481 Structural Bioinformatics: From Atoms to Cells
Units: 4 Terms Offered: Fa Introduction to computational and experimental methods for structural bioinformatics. Analysis of macro molecules and their complexes. Instruction Mode: Lecture Grading Option: Letter Crosslisted as QBIO 481

BISC 482 Systems Biology: From Cells to Oceans
Units: 4 Terms Offered: Sp (Enroll in QBIO 482)

BISC 483 Geobiology and Astrobiology
Units: 4 Terms Offered: Sp Relationships between microbiota and the earth environment including the hydrosphere, lithosphere and atmosphere, with consideration of the potential for life on other planets. *Prerequisite:* (BISC 120Lg or BISC 121Lg) and (CHEM 105bL or CHEM 108L) Instruction Mode: Lecture Grading Option: Letter Crosslisted as GEOL 483

BISC 485 Advanced Seminar in Bacterial Survival and Evolution
Units: 4 Terms Offered: Sp Literature-based seminar in current topics in microbial evolution and adaptation. *Prerequisite:* (BISC 120Lg or BISC 121Lg) and (BISC 220Lg or BISC 221Lg) and (BISC 312x or BISC 320Lg or CHEM 350g) and (CHEM 322aL or CHEM 325aL) Instruction Mode: Lecture Grading Option: Letter

BISC 486 Regenerative Medicine: Principles, Paradigms and Practice
Units: 4 Terms Offered: Fa Examination of molecular and cellular processes that generate, maintain and repair body systems. Special emphasis on stem cell biology with clinical applications to regenerative medicine. *Prerequisite:* (BISC 220Lg or BISC 221Lg) or BISC 320L Instruction Mode: Lecture Grading Option: Letter

BISC 488 Microscopy and Spectroscopy of Biological Systems
Units: 2 Terms Offered: FaSp Theory and principles of modern approaches to microscopy and spectroscopy. Hands-on experience with advanced imaging systems, focusing on problem-based learning to solve biological problems. *Recommended Preparation:* BISC 220Lg, BISC 330L, PHYS 135ag, PHYS 135bL, MATH 125g Instruction Mode: Lecture Grading Option: Letter

BISC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

BISC 493x Honors Seminar
Units: 1 Max Units: 4.0 Terms Offered: FaSp *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg. Instruction Mode: Lecture Grading Option: Letter

BISC 494x Honors Thesis
Units: 2 Terms Offered: FaSp *Prerequisite:* BISC 493. Instruction Mode: Lecture Grading Option: Letter

BISC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Lecture and discussion in specialized areas of the biological sciences. Students cannot register more than twice for this course. *Recommended Preparation:* BISC 220Lg or BISC 221Lg, BISC 320Lg, BISC 325 and BISC 330L. Instruction Mode: Lecture Grading Option: Letter

BISC 502a Molecular Genetics and Biochemistry
Units: 4 Terms Offered: Fa Current genetic and biochemical analysis of replication, recombination, mutagenesis, and repair. Fundamentals of transcription and regulation of gene expression. Recent applications of genetic engineering and genome analysis. Instruction Mode: Lecture Grading Option: Letter

BISC 502b Molecular Genetics and Biochemistry
Units: 4 Terms Offered: FaSp Current genetic and biochemical analysis of replication, recombination, mutagenesis, and repair. Fundamentals of transcription and regulation of gene expression. Recent applications of genetic engineering and genome analysis. Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 504L Laboratory Techniques in Cellular and Molecular Biology
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Rotation of graduate students through Molecular Biology research laboratories to learn the major technological skills required in the field. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

BISC 505 Genomics and Molecular Genetics
Units: 4 Terms Offered: Sp Molecular genetics (mutagenesis, repair, recombination, and gene regulation) from quantitative and mechanistic approaches. Simple and complex genome analysis using recombinant DNA, physical, and computational techniques. *Recommended Preparation:* BISC 502b. Instruction Mode: Lecture Grading Option: Letter

BISC 511 Integrative Biology
Units: 4 Terms Offered: Fa Current topics in integrative biology including form, function and energy use throughout the lifespan in the context of genetics, natural selection and ecology. Duplicates Credit in the former BISC 510a. Instruction Mode: Lecture Grading Option: Letter

BISC 512 Evolutionary Biology
Units: 4 Terms Offered: Sp Survey of current topics in evolutionary biology; genetics, natural selection, ecology; emphasis on higher order complex questions of lifespan, form, function, and energy use. Duplicates Credit in the former BISC 510b. Instruction Mode: Lecture Grading Option: Letter

BISC 515 Evolution and Human Biology
Units: 4 Terms Offered: Fa Topics in evolution and human biology with emphasis on life span, form, function and energy use in the context of genetics, natural selection and ecology. Instruction Mode: Lecture Grading Option: Letter

BISC 519 Recent Advances in Neurobiology and Endocrinology of Aging
Units: 2, 4 (Enroll in GERO 519)

BISC 520 Recent Advances in Neurobiology
Units: 2 or 4 Max Units: 12.0 Terms Offered: Fa Lectures on selected topics in neurobiology. Registration restricted to three semesters. *Prerequisite:* graduate status in departmental program or departmental approval. Instruction Mode: Lecture Grading Option: Letter

BISC 521 Hearing and Communication Neuroscience
Units: 4 Terms Offered: Sp A basic grounding in broad aspects of the neuroscience of hearing and vocal communication. *Prerequisite:* BISC 421 and NSCI 524 Instruction Mode: Lecture Grading Option: Letter Crosslisted as NSCI 521

BISC 522 Nonlinear Dynamical Systems, Vibrations, and Chaos
Units: 3 Terms Offered: Sp (Enroll in AME 520)

BISC 529 Seminar in Marine Biology
Units: 1 Max Units: 4.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 530 Advanced Seminar in Plankton Biology
Units: 2 Terms Offered: FaSp An overview of phytoplankton and zooplankton taxa, their morphologies and life histories using material collected from the local environment off LA and near the Phillip K. Wrigley Marine Science Center on Catalina Island. Instruction Mode: Lecture Grading Option: Letter

BISC 531 Advanced Seminar on the Physiology of Marine Organisms
Units: 2 Terms Offered: FaSp Physiological processes dictate survival potential, growth rates, and many other biological processes that affect the distribution of species in the oceans. Emphasis on the diverse environmental factors that influence physiological adaptations of marine organisms. Examples from a wide variety of marine organisms, from bacterial to animals, will be studied. Instruction Mode: Lecture Grading Option: Letter

BISC 532 Advanced Seminar in Molecular and Microbial Ecology
Units: 2 Terms Offered: FaSp Microorganisms dominate biological processes in the ocean. These species pose significant problems for estimating species diversity, abundance and activity. Examination of modern molecular biological approaches for analyzing aquatic microbial communities and their ecological roles. Instruction Mode: Lecture Grading Option: Letter

BISC 533 Advanced Seminar in Remote Sensing and Modeling
Units: 2 Modern oceanographic methods for making remote measurements of aquatic and terrestrial ecosystems using satellite imagery and other means. Integrating these data into models that describe ecosystem structure and enable interpretation of ecosystem function. Instruction Mode: Lecture Grading Option: Letter

BISC 534 Advanced Seminar in Population Genetics of Marine Organisms
Units: 2 An overview of the theory underlying population and quantitative genetics, with applications to marine systems. Basic evolutionary mechanisms (mutation, migration, drift, selection, nonrandom mating) and modern evidence for their roles in structuring genetic variation within and among marine populations. Instruction Mode: Lecture Grading Option: Letter

BISC 535 Seminar in Physiology
Units: 2 Max Units: 8.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

BISC 536 Advanced Seminar in Marine Biogeochemistry
Units: 2 Examination of the interplay between ocean biology and the cycling of carbon, nitrogen and other elements on a local, regional and global scale. Instruction Mode: Lecture Grading Option: Letter

BISC 537 Seminar in Cellular and Molecular Biology
Units: 2 Max Units: 8.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

BISC 538 Metals and Biology in Oceanic Regimes
Units: 2 Terms Offered: Sp Relationships between metals in reducing regimes and microbes that utilize them for metalloenzymes. Focus on biological availability of micronutrient and processes like chemoautotrophy or biomineralization. Instruction Mode: Lecture Grading Option: Letter

BISC 542 Seminar in Molecular Biology
Units: 1 Max Units: 6.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 544 Advanced Reading in Molecular Biology
Units: 1, 2 Max Units: 04 Terms Offered: FaSpSm Advanced training for molecular biology graduate students in reading primary journal articles. Emphasis on critical analyses of primary scientific literature. Registration Restriction: Open only to master and doctoral students in Computational Molecular Biology, Molecular Biology, Computational Biology and Bioinformatics majors Instruction Mode: Lecture Grading Option: Letter

BISC 545 Modeling and Numerical Techniques for Marine Scientists
Units: 4 Terms Offered: Sp Statistical analyses of data sets, development of modeling frameworks, numerical models of varying complexity, and techniques for analyzing model results. *Recommended Preparation:* Suggested reading MATLAB Primer (Timothy Davis) Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as GEOL 545, OS 545

BISC 549 Seminar in Integrative and Evolutionary Biology
Units: 2 Max Units: 6.0 Terms Offered: FaSp Current topics in integrative and evolutionary biology. Instruction Mode: Lecture Grading Option: Letter

BISC 572 Medical Physiology I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

BISC 574 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

BISC 576 Practical Statistics and Bioinformatics
Units: 2 Terms Offered: Fa Practical experience in statistics and bioinformatics methods, software packages applicable to molecular biology, genomics analysis, and structural bioinformatics and their underlying principles. Instruction Mode: Lecture Grading Option: Letter

BISC 577a Computational Molecular Biology Laboratory
Units: 2 Terms Offered: Sp Practical experience in computational molecular biology applications. Mathematical and statistical software packages relevant to genomic analysis. Retrieval and analysis of genomic data from databases. *Recommended Preparation:* higher level programming language. Duplicates Credit in former MATH 577ab. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MATH-577A

BISC 577b Computational Molecular Biology Laboratory
Units: 2 Terms Offered: Fa Practical experience in computational molecular biology applications. Mathematical and statistical software packages relevant to genomic analysis. Retrieval and analysis of genomic data from databases. *Recommended Preparation:* higher level programming language. Duplicates Credit in former MATH 577ab. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MATH-577B

BISC 581L Current Problems in Marine Sciences
Units: 4 Max Units: 16.0 Terms Offered: Irregular In-depth studies on selected problems of current interest in the marine sciences. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 582 Advanced Biological Oceanography
Units: 4 Terms Offered: Fa Aspects of physics and chemistry of the oceans. Qualitative and quantitative considerations of the ecology of pelagic and benthic communities. Instruction Mode: Lecture Grading Option: Letter Crosslisted as OS-582

BISC 583 Evolution and Adaptation of Marine Organisms
Units: 4 Terms Offered: Sp Fundamentals of evolutionary patterns and processes in the marine environment, with emphasis on rates of adaptation to a changing ocean. Instruction Mode: Lecture Grading Option: Letter

BISC 584 Faculty Lecture Series
Units: 2 Terms Offered: Sp Multi- instructor course designed to introduce students to the breadth and depth of faculty interests within the Marine Environmental Biology section of Biological Sciences and the Natural History Museum. Instruction Mode: Lecture Grading Option: Letter

BISC 585 Scientific Writing and Reviewing
Units: 2 Terms Offered: Sp Hands-on experience writing and reviewing scientific literature. The review process and participation in writing and reviewing their own proposals. Instruction Mode: Lecture Grading Option: Letter

BISC 586 Biological Oceanographic Instrumentation
Units: 2 Terms Offered: Sp Survey of analytical principles, theory and application behind commonly used methodologies in biological oceanography. Instruction Mode: Lecture Grading Option: Letter

BISC 587 Communicating Ocean Science
Units: 4 Terms Offered: Sp Multi-instructor, interdisciplinary course focused on student awareness and improvement of cognitive processes used in research development, and communication of ocean literacy in the public sector. *Recommended Preparation:* Graduate level understanding of oceanographic principles. Instruction Mode: Lecture Grading Option: Letter

BISC 588 Introduction to Bioinformatics
Units: 2 Terms Offered: FaSp Hands-on introduction to basic bioinformatics skills, software and analysis pipelines for biologists with minimal to no prior command line experience. Registration Restriction: Registration open only to MBBO and OCS graduate students Instruction Mode: Lecture Grading Option: Letter

BISC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 593 Practicum in Teaching the Biological Sciences
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Instruction Mode: Lecture Grading Option: Letter

BISC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BISC 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BISC 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BISC 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BISC 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Biokinesiology

BKN 504 Neuromuscular Systems
Units: 3 Terms Offered: Fa (Enroll in BME 504)

BKN 510 Sports Science Statistics - Introduction to Statistical Analysis
Units: 4 Terms Offered: FaSpSm Apply statistical methods for hypotheses testing sports science using commonly used methods and statistical software. Instruction Mode: Lecture Grading Option: Letter

BKN 550 Neurobehavioral Basis of Movement
Units: 4 Terms Offered: Sp Introduction to the neurobehavioral and neurobiological basis of movement. Review of information processing, neural basis of perception/action, motor systems, and higher cognitive function and behavior. *Recommended Preparation:* biology and physiology. Instruction Mode: Lecture Grading Option: Letter

BKN 551 Musculoskeletal and Biomechanical Basis of Movement
Units: 4 Terms Offered: Fa Introduction to the mechanical properties of the musculoskeletal system. Review of connective tissue and muscle mechanics, arthrology, anatomical design and statics. Laboratory dissections illustrate biomechanical concepts. Instruction Mode: Lecture Grading Option: Letter

BKN 552 Physiological Basis of Voluntary Movement
Units: 4 Terms Offered: Sp Consideration of the neuromuscular and musculoskeletal physiology of voluntary movement. Instruction Mode: Lecture Grading Option: Letter

BKN 553 Experimental Methods for the Analysis of Human Movement
Units: 4 Terms Offered: Fa Introduces students to the techniques and hardware used to record movement, measure movement-related variables, and analyze those variables to address hypotheses. Instruction Mode: Lecture Grading Option: Letter

BKN 557L Functional Neuroanatomy with Lab Dissection
Units: 3 Terms Offered: FaSpSm Comprehensive survey of regional neuroanatomy covered in lecture and laboratory format with dissection. In-depth consideration is given to neuroanatomical basis of sensory and motor function. Topics include neuroanatomical basis of cellular function, somatosensation, special senses, movement and distributed motor control, and homeostasis regulation. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BKN 559 Readings in Biokinesiology
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Independent review and synthesis of papers appearing in the current literature. Instruction Mode: Lecture Grading Option: Letter

BKN 560 Movement Analysis for Sport
Units: 4 Terms Offered: FaSpSm Perform systematic quantitative biomechanical analyses of common movements in sport and exercise using a variety of motion analysis techniques. Instruction Mode: Lecture Grading Option: Letter

BKN 563 Biomechanics
Units: 2, 2 years Terms Offered: Sp Advanced study of the kinematics of human motion. Emphasis on the inverse dynamics solution to qualify forces and moments of force. Instruction Mode: Lecture Grading Option: Letter

BKN 566 Neurobiology of Locomotion
Units: 2 Topics include developmental biology of embryonic motility, central pattern generators, descending neural regulation, sensory modulation, and perception/ action influences on the motor control of locomotion. *Prerequisite:* BISC 524, BISC 525; *Recommended Preparation:* BKN 550. Instruction Mode: Lecture Grading Option: Letter

BKN 567 Advanced Topics in Biomechanics
Units: 2 Terms Offered: Sp Advanced examination of motion-analysis techniques, applications and data interpretation. Magnetic tracking techniques, upper-extremity kinematics, energy/work/impulse concepts, intersegmental dynamics, and EMG muscle modeling are examined. *Prerequisite:* BKN 563. Instruction Mode: Lecture Grading Option: Letter

BKN 573a Advanced Dissection Anatomy
Units: 2 Terms Offered: FaSpSm Advanced analysis of systems or structures with dissection. Emphasis on correlations with function. Instruction Mode: Lecture Grading Option: Letter

BKN 573b Advanced Dissection Anatomy
Units: 2 Terms Offered: FaSpSm Advanced analysis of systems or structures with dissection. Emphasis on correlations with function. Instruction Mode: Lecture Grading Option: Letter

BKN 575 Principles of Musculoskeletal Imaging
Units: 2 Terms Offered: Sm Basic principles of musculoskeletal imaging as it relates to biomechanics research. Topics include MRI physics, variable imaging parameters and selection of pulse sequences. Instruction Mode: Lecture Grading Option: Letter

BKN 578 Classic Readings in Biokinesiology
Units: 2 A seminar course in which students read and discuss classic scientific papers that have shaped the development of the movement sciences over the past 150 years. Instruction Mode: Lecture Grading Option: Letter

BKN 585 Systematic Research Writing
Units: 3 Terms Offered: Sm Development of analytical journal reading skills and proficiency in scientific writing. Lecture and tutorial format. Instruction Mode: Lecture Grading Option: Letter

BKN 587a Physiological Correlates of Therapeutic Exercise
Units: 4 Terms Offered: FaSp Responses of the physically handicapped to exercise. Emphasis on muscle, energy metabolism, body temperature, environment, endocrine considerations. Strengthening, training, endurance, and evaluation of performance. Instruction Mode: Lecture Grading Option: Letter

BKN 587b Physiological Correlates of Therapeutic Exercise
Units: 4 Terms Offered: FaSp Responses of the physically handicapped to exercise, with emphasis on cardiovascular and respiratory adaptations and pathology. Instruction Mode: Lecture Grading Option: Letter

BKN 588 Physiology and Biomechanics of Resistance Exercise
Units: 2 Terms Offered: Sp Science of resistance-exercise prescription, adaptation, and outcome assessment. Topics include periodization, neuromuscular and connective tissue adaptation, special populations, and biomechanical considerations. Instruction Mode: Lecture Grading Option: Letter

BKN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BKN 593 Behavioral Basis of Motor Control and Learning
Units: 3 Terms Offered: Fa Seminar in movement science dealing with the behavioral basis of motor control and learning from an information processing perspective. *Recommended Preparation:* statistics; psychology. Instruction Mode: Lecture Grading Option: Letter

BKN 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

BKN 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Studies of scientific theory in physical therapy. Instruction Mode: Lecture Grading Option: Letter

BKN 600 Sports Science Internship
Units: 2, 3, 4 Terms Offered: FaSpSm A combination of observation, participation (testing/assessments, training) and analysis and interpretation of data. Supervision and guidance from the internship mentor will vary depending on the setting and credit hours. Allows students a progressively increasing amount of responsibility with respect to athlete/subject and/or data involvement. *Prerequisite:* BKN 551 and BKN 552 and BKN 550 and BKN 553 Instruction Mode: Lecture Grading Option: Credit/No Credit

BKN 610L Technology in Sport: Field Assessment of Athlete Performance
Units: 2 Terms Offered: FaSpSm Introduction of topics related to assessments of athlete performance on the field or in the sports setting. Focus on understanding and applying available technology to athlete field assessments. Overview of the techniques and hardware used to assess athlete performance outside of a laboratory setting. *Prerequisite:* BKN 551 and BKN 552 and BKN 553 Instruction Mode: Lecture, Lab Required Grading Option: Letter

BKN 611L Technology in Sport: Physiological Assessments
Units: 2 Terms Offered: FaSpSm Introduction to the physiological assessment of athlete performance. Focus on understanding, performing and interpreting physiological assessments such as metabolic testing (VO2max), hydration, oxygen saturation, body composition, lactate threshold, heart rate, core body temperature. *Prerequisite:* BKN 551 and BKN 552 and BKN 553 Instruction Mode: Lecture, Lab Required Grading Option: Letter

BKN 615 Principles of Skeletal Adaptation
Units: 4, 2 years Terms Offered: Sm Introduction to the integrative physiology of skeletal adaptation to mechanical loading. Emphasis on mechanical and chemical regulation of bone mass. Instruction Mode: Lecture Grading Option: Letter

BKN 617 Modeling the Motor System: An Introduction
Units: 2, 2 years Terms Offered: Sp Introduction of basic principles and models of the primate motor system. Emphasis on arm control. Instruction Mode: Lecture Grading Option: Letter

BKN 618L Modeling the Motor System: Laboratory
Units: 1, 2 years Terms Offered: Sp Introduction of computer programming and implementation of computational models in a laboratory setting. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BKN 621 Electromyography in Research and Practice
Units: 3, 2 years Terms Offered: Fa Physiology and electrophysiology of muscular contraction, how it is collected, quantified and processed. Uses of electromyographic information for research and clinical assessments. *Recommended Preparation:* human anatomy, skeletal muscle physiology. Instruction Mode: Lecture Grading Option: Letter

BKN 623 Neuroplasticity and Neural Repair
Units: 3, 2 years Terms Offered: Fa Integration of basic research on neuroplasticity and clinical research on central nervous system reorganization after brain injury. Implication for neurorecovery

and rehabilitation. Instruction Mode: Lecture Grading Option: Letter

BKN 630 Resistance Training Techniques for High Performance Athletes
Units: 2 Terms Offered: FaSpSm Introduction to training methods and techniques as they pertain to high performance athletes with a focus on advanced resistance training programs and periodization schemes. *Prerequisite:* BKN 551 and BKN 552 and BKN 550 and BKN 553 Instruction Mode: Lecture Grading Option: Letter

BKN 672 Advanced Independent Study in Biokinesiology
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Examination of selected mechanisms underlying normal movement and pathological movement. Instruction Mode: Lecture Grading Option: Letter

BKN 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BKN 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Biopharmaceutical Marketing

BPMK 500 Biopharmaceutical Marketing Management
Units: 3 Gain fundamental analytic skills and insights of medical trends directly from global payers, industry and government policy leaders covering healthcare reform, access and future therapies. *Recommended Preparation:* Graduate degree in pharmacy, medicine, or related MS or PhD program Instruction Mode: Lecture Grading Option: Letter

BPMK 501 Healthcare Payers, Insurance and Coverage Policy
Units: 3 Terms Offered: Sm Review evolution, design, forecasting future healthcare and coverage policies. Actuarial costs impact and controls on insurance premiums. Master and design successful formulary and reimbursement tactics. Instruction Mode: Lecture Grading Option: Letter

BPMK 502 Biopharmaceutical Product Development and Marketing
Units: 3 Terms Offered: Sm Portfolio role of clinical trials, regulatory and government agencies in product development. Winning through strategy! Planning profiles for novel products R&D vs. unmet medical needs. Instruction Mode: Lecture Grading Option: Letter

BPMK 503 Biopharmaceutical Advertising and Communication
Units: 3 Terms Offered: Fa Understand product positioning, timing and market opportunities. Key message development and communication pathways, budgets, quantitative measures for Grab and Growth! Integrated launch and market planning. Instruction Mode: Lecture Grading Option: Letter

BPMK 504 Market Access and Reimbursement Strategy
Units: 3 Profile insurance categories, controls and public demands. Aligning formulary and value measures and research. Play to Win! Quantitative assessment of market segmentation and evidence generation. Instruction Mode: Lecture Grading Option: Letter

BPMK 505 Product Health Economics and Valuation
Units: 3 Terms Offered: Fa Applied microeconomic tools, health technology assessment, cost effectiveness and commercial utility research. Practical understanding data sets and applications of real-world outcomes research and innovative modeling. Instruction Mode: Lecture Grading Option: Letter

BPMK 506 Biopharmaceutical Product Pricing and Competition
Units: 3 Terms Offered: Sp Design risk maps, methods and processes for competitive intelligence. War Games! Pricing tools and revenue models. Instruction Mode: Lecture Grading Option: Letter

BPMK 508 Biopharmaceutical Marketing Research and Analytics
Units: 3 Research and analytical methods for synthesizing data-driven insights informing marketing decisions of biopharmaceutical products. Apply systematic frameworks of marketing research to assess a drug's commercial opportunities. Registration Restriction: Not open to GSBA Business Administration students Instruction Mode: Lecture Grading Option: Letter

BPMK 509 Seminars in Biopharmaceutical Marketing
Units: 1 Max Units: 03 Weekly seminar and literature series to review and discuss policy of biopharmaceutical and healthcare access issues. Student-led discussions, expert guest speakers, group projects, critical thinking. Registration Restriction: Not open to GSBA Business Administration students Instruction Mode: Lecture Grading Option: Letter

BPMK 510 Capstone I: Biopharmaceutical Management Project
Units: 3 Terms Offered: Fa Program directed basic research and topics to develop student core skills surrounding research design, execution, planning, presentation and defense, consistent with BP industry standards. Instruction Mode: Lecture Grading Option: Letter

BPMK 511 Capstone II: Biopharmaceutical Management Project
Units: 3 Terms Offered: Sp Student directed advanced research and topics to develop student individual skills surrounding research design, execution, planning, presentation and defense, consistent with BP industry standards. Instruction Mode: Lecture Grading Option: Letter

Biomaterials and Digital Dentistry

BMDD 588a Digital Technology Applied to Dentistry
Units: 3 Terms Offered: FaSpSm Weekly seminar devoted to critically review, analyze, and discuss digital technologies applied to dentistry. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

BMDD 588b Digital Technology Applied to Dentistry
Units: 3 Terms Offered: FaSpSm Weekly seminar devoted to critically review, analyze, and discuss digital technologies applied to dentistry. *Prerequisite:* BMDD 588a Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

BMDD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Credit/No Credit

BMDD 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

BMDD 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. *Prerequisite:* BMDD 594a Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

BMDD 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. *Prerequisite:* BMDD 594b Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

Biomedical Engineering

BME 101 Introduction to Biomedical Engineering
Units: 4 Terms Offered: Fa Historical development and survey of major areas comprising biomedical engineering: theoretical neurobiology and systems physiology, biomedical instrumentation, artificial organ and prosthetic devices, biomedical computer applications. Instruction Mode: Lecture, Lab Grading Option: Letter

BME 201 Biomedical Engineering Practice
Units: 2 Terms Offered: Fa Examination of the technical and practical challenges involved in the development of medical devices, including neural implants, in industry and the clinical setting. *Recommended Preparation:* BME 101. Instruction Mode: Lecture Grading Option: Letter

BME 202 Control and Communication in the Nervous System
Units: 4 Terms Offered: Fa Introduction to the structure and function of the nervous system for biomedical engineers. Modeling of neurophysiological processes at single neuron and systems levels. *Prerequisite:* MATH 126g or MATH 129 Duplicates Credit in former BME 402 Instruction Mode: Lecture Grading Option: Letter

BME 204 Biomedical Prototyping and Fabrication
Units: 2 Terms Offered: FaSp Development of physical prototypes of biomedical devices and systems; acquisition and practice of skills for documentation and fabrication; prototype testing and validation against requirements. Instruction Mode: Lecture, Lab Grading Option: Letter

BME 210 Biomedical Computer Simulation Methods
Units: 4 Terms Offered: Sp Computational methods for simulation of circulatory, respiratory, pharmacokinetic, and neural models. Quadrature, differential equations, systems of linear equations, simulation languages, experimental statistics. *Recommended Preparation:* BME 101 *Corequisite:* MATH 245 Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 302L Medical Electronics
Units: 4 Terms Offered: Sp Electronic design and measurements for medical applications. Use of integrated circuits, biopotential measurements, static and dynamic calibration of physiological transducers. *Prerequisite:* EE 202L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 308 Computer-Aided Design for Bio-Mechanical Systems
Units: 3 (Enroll in ITP 308)

BME 350 Biomedical Engineering Industrial Project
Units: 3 Terms Offered: Sp Training in specific skills relevant to biomedical industry. Placement in summer internship following successful completion of the course. Junior standing. *Prerequisite:* BME 210. Instruction Mode: Lecture Grading Option: Letter

BME 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

BME 402 Control and Communication in the Nervous System
Units: 4 Terms Offered: Sp An introduction to the structural and functional elements common to nervous systems, with emphasis on cellular dynamics, interneuronal communication, sensory and effector systems. *Prerequisite:* (BME 210 and MATH 245) and (BISC 110g or BISC 220Lg) Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 403L Physiological Systems
Units: 4 Terms Offered: Fa A thorough bioengineering treatment of the physiological properties of various mammalian organ systems: e.g., cardiovascular, respiratory, renal, and musculoskeletal. *Prerequisite:* BISC 220Lg and MATH 245 *Corequisite:* EE 202L Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 404 Orthopaedic Biomechanics
Units: 4 Terms Offered: Fa Mechanical properties of biological tissues, application of statics and dynamics to assess loads within the musculoskeletal structures, and fundamentals of orthopaedic implant performance. *Prerequisite:* PHYS 151Lg and MATH 245 *Recommended Preparation:* Basic knowledge of anatomical structures, fundamentals of mechanics of materials including stress-strain relations, and mechanical properties of materials *Corequisite:* AME 201 Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 405L Senior Projects: Measurements and Instrumentation
Units: 4 Terms Offered: FaSp Application of instrumentation and measurement techniques to biomedical engineering projects involving measurement, replacement or augmentation of biomedical systems. *Prerequisite:* BME 210, EE 202L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 406 Introduction to Bioengineering in Medicine
Units: 4 Terms Offered: Fa Bioengineering concepts and technologies applied to cancer diagnosis, drug discovery, immunotherapeutic development, stem cell techniques and therapies, mechanistic research. Instruction Mode: Lecture Grading Option: Letter

BME 408 Rehabilitation Engineering and Assistive Technologies
Units: 2 Terms Offered: Fa Introduction to technologies used for rehabilitation and improved function, including limb and spinal orthoses and prostheses, gait analysis and sensory aids and augmentation. *Recommended Preparation:* Basic background in statics and dynamics at the level taught in AME 201 and AME 301 Instruction Mode: Lecture Grading Option: Letter

BME 410L Introduction to Biomaterials and Tissue Engineering
Units: 4 Terms Offered: FaSp In-depth survey of the cells, materials, and techniques used to engineer human tissues for applications in regenerative medicine and drug screening. *Prerequisite:* CHEM 322aL and BISC 220Lg Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CHE 410

BME 412 Craniofacial and Dental Technology
Units: 4 (Enroll in DENT 412)

BME 413 Bioengineering Signals and Systems
Units: 4 Terms Offered: Fa Introduction to concepts relating to linear signals and systems theory, time and frequency domain analysis, and application of these concepts to problems in Biomedical Engineering. *Prerequisite:* PHYS 152 Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 414 Rehabilitation Engineering
Units: 3 Terms Offered: Sp An introduction to rehabilitation technology: limb and spinal orthoses; limb prostheses; functional electrical stimulation; sensory aids. *Recommended Preparation:* AME 201. Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 415 Regulation of Medical Products
Units: 2 Terms Offered: Sp An introduction to the process of medical product development with emphasis on the regulations that govern the design, fabrication and maintenance of medical products. Registration Restriction: Open only to juniors and seniors Duplicates Credit in BME 416L Instruction Mode: Lecture Grading Option: Letter

BME 416L Development and Regulation of Medical Products
Units: 4 Terms Offered: Sp An introduction to medical product development and the regulations that govern their design, fabrication and maintenance; practical applications to a proposed product. *Prerequisite:* BME 405L Duplicates Credit in BME 415 Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 423 Statistical Methods in Biomedical Engineering
Units: 4 Terms Offered: Fa Applications of parametric and nonparametric tests, analysis of variance, linear regression, time-series analysis, and autoregressive modeling, with biomedical applications to statistical analysis of biomedical data. *Prerequisite:* MATH 245 Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 425 Basics of Biomedical Imaging
Units: 3 Terms Offered: Fa Engineering, clinical applications and modern physics concepts underlying X-ray imaging, Computed Tomography (CT), nuclear medicine, positron emission tomography, Magnetic Resonance Imaging (MRI), ultrasound imaging. *Prerequisite:* PHYS 152L. Instruction Mode: Lecture Grading Option: Letter

BME 426 Basics of Biomedical Imaging: Ionizing Radiation
Units: 2 Terms Offered: Fa Ionizing radiation imaging techniques; x-ray imaging, mammography, fluoroscopy, CT and nuclear medicine imaging including SPECT and PET; engineering and modern physics concepts; clinical applications. *Prerequisite:* PHYS 152L Instruction Mode: Lecture Grading Option: Letter

BME 427 Basics of Biomedical Imaging: Non-Ionizing Radiation
Units: 2 Terms Offered: Sp Non-ionizing radiation imaging techniques; MRI, ultrasound and emerging optical imaging techniques including fluorescence, Raman and photoacoustic imaging; engineering and modern physics concepts; clinical applications. *Prerequisite:* PHYS 152L Instruction Mode: Lecture Grading Option: Letter

BME 430 Principles and Applications of Systems Biology
Units: 4 Terms Offered: Fa Computational methods for simulation and analysis of

metabolic networks, cellular signaling pathways, and gene regulatory networks. Biochemical kinetics, differential equations, stability analysis, sensitivity analysis. *Prerequisite:* MATH 245 and (BME 210 or CHE 205) *Recommended Preparation:* BISC 220Lg Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CHE 430, QBIO 430

BME 451L Fundamentals of Biomedical Microdevices
Units: 4 Terms Offered: Fa Introduction to biomedical microdevices with emphasis on microtechnologies and biomedical microelectromechanical systems (bioMEMS). Principles for measurement of small-scale biological phenomena and clinical applications. *Recommended Preparation:* Basic biology and electronics *Corequisite:* EE 202L Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 452 Introduction to Biomimetic Neural Engineering
Units: 2 Terms Offered: Fa Engineering principles, biology, technological challenges and state-of-the-art developments in the design of implantable biomimetic microelectronic devices that interface with the nervous system. *Recommended Preparation:* Basic knowledge of biology *Corequisite:* EE 202L Instruction Mode: Lecture Grading Option: Letter

BME 453 Engineering Biomedical Innovations
Units: 3 Terms Offered: Sp Engineering principles in design, modeling, and analysis of biomedical innovations will be presented to develop creative solutions for real-world medical problems or treatment implementation. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

BME 459L Introduction to Nanomedicine and Drug Delivery
Units: 4 Terms Offered: Sp Drug delivery and use of nanoengineered materials, including cutting-edge nanoparticle-based therapy, imaging, and tissue engineering. Nanoparticle synthesis and characterization methods are introduced through labs. *Prerequisite:* CHEM 322aL *Recommended Preparation:* BISC 220Lg Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 489 Biochemical Engineering
Units: 4 Terms Offered: Sp (Enroll in CHE 489)

BME 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

BME 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Current trends and developments in the field of biomedical engineering. Instruction Mode: Lecture Grading Option: Letter

BME 501 Advanced Topics in Biomedical Systems
Units: 4 Terms Offered: FaSp Advanced topics in selected biomedical systems: cardiopulmonary, neuromuscular, renal and endocrine. Instruction Mode: Lecture Grading Option: Letter

BME 502 Advanced Studies of the Nervous System
Units: 4 Terms Offered: Fa Advanced topics on the structure and function of the nervous system examined from the viewpoint of computational systems science. Instruction Mode: Lecture Grading Option: Letter

BME 504 Neuromuscular Systems
Units: 3 Terms Offered: Fa Introduces the fundamentals of mathematical, Newtonian, and robotic analysis applicable to multi-muscle biomechanical systems. Combines physiology with numerical simulations to understand and predict motor function. *Recommended Preparation:* Matlab programming, fundamentals of mechanics, linear algebra. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BKN-504

BME 505aL Laboratory Projects in Biomedical Engineering
Units: 4 Terms Offered: FaSpSm Integration of biomedical science, engineering principles and state-of-the-art technology for the study of selected physiological systems in the laboratory setting. Laboratory. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

BME 505bL Laboratory Projects in Biomedical Engineering
Units: 4 Terms Offered: FaSpSm Integration of biomedical science, engineering principles and state-of-the-art technology for the study of selected physiological systems in the laboratory setting. Laboratory. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

BME 506 Bioengineering of Disease and Cell Therapeutics
Units: 4 Terms Offered: Sp Introduction to micro-/nano-technologies, microscopy, single-cell techniques, materials, surface chemistry, pathology, cancer, immunology, cell therapy and grant writing in biomedical research. *Recommended Preparation:* General cell biology (e.g. BISC 101Lgx) and chemistry (e.g. CHEM 103Lgx) Instruction Mode: Lecture Grading Option: Letter

BME 510 Cellular Systems Engineering
Units: 4 In-depth survey of the cells, materials and techniques used to engineer microscale human tissue models ("Organs on Chips") for applications in disease modeling and drug screening. *Recommended Preparation:* Undergraduate courses in cell biology, chemistry, physics and organic chemistry Instruction Mode: Lecture Grading Option: Letter

BME 511 Physiological Control Systems
Units: 4 Terms Offered: Sp Application of control theory to physiological systems; static analysis of closed-loop systems; time-domain analysis of linear control identification methods; nonlinear control. *Recommended Preparation:* Exposure to Ordinary Differential Equations, Laplace Transforms and Matlab/Simulink programming Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 513 Signal and Systems Analysis
Units: 4 Terms Offered: Fa Classification; representation; statistical analysis; orthogonal expansions; least-squares estimation; harmonic analysis; Fourier, Laplace and Z transforms; the linear system; filtering; modeling and simulation; linear control theory. *Recommended Preparation:* Introductory courses in signal and system analysis (e.g., BME 413) and basic Matlab proficiency in signal processing including Discrete Fourier Transform Instruction Mode: Lecture Grading Option: Letter

BME 514 Physiological Signals and Data Analytics
Units: 4 Terms Offered: Sp Application of linear time- and frequency-domain techniques, adaptive filtering, nonlinear dynamics and machine learning approaches to the analysis of physiological signals. *Prerequisite:* BME 513 *Recommended Preparation:* Working knowledge of MATLAB and/or PYTHON Instruction Mode: Lecture Grading Option: Letter

BME 515 Data Analytics in Biomedical Engineering
Units: 4 Terms Offered: Sp Presentation and application of advanced computational / mathematical methodologies for analysis of biomedical time-series data, emphasizing predictive analytics to advance biomedical science and improve clinical support systems. *Prerequisite:* BME 513 *Recommended Preparation:* Working knowledge of MATLAB and/or Python Instruction Mode: Lecture Grading Option: Letter

BME 520 Modeling of Bio-Systems
Units: 3 Terms Offered: Sp (Enroll in AME 520)

BME 523 Measurement and Processing of Biological Signals
Units: 3 Terms Offered: Sp Acquisition, analysis, and display of biological data using digital computers; laboratory applications of digital signal processing and real time analysis. *Prerequisite:* BME 513. Instruction Mode: Lecture Grading Option: Letter

BME 525 Advanced Biomedical Imaging
Units: 4 Terms Offered: Sp Advanced scientific and engineering principles of biomedical imaging including magnetic resonance, X-ray computed tomography, ultrasound and single photon and positron emission tomography. *Recommended Preparation:* BME 513 or EE 483 or previous/concurrent exposure to linear systems and signals, Fourier Transform, and signal processing in the frequency domain Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 523

BME 527 Integration of Medical Imaging Systems
Units: 4 Introduce basic concepts of Medical Imaging Informatics with an introduction to clinical information systems (eg, PACS, RIS, EMR) related to the imaging workflow in a clinical healthcare enterprise Instruction Mode: Lecture Grading Option: Letter Crosslisted as DSCI 562

BME 528 Medical Diagnostics, Therapeutics and Informatics Applications
Units: 4 Terms Offered: Sp Picture archive communication system (PACS) design and implementation; clinical PACS-based imaging informatics; telemedicine/ teleradiology; image content indexing, image data mining; grid computing in

large-scale imaging informatics; image-assisted diagnosis, surgery and therapy. *Recommended Preparation:* BME 527 or previous/concurrent exposure to clinical systems in radiology (e.g., EMR/RIS/PACS) and imaging informatics Instruction Mode: Lecture Grading Option: Letter Crosslisted as DSCI 563

BME 530 Introduction to Systems Biology
Units: 4 Terms Offered: Sp Computational methods for simulation and analysis of metabolic networks, cellular signaling pathways, and gene regulatory networks. Biochemical kinetics, differential equations, stability analysis, sensitivity analysis. Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 533 Seminar in Bioengineering
Units: 1 Max Units: 3.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Credit/No Credit

BME 535 Ultrasonic Imaging
Units: 3 Terms Offered: Sp All aspects of ultrasonic imaging including ultrasound and tissue interaction, ultrasonic transducers, instrumentation, imaging methods, clinical applications, bioeffects, safety, and recent developments in the field. Instruction Mode: Lecture Grading Option: Letter

BME 536 Ultrasonic Transducers
Units: 3 Terms Offered: Fa Background and foundation covering the design, fabrication and testing of ultrasonic transducers and arrays. Design approaches, modeling tools will be discussed. Design project assigned. Instruction Mode: Lecture Grading Option: Letter

BME 540 Biofluid Mechanics: Transport and Circulatory Systems
Units: 4 Terms Offered: Fa (Enroll in AME 536)

BME 551 Introduction to Bio-MEMS and Nanotechnology
Units: 4 Terms Offered: Sp Principles and biomedical applications of micro-electromechanical systems (MEMS) and nanotechnology, including microfluidics, nanowire sensors, nanomotors, quantum dots, biofuel cells and molecular imaging. *Recommended Preparation:* General Biomedical engineering (e.g., BME 101) Instruction Mode: Lecture Grading Option: Letter

BME 552 Neural Implant Engineering
Units: 3 Terms Offered: Sp Advanced studies of the basic neuroscience, engineering design requirements and technological issues associated with implantable neural prostheses, with particular emphasis on retinal and cortical function. Instruction Mode: Lecture Grading Option: Letter

BME 559 Nanomedicine and Drug Delivery
Units: 4 Terms Offered: Fa Drug delivery and use of nanoengineered materials, including cutting-edge nanoparticle-based therapy, imaging and tissue engineering. Nanotoxicology and the regulatory landscape is introduced. *Recommended Preparation:* Organic Chemistry (CHEM 322aL equivalent) and Cell Biology and Physiology (BISC 220Lg equivalent) Instruction Mode: Lecture Grading Option: Letter

BME 566a Topics in Health, Technology and Engineering
Units: 2 Terms Offered: Fa Interdisciplinary approach to impart the skills, knowledge and familiarity with stages of collaborative projects related to medical device and methods innovation in health care settings. Registration Restriction: Open only to Health, Technology and Engineering majors. Instruction Mode: Lecture Grading Option: Letter

BME 566b Topics in Health, Technology and Engineering
Units: 2 Terms Offered: Sp Interdisciplinary approach to impart the skills, knowledge and familiarity with stages of collaborative projects related to medical device and methods innovation in health care settings. Registration Restriction: Open only to Health, Technology and Engineering majors. Instruction Mode: Lecture Grading Option: Letter

BME 566c Topics in Health, Technology and Engineering
Units: 2 Terms Offered: Fa Interdisciplinary approach to impart the skills, knowledge and familiarity with stages of collaborative projects related to medical device and methods innovation in health care settings. *Concurrent Enrollment:* Concurrent enrollment: BME 567a. Instruction Mode: Lecture Grading Option: Letter

BME 566d Topics in Health, Technology and Engineering
Units: 2 Terms Offered: Sp Interdisciplinary approach to impart the skills, knowledge and familiarity with stages of collaborative projects related to medical device and methods innovation in health care settings. *Concurrent Enrollment:* Concurrent enrollment: BME 567b. Instruction Mode: Lecture Grading Option: Letter

BME 567a Case Studies in Health, Technology and Engineering
Units: 1 Terms Offered: Fa Learning from cases illustrating paths from health care problems to solutions. Faculty, students and invited guests will provide examples of both successful and unsuccessful innovation attempts. *Concurrent Enrollment:* a: Concurrent enrollment: BME 566c. b: Concurrent enrollment: BME 566d. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Letter

BME 567b Case Studies in Health, Technology and Engineering
Units: 1 Terms Offered: Sp Learning from cases illustrating paths from health care problems to solutions. Faculty, students and invited guests will provide examples of both successful and unsuccessful innovation attempts. *Concurrent Enrollment:* a: Concurrent enrollment: BME 566c. b: Concurrent enrollment: BME 566d. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Letter

BME 575L Computational Neuroengineering
Units: 3 Terms Offered: Sp Introduction to computational modeling in neuroengineering, anchored in examples of brain function. Topics include transduction, synapses, spiking, networks, normalization, learning, Bayesian models, and Kalman filtering. *Prerequisite:* BME 502. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as NEUR-534

BME 582 CMOS:Nano Neuromorphic Circuits
Units: 4 (Enroll in EE 582)

BME 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BME 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Current trends and developments in the field of biomedical engineering. Instruction Mode: Lecture Grading Option: Letter

BME 620L Applied Electrophysiology
Units: 4 Terms Offered: Fa The theoretical basis and applied design principles for medical devices and instrumentation that interact with electrically excitable tissues of the body. *Prerequisite:* BME 502. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 650 Biomedical Measurement and Instrumentation
Units: 4 Terms Offered: Sp Design of biomedical instrumentation and diagnostic devices (aspects such as mechanics, electronic architecture and chemical and biological components) used to measure physiological parameters *Recommended Preparation:* BME 513. Basic knowledge of electronics (EE 202L or equivalent courses), physics (PHYS 152L or equivalent courses), and chemistry (CHEM 105aLg or equivalent courses) Instruction Mode: Lecture Grading Option: Letter

BME 670 Early Visual Processing
Units: 4 Terms Offered: Fa Interdisciplinary topics in biological and artificial low-level visual processing. Retina, lateral geniculate nucleus; computer vision; neurophysiology, retinal prosthesis; molecular biology, phototransduction; edge detection; movement. *Prerequisite:* NSCI 524 or BME 502 or CSCI 574. Instruction Mode: Lecture Grading Option: Letter

BME 671 Late Visual Processing
Units: 4 Terms Offered: Sp Interdisciplinary topics in biological and artificial high-level visual processing. Visual cortex; computer vision; neurophysiology; psychophysics; MRI; computational models; orientation selectivity; steropsis; motion; contours; object recognition. *Prerequisite:* NSCI 524 or BME 502 or CSCI 574. Instruction Mode: Lecture Grading Option: Letter

BME 680 Modeling and Simulation of Physiological Systems
Units: 3 Terms Offered: Irregular

Mathematical theories and computation techniques for modeling physiological systems, with emphasis on cardiorespiratory, metabolicendocrine, and neuronal functions. Instruction Mode: Lecture Grading Option: Letter

BME 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research applicable to the doctorate. Instruction Mode: Lecture Grading Option: Credit/No Credit

BME 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Biomedical Implants and Tissue Engineering

BITE 582 Introduction to Biomedical Implants
Units: 3 Terms Offered: FaSpSm In-depth exploration of the biologic basis of osseointegration and host conditions that affect the outcome of wound healing. Instruction Mode: Lecture, Discussion Grading Option: Letter

BITE 583 Clinical Applications of Tissue Engineering
Units: 4 Terms Offered: FaSpSm Provides clinicians and clinical scientists with the fundamental understanding of the field of tissue engineering, as applied to the reconstruction of the tissues in the maxillofacial region. Instruction Mode: Lecture, Discussion Grading Option: Letter

BITE 584 Evidence Based Practice
Units: 3 Terms Offered: FaSpSm Focuses on scientific search engines and search strategies to evaluate and incorporate literature to establish an evidence based dental implant practice. Instruction Mode: Lecture, Discussion Grading Option: Letter

BITE 585 Biomaterial and Protocols
Units: 3 Terms Offered: FaSpSm Focuses on material science, host response and clinical outcome of biomaterial application in the craniofacial region. Instruction Mode: Lecture, Discussion Grading Option: Letter

BITE 586 Current Trends in Biomedical Implants and Tissue Engineering
Units: 3 Terms Offered: FaSpSm Explores the developments in regenerative medicine with immediate or future translational applications in biomedical implants and tissue engineering for the maxillofacial region. Instruction Mode: Lecture, Discussion Grading Option: Letter

BITE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Project-based research under the guidance of a scientific adviser. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BITE 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

BITE 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. *Prerequisite:* BITE 594a Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

BITE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. *Prerequisite:* BITE 594b Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

Biopharmaceutical Sciences

BPSI 402 Biopharmaceutics I
Units: 4 Comprehensive overview of pharmaceutical sciences. Interdisciplinary areas of study that deal with the design, action, delivery, disposition and patient acceptance of drugs. Instruction Mode: Lecture Grading Option: Letter

BPSI 403 Biopharmaceutics II
Units: 4 Comprehensive overview of early drug discovery and medicinal product development; in vitro and in vivo assays simulations/modeling, biopharmaceutical classification system, drug delivery science and technology. Instruction Mode: Lecture Grading Option: Letter

BPSI 405 Organ Systems Physiology, Drug Delivery and Drug Action
Units: 4 Principles of cellular and organ physiology systems. Interplay between the physiology of organ systems, drug delivery and drug action. Duplicates Credit in former RXRS 420 Instruction Mode: Lecture Grading Option: Letter

BPSI 406 Drug Safety Pharmacology and Toxicology
Units: 4 Toxicology and safety pharmacology principles that guide the clinical development of safe and efficacious drugs and biologics. Instruction Mode: Lecture Grading Option: Letter

BPSI 407 Pharmaceutical and Health Economics
Units: 4 Application of economics principles to pharmaceutical and health care issues; prescription drug pricing, access and innovation; topics related to pharmaceutical policy. Duplicates Credit in former RXRS 415 Instruction Mode: Lecture Grading Option: Letter

BPSI 408 Biologics and Vaccines
Units: 4 How biologics and vaccines are researched, designed and used to treat and prevent diseases; regulatory and ethical issues surrounding these therapeutics. Instruction Mode: Lecture Grading Option: Letter

BPSI 410 Biopharmaceutical Product Development and Brand Planning
Units: 4 Introduces critical financial decisions and development milestones in biopharmaceutical drug product development and commercialization. Learn to align business strategies with decisions supporting a product lifecycle. Instruction Mode: Lecture Grading Option: Letter

BPSI 411 Biopharmaceutical Marketing Analysis and Strategy
Units: 4 Introduces marketing analysis and strategy for biopharmaceutical drugs. Learn to conduct analysis to develop integrated marketing strategies and to execute on marketing and promotion plans. Instruction Mode: Lecture Grading Option: Letter

BPSI 412 Targeted and Precision Medicines
Units: 4 Precision medicine utilizing data from basic science, clinical, personal, environmental and population settings; understanding biological processes and disease mechanisms; develop precise diagnostics, therapeutics and prevention. Instruction Mode: Lecture Grading Option: Letter

BPSI 413 Rigor, Resources and Reproducibility
Units: 2 Medical product business planning in public-private partnerships to enhance scientific rigor, expand resource sharing and manage corporate responsibility in developing new products. Instruction Mode: Lecture Grading Option: Letter

BPSI 414 Pharmacoethics
Units: 2 Ethics as a challenge in the pharmaceuticals industry. Organizational ethics and bioethics related to research, development and marketing across the public and healthcare professional groups. Instruction Mode: Lecture Grading Option: Letter

BPSI 415 Science Talk
Units: 2 Students will learn to present science to others using techniques of storytelling, informative, commemorative, persuasive speeches, interviews and scientific presentations; strategies to reduce speaker apprehension. Instruction Mode: Lecture Grading Option: Letter

BPSI 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Individual research, reading, writing and project development. Credit Restriction: Not available for graduate degree credit Instruction Mode: Lecture Grading Option: Letter

BPSI 493 Senior Honors Seminar I
Units: 2 Exciting and challenging opportunity to marshal and deploy research, analysis, interpretation and writing skills learned in their major. Registration Restriction: Open to juniors and seniors in the BioPharmaceutical Sciences major Instruction Mode: Lecture Grading Option: Letter

BPSI 494 Senior Honors Seminar II
Units: 2 An independent study course for students undertaking the research and writing of an Honors thesis. *Prerequisite:* BPSI 493 Registration Restriction: Open only to juniors and seniors in the BioPharmaceutical Sciences major Instruction Mode: Lecture Grading Option: Letter

Business Administration

BUAD 100x Foundations of Finance and Accounting
Units: 2 Accounting information in decision-making from the perspective of users and preparers. Basics of financial asset valuation. Consideration of time-value of money and risk. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 101 Freshman Leadership Seminar
Units: 2 Terms Offered: FaSpSm Colloquium of leading researchers, authors, and administrators in the Marshall School of Business and other schools at USC. Industry leaders will also be invited to talk about leadership challenges. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 102 Global Leadership Seminar
Units: 2 Terms Offered: FaSpSm Colloquium of researchers and industry leaders discussing international business and the challenges faced by leaders in a global environment, with a specific focus on China. International travel may require additional fees. *Prerequisite:* BUAD 101. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 104 Learning About International Commerce
Units: 2 Terms Offered: FaSpSm Provides insight into the opportunities and challenges faced by business professionals operating in a global environment by focusing on international cultural norms. Graded CR/NC. Open only to Business and Accounting majors. Registration Restriction: Open only to Business and Accounting majors Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 105 The Business Experience
Units: 2 Terms Offered: Fa Introduction to and overview of key business functions, their relationships, and how various professional disciplines come together to help form a successful enterprise. Registration Restriction: Open only to business and accounting majors. Instruction Mode: Lecture Grading Option: Letter

BUAD 111 World Bachelor in Business Program Freshman Academy
Units: 2 Terms Offered: Fa Introduction to selected academic subject matter, development of intercultural communication skills, and access to business professionals. Registration Restriction: Enrollment limited to students in the World Bachelor in Business degree program Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 114 Global Social Impact
Units: 2 Terms Offered: Sp Assess and advise NGOs or social enterprises. Develop real solutions to real problems. Team projects, international travel and presentations. *Recommended Preparation:* BUAD 111 Registration Restriction: Enrollment limited to students in the World Bachelor in Business degree program Instruction Mode: Lecture Grading Option: Letter

BUAD 200x Economic Foundations for Business
Units: 2 Terms Offered: FaSp Examines fundamental concepts of both microeconomics and macroeconomics as they pertain to business and financial decisions. Instruction Mode: Lecture Grading Option: Letter

BUAD 201x Introduction to Business for Non-Majors
Units: 4 Terms Offered: FaSp Introduction to the principles and practices of businesses, sequence of exercises developing the basic skills, and influence of the economy on business and individual decisions. Instruction Mode: Lecture Grading Option: Letter

BUAD 204 Global Business from a Local Perspective
Units: 2 Terms Offered: Sp Concepts, frameworks and cultural insights into global business. Includes readings, group projects and visits with Los Angeles area companies that have an international presence. Registration Restriction: Open only to Business and Accounting majors. Duplicates Credit in BUAD 102 and BUAD 104. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 206 Transfer International Experience
Units: 2 Max Units: 4.0 Terms Offered: Sp Experiential study of international business. Analysis of the impacts of global and international business on an industry. International travel required. Registration Restriction: Open only to transfer business and accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 206a Transfer International Experience
Units: 1 Max Units: 2.0 Terms Offered: FaSp Experiential study of international business. Analysis of the impacts of global and international business on an industry. International travel required. Registration Restriction: Open only to transfer business and accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 206b Transfer International Experience
Units: 1 Max Units: 2.0 Terms Offered: FaSp Experiential study of international business. Analysis of the impacts of global and international business on an industry. International travel required. Registration Restriction: Open only to transfer business and accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 215x Foundations of Business Finance
Units: 4 Terms Offered: FaSpSm Principles and practices of modern financial management; use of financial statements; valuation of investment; asset pricing under uncertainty; elements of financial decisions. Credit Restriction: Not available for degree credit for accounting or business administration majors Duplicates Credit in BUAD 306 Instruction Mode: Lecture Grading Option: Letter

BUAD 252 Choosing and Planning a Future Career in Business
Units: 2 Terms Offered: FaSpSm Explore and plan for future career choices and options in business. Learn theoretical principles, best practices and strategies, and contemporary workplace issues/trends. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 280 Introduction to Financial Accounting
Units: 3 Terms Offered: FaSpSm Emphasis on understanding financial statements and the impact of business transactions on information presented to management and interested stakeholders. Duplicates Credit in BUAD 305 Instruction Mode: Lecture Grading Option: Letter

BUAD 281 Introduction to Managerial Accounting
Units: 3 Terms Offered: FaSpSm An emphasis on how accounting information, combined with a variety of techniques and best practices, supports enhanced management decision making. *Prerequisite:* BUAD 280 Duplicates Credit in BUAD 305 Instruction Mode: Lecture Grading Option: Letter

BUAD 301 Technology Entrepreneurship
Units: 3 Terms Offered: FaSpSm Starting and managing a technological business: developing a viable concept, market and financial planning, product development, organizing the venture, protecting intellectual property rights. Duplicates Credit in BAEP 310, BAEP 423, BAEP 450, BAEP 451. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGR-301

BUAD 302 Communication Strategy in Business
Units: 4 Terms Offered: FaSpSm Theory, practices, and techniques of business communication strategy essential to external and organizational communication; group and interpersonal communication; development of skill in oral and written communication. Duplicates Credit in the former BUAD 302T Instruction Mode: Lecture Grading Option: Letter

BUAD 304 Organizational Behavior and Leadership
Units: 4 Terms Offered: FaSpSm The role of leadership in business organizations; concepts and skills for managing oneself and others. Registration Restriction: Open only to freshmen, sophomores and juniors Instruction Mode: Lecture Grading Option: Letter

BUAD 305 Abridged Core Concepts of Accounting Information
Units: 4 Terms Offered: FaSp Uses of accounting information in decision-making; accounting issues concerning income and cash flows, economic resources and capital. Registration Restriction: Open only to transfer business and accounting majors Duplicates Credit in BUAD 280 and BUAD 281 Instruction Mode: Lecture Grading Option: Letter

BUAD 306 Business Finance
Units: 4 Terms Offered: FaSpSm Financial problems of business enterprise; function of financial manager; sources of funds; instruments, institutions, and practices of finance; problems of financial management using case studies. *Prerequisite:* BUAD 351 or ECON 351x Duplicates Credit in BUAD 215x Instruction Mode: Lecture Grading Option: Letter

BUAD 307 Marketing Fundamentals
Units: 4 Terms Offered: FaSpSm Develops a managerial viewpoint in planning and evaluating marketing decisions of the firm: products, pricing, channels, promotion, information processing, legal implications,

and marketing in contemporary society. Duplicates Credit in MKT 385x. Instruction Mode: Lecture, Discussion Grading Option: Letter

BUAD 310g Applied Business Statistics
Units: 4 Terms Offered: FaSpSm Statistical methods for business analysis; data exploration and description; sampling distributions; estimation; hypothesis testing, simple and multiple regression; model building. Extensive computer applications. (Duplicates credit in BUAD 312g and the former ITP 251.) Satisfies New General Education in Category F: Quantitative Reasoning Registration Restriction: Open only to undergraduate students Duplicates Credit in BUAD 312g and the former ITP 251 Instruction Mode: Lecture, Discussion Grading Option: Letter

BUAD 311 Operations Management
Units: 4 Terms Offered: FaSpSm Fundamentals of operations management. Skills needed to analyze, manage, and improve business processes. Topics include: process, capacity, service, and inventory management and optimization. *Corequisite:* (BUAD 310g or BUAD 312g or EE 364 or MATH 407) Duplicates Credit in BUAD 311T and BUAD 315x Instruction Mode: Lecture Grading Option: Letter

BUAD 312g Statistics and Data Science for Business
Units: 4 Terms Offered: FaSpSm Statistical methods for business analysis; exploration and visualization of large data sets; simulation; hypothesis testing, multiple regression modeling, and confidence intervals. Extensive computer applications. Satisfies New General Education in Category F: Quantitative Reasoning Registration Restriction: Open only to undergraduate students Duplicates Credit in BUAD 310g and former ITP 251 Instruction Mode: Lecture Grading Option: Letter

BUAD 315x Basics of Project and Operations Management for Non-Majors
Units: 2 Terms Offered: FaSp Introduction to tools and methods for the design, production, and delivery of goods and services. Techniques for planning, monitoring, and controlling complex projects. Registration Restriction: Not open to business and accounting majors and exchange students Duplicates Credit in BUAD 311 and BUAD 311T. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-315

BUAD 351 Economic Analysis for Business Decisions
Units: 4 Terms Offered: FaSpSm Theory of the firm in the enterprise system; profits, demand, and cost analysis; market competition and resource allocation; problems of size efficiency and growth. *Prerequisite:* MATH 118gx or MATH 125g or MATH 126g or MATH 226g *Recommended Preparation:* introductory economics course Registration Restriction: Open only to undergraduate students Duplicates Credit in ECON 351x Instruction Mode: Lecture Grading Option: Letter

BUAD 352 Macroeconomic Analysis for Business Decisions
Units: 4 Terms Offered: FaSpSm Behavior of economic indicators over business fluctuations, economic growth, monetary and fiscal policy, exchange rate movements. *Prerequisite:* ECON 203g and ECON 205g *Corequisite:* BUAD 351 or ECON 351x Registration Restriction: Open only to undergraduate students Duplicates Credit in ECON 352x and former BUAD 350 Instruction Mode: Lecture Grading Option: Letter

BUAD 380x Introduction to Enterprise Risk Management
Units: 4 Terms Offered: FaSp (Enroll in ACCT 380x)

BUAD 385x Introduction to Risk Management and Insurance
Units: 4 Terms Offered: Fa (Enroll in ACCT 385x)

BUAD 387x Risk Management in Entertainment, Sports and the Arts
Units: 4 Terms Offered: FaSp (Enroll in ACCT 387)

BUAD 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

BUAD 425 Data Analysis for Decision Making
Units: 2 Terms Offered: FaSpSm Leveraging large corporate datasets; slice and dice data; dash boards; data mining and statistical tools; neural network; multiple and logistic regression; decision tree; gain inference and decision making; clustering. *Prerequisite:* (BUAD 281 or BUAD 305) and BUAD 302 and BUAD 304 and BUAD 306 and BUAD 307 and (BUAD 310g or BUAD 312g) and BUAD 311 Instruction Mode: Lecture Grading Option: Letter

BUAD 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings under the supervision of a faculty adviser. Application and proposal required. Instruction Mode: Lecture Grading Option: Letter

BUAD 493 Marshall Honors Research Seminar
Units: 2 Terms Offered: Sp Provides the methodological tools to identify research problems, develop researchable hypotheses, apply appropriate methodologies, conduct research, derive meaningful conclusions from data, write a research proposal. Registration Restriction: Open only to Business and Accounting students. Instruction Mode: Lecture Grading Option: Letter

BUAD 494 Marshall Honors Research and Thesis
Units: 2 Max Units: 04 Terms Offered: FaSpSm Experience in conducting research and writing a thesis under the supervision of a faculty adviser. *Prerequisite:* ACCT 493 or BUAD 493 Registration Restriction: Open only to students in the Marshall Honors program Duplicates Credit in ACCT 494 Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 495 Practicum in Business Issues (Internship)
Units: 1 Max Units: 12.0 Combined classroom discussion and structured, supervised field application of business theories and practices within a part-time employment context. Registration Restriction: Open only to: Freshmen, Sophomore, Junior, Senior. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 497 Strategic Management
Units: 4 Terms Offered: FaSpSm Examination of managerial decision-making, planning, and policy under changing environments; readings, cases, exercises, simulations. *Prerequisite:* (ACCT 410x or BUAD 281 or BUAD 305) and BUAD 302 and BUAD 304 and BUAD 307 and (BUAD 310g or BUAD 312g) and (BUAD 351 or ECON 351x) and (BUAD 352 or ECON 352x) Instruction Mode: Lecture Grading Option: Letter

BUAD 498 Special Topics
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: Irregular Selected topics reflecting current trends and recent developments in business. (Graded CR/NC) Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 499 Special Topics
Units: 2, 3, 4 Max Units: 08 Terms Offered: Irregular Selected topics reflecting current trends and recent developments in business. Instruction Mode: Lecture Grading Option: Letter

Business Communication

BUCO 252 The Art of Case Analysis and Presentation
Units: 2 Terms Offered: FaSpSm Develop analytical problem-solving and persuasive presentation skills to successfully analyze strategic business situations and convincingly argue your position in a competitive environment. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MOR-252

BUCO 260 Business Communication Across Cultures
Units: 2 Terms Offered: FaSp Develop intercultural communication competencies, analyze international business situations, build on/or prepare for GLP and LINC trips, internships abroad, and international exchange programs. Instruction Mode: Lecture Grading Option: Letter

BUCO 333mw Communication in the Working World - Managing Diversity
Units: 4 Terms Offered: FaSp Communication strategies to manage workplace diversity. Historical, social, legal precedents. Institutional barriers to diversity. Race, gender, sexual orientation, age, physical disabilities, culture. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

BUCO 425 Ethics and Professional Communication
Units: 4 Terms Offered: FaSp Study the intersection between business and professional leadership, language, and ethics. Analyze and present results to public audiences through publications, professional conferences, ethics case competitions. Instruction Mode: Lecture Grading Option: Letter

BUCO 445 Communicating to Lead and Persuade
Units: 4 Terms Offered: FaSp Building expertise and skill in business communication, both in-person and via media channels, to persuade and lead in

organizational contexts. Instruction Mode: Lecture Grading Option: Letter

BUCO 450 Communication for Organizations: Exploring Creativity
Units: 2 Terms Offered: FaSp Development of individual creative thinking and problem-solving skills; exploration of workplace creativity; advancement of managerial communication skills necessary to foster organizational innovation. Instruction Mode: Lecture Grading Option: Letter

BUCO 458 Managing Communication and New Media
Units: 4 Terms Offered: FaSp Individual and team exploration of 21st century media tools and their impact on communication strategies in business. Course uses social media, collaborative software, virtual immersion, and video conferencing. Instruction Mode: Lecture Grading Option: Letter

BUCO 460 International Business Communication
Units: 4 Terms Offered: FaSp Explore the cultural dynamics and organizational communication models that contribute to successful business practices in multinational corporations and other global settings. Instruction Mode: Lecture Grading Option: Letter

BUCO 485 Business Communication Management for Nonprofits
Units: 4 Communication environment; communication activities for fundraising and visibility; research and evaluation methods; grant proposals; strategies for communicating social mission to media, government and for-profit partners. Instruction Mode: Lecture Grading Option: Letter

BUCO 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Current developments in the field of business communication. Topics vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

BUCO 503 Advanced Managerial Communication
Units: 1.5, 3 Terms Offered: FaSp Optimize individual, interpersonal communication dynamics and advance skill development through executive coaching model and applied business communication theory. *Recommended Preparation:* prior course work or experience in management or business communication Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

BUCO 504T Writing for Accounting and Tax Professionals
Units: 3 Terms Offered: Fa Effective written communication for accounting and tax professionals. Registration Restriction: Open to only graduate accounting and taxation students Instruction Mode: Lecture Grading Option: Letter

BUCO 533 Managing Communication in Organizations
Units: 1.5, 3 Terms Offered: FaSp Analyze, design, develop, and present theory-based communication solutions and strategies to sophisticated interpersonal, group, organizational, and environmental communication issues and problems. *Recommended Preparation:* GSBA 502 or GSBA 523 or GSBA 542. Registration Restriction: Open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BUCO 534 Unconscious Bias, Diversity and Inclusion
Units: 1 Terms Offered: Fa The knowledge, tools, and strategies needed to manage and leverage diversity, inclusion, and equity to achieve organizational effectiveness and success. Registration Restriction: Open only to students in the MS in Food Industry Leadership program Instruction Mode: Lecture Grading Option: Letter

BUCO 536 Leading with Digital Communication
Units: 1.5 Terms Offered: FaSp Theory and practice of communicating via social media and other forms of new media to achieve business goals and build your credibility as a leader. Registration Restriction: Online registration open only to graduate business and accounting majors Instruction Mode: Lecture Grading Option: Letter

BUCO 552 Defining and Communicating Your Professional Value
Units: 1.5 Terms Offered: FaSp Understand how to define and communicate your individual professional identity and value to employers across diverse professional fields using specialized applied tools. Registration Restriction: Online registration open to only graduate accounting and business majors. Instruction Mode: Lecture Grading Option: Letter

BUCO 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 592 Field Research in Management Communication
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the communication practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. *Recommended Preparation:* completion of required MBA course work. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 593 Independent Research in Management Communication
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 595 Internship in Management Communication
Units: 0.5, 1, 1.5, 2 Max Units: 9.0 Terms Offered: FaSpSm Supervised on-the-job business experience in the field of management communication. (Curricular Practical Training.) *Recommended Preparation:* completion of required MBA, MAcc., or MBT course work. Registration Restriction: Open only to Business and Accounting master students Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 596 Research Practicum in Management Communication
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Management Communication faculty member on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 597 Consulting Project in Management Communication
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Registration Restriction: Open only to Master and Doctoral Students. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 Max Units: 9.0 Current developments in the field of business communication. Topics vary from semester to semester. Registration Restriction: Open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BUCO 633 Writing a Journal Article for Publication
Units: 2 Max Units: 4.0 Terms Offered: FaSp Developing strategies for productive academic writing; drafting and revising an article for journal submission. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

BUCO 634 Presenting Your Research
Units: 1 Terms Offered: FaSpSm Oral presentation skills for academic and professional conferences and teaching. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

BUCO 635 Preparing for the Academic Job Market
Units: 1 Terms Offered: FaSpSm Creating job application packets; writing research and teaching philosophy statements; interviewing; preparing the job talk. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

BUCO 636 Communication for Doctoral Students: Tutorial
Units: 1 Max Units: 4.0 Individualized tutorial focusing on academic writing and presentation skills for dissertations, conference papers, and journal articles. *Prerequisite:* BUCO 633 or BUCO 634 or BUCO 635. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 637 Communication for Doctoral Students: Succeeding as a Teacher
Units: 1 Terms Offered: Sm Theories of teaching and learning; strategies for developing course materials; practical advice for managing common challenges; lecturing, leading discussion, creating in-class activities. Instruction Mode: Lecture Grading Option: Credit/No Credit

Cancer Biology and Genomics

CBG 504 Molecular Biology of Cancer
Units: 4, 2 years Terms Offered: Sp (Enroll in INTD 504)

CBG 574 Cancer Biology and Genomics Research Seminar Series
Units: 1 Terms Offered: FaSp Cancer biology research seminar for doctoral students enrolled in the CBG program. Registration Restriction: Open only to doctoral students in Cancer Biology and Genomics Instruction Mode: Lecture Grading Option: Letter

CBG 580 Topics in Cancer (Epi) Genomics
Units: 1.0 Max Units: 12 Terms Offered: FaSp Selected topics in Cancer Biology and Genomics including review of contemporary literature and research. Instruction Mode: Lecture Grading Option: Letter

CBG 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Special topics selected to reflect current trends and new developments in Cancer Biology and Genomics. Instruction Mode: Lecture Grading Option: Letter

CBG 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CBG 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CBG 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CBG 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CBG 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CBG 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Craniofacial Biology

CBY 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

CBY 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

CBY 573 Molecular Embryology
Units: 4 Principles of developmental biology; emphasis on molecular genetics and cell and molecular mechanisms of tissue interaction and morphodifferentiation.

CBY 574 Statistical Methods in Bioexperimentation
Units: 3 Experimental design and analysis as applied to all levels of biologic organization; hypothesis construction; probability; univariate and multivariate analysis; basic epidemiology.

CBY 575 Biologic Basis of Oral-facial Disease
Units: 3 Terms Offered: FaSpSm Cell and molecular biology of oral tissues in disease: emphasis on immunopathology. Duplicates Credit in former CBY 575a.

CBY 576 Biochemical Aspects of Periodontal Disease
Units: 3 Terms Offered: FaSpSm Cell and molecular biology of oral tissues in disease; emphasis on molecular oral pathology. Duplicates Credit in former CBY 575b.

CBY 578 Pathological Conditions of the Craniofacial Complex
Units: 3 Terms Offered: FaSpSm Acquired and inherited, systemic and local disease resulting in clinical craniofacial morbidity: cellular and molecular expression as related to etiology, diagnosis, treatment, and prognosis.

CBY 579L Craniofacial Molecular Genetics
Units: 4 Principles and methodologies of mammalian molecular genetics; laboratory exercises applied to pre- and postnatal craniofacial growth and development.

CBY 580a Seminars in Craniofacial Biology
Units: 2 Seminars presented by recognized researchers in the various disciplines relating to craniofacial biology; selected readings in preparation for discussion. Grading Option: Graded CR/NC.

CBY 580b Seminars in Craniofacial Biology
Units: 2 Seminars presented by recognized researchers in the various disciplines relating to craniofacial biology; selected readings in preparation for discussion. Grading Option: Graded CR/NC.

CBY 582L Laboratory Methods
Units: 3 Contemporary methods of laboratory analysis, including theoretical and practical exposure to procedures and equipment in the research laboratory.

CBY 583 Craniofacial Clinical Genetics
Units: 4 Principles of human genetics; clinically oriented normal and abnormal human embryology; diagnosis and natural history of human craniofacial birth defects; genetic counseling and bioethics.

CBY 585 Systematic Research Writing
Units: 3 Terms Offered: FaSpSm Enhancement of critical research thinking by fulfilling anticipated conceptual components of the journal article; perfection of writing skills by correcting inter- and intra-sentence flaws.

CBY 586x Scientific Writing Practicum
Units: 3 Development of writing skill while completing a discipline-required project (proposal, dissertation, journal article). Seminar and tutorial format. Not for graduate credit. *Prerequisite:* CBY 585 or DENT 402.

CBY 587 Cell and Molecular Biology of Craniofacial Tissues
Units: 3 Contemporary cell and molecular biology as applied to the development, structure, and function of craniofacial tissues.

CBY 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

CBY 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CBY 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CBY 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CBY 599 Special Topics
Units: 2, 3, 4 Max Units: max 8 Seminars on craniofacial biology in subject areas of special interest to faculty and students.

CBY 671 Epistemology and Ethos of Bioscience
Units: 2 Classical and contemporary thought on knowledge acquisition, truth, and method as applied to bioscience; characteristic spirit, beliefs, and moral assumptions of bioscientists in modern history.

CBY 672 Advances in Development and Differentiation
Units: 2 Integration of recent advances in cell and molecular developmental biology into classical and emerging thematic frameworks.

CBY 673 Biomineralization
Units: 2 Fundamental principles and mechanisms of matrix mediated biomineralization in model systems from bacteria to humans.

CBY 674 Advanced Oral Microbiology
Units: 2 Cell and molecular aspects of microbiology as applied to oral infections: microbial physiology and genetics; oral microbial ecology; host resistance factors in oral infections.

CBY 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

CBY 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

CBY 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

CBY 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

CBY 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

CBY 794z Doctoral Dissertation
Units: 0 Credit on acceptance of

dissertation. Grading Option: Graded IP/CR/NC.

Civil Engineering

CE 106 Introduction to Civil Engineering
Units: 2 Terms Offered: Fa Introduction to the civil engineering discipline, subdisciplines, technology and problem solving; technical report writing; contemporary civil engineering topics; engineering ethics. Instruction Mode: Lecture Grading Option: Letter

CE 107L Introduction to Civil Engineering Graphics
Units: 2 Terms Offered: FaSp Graphic communication and drawing; Free-hand sketching; Use of CAD software; Drawing in 2-D, including lettering, dimensioning, and detailing; Drawing and modeling in 3-D. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 108 Introduction to Computer Methods in Civil Engineering
Units: 2 Terms Offered: Sp Computer programming, organization of problems for computational solution, flow charts, programming; numerical methods; analysis and solution of civil engineering problems. Instruction Mode: Lecture Grading Option: Letter

CE 110 Introduction to Environmental Engineering
Units: 2 Terms Offered: Fa Basic concepts of environmental engineering including topics of water, land, energy, air, climate, resource management, human society and professional development. Instruction Mode: Lecture Grading Option: Letter

CE 119 Probability Concepts and Civil Engineering
Units: 2 Terms Offered: FaSp Elements of statistical data exploration, interpretation and analysis. *Corequisite:* MATH 245 Instruction Mode: Lecture Grading Option: Letter

CE 215 Statics and Dynamics
Units: 4 Terms Offered: Fa Statics, kinematics and kinetics of systems of particles and rigid bodies; equivalent force systems; distributed forces and applications; moments of inertia, momentum, energy; vibrations; Euler's equations. *Prerequisite:* PHYS 151Lg Duplicates Credit in former CE 205 and former CE 235 Instruction Mode: Lecture, Discussion Grading Option: Letter

CE 225 Mechanics of Deformable Bodies
Units: 4 Terms Offered: FaSp Analysis of stress and strain; axial, flexural, and torsional behavior of slender bars; elastic deflections; combined stresses; introduction to elastic stability and energy methods. *Prerequisite:* CE 215 Instruction Mode: Lecture, Discussion Grading Option: Letter

CE 309 Fluid Mechanics
Units: 4 Terms Offered: Sp Fluid statics; relative velocity field; total acceleration; divergence theorem; conservation of mass, energy, and momentum applied to engineering problems in laminar and turbulent flow. *Prerequisite:* MATH 226g or MATH 229 *Corequisite:* CE 225 Instruction Mode: Lecture Grading Option: Letter

CE 334L Mechanical Behavior of Materials
Units: 4 Terms Offered: Fa Basic material science, atomic bonding, crystalline structures, structural and mechanical behavior and characterization of metals, concrete, wood, composites and asphalt. *Prerequisite:* (CE 225 or AME 204) and (CHEM 105aLg or CHEM 115aLg) and PHYS 152L Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MASC 334

CE 358L Elementary Theory of Structures
Units: 4 Terms Offered: Fa Deformations and deflections of elastic systems; statically indeterminate beams, arches, and frames; secondary stresses; computer analysis of simple structural systems. *Prerequisite:* CE 225 Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

CE 363L Water Chemistry and Analysis
Units: 4 Terms Offered: Sp Chemistry of water purification technology and water pollution control, chemical processes in natural and engineering environments; physical/chemical and biological characterization of water and wastewater. *Prerequisite:* ENE 200 and (CHEM 105bL or CHEM 115bL) Duplicates Credit in former CE 463 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CE 402 Computer Methods in Engineering
Units: 2 Terms Offered: Sp Application of computer-oriented numerical analysis methods and tools to a broad spectrum of practical science and engineering problems. Use of Python, R and computer algebra. *Prerequisite:* CE 108 and MATH 245 Instruction Mode: Lecture Grading Option: Letter

CE 404 Business and Intellectual Property Law for Engineers
Units: 3 Terms Offered: Fa An examination of legal issues confronting the professional engineer. Topics include the legal system, contracts, risk management, forms of doing business, capital formation and intellectual property rights. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-404

CE 408 Risk and Decision Analysis in Civil Engineering
Units: 2 Terms Offered: FaSp Introduction to probabilistic concepts and to the formulation and solution of related problems in civil and environmental engineering. *Corequisite:* MATH 245 Instruction Mode: Lecture Grading Option: Letter

CE 409aL Computer-Aided Design
Units: 3 Applications of interactive computer graphics to design problems; automated drafting; 3-D graphic algorithms. Analysis of design process from information processing viewpoint. *Prerequisite:* CE 225. Instruction Mode: Lecture, Lab Grading Option: Letter

CE 409bL Computer-Aided Design
Units: 3 Applications of interactive computer graphics to design problems; automated drafting; 3-D graphic algorithms. Analysis of design process from information processing viewpoint. *Prerequisite:* CE 225. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 410L Introduction to Environmental Engineering Microbiology
Units: 4 Terms Offered: Fa Fundamentals and applications of microbiology in the context of natural and engineered environmental systems. *Prerequisite:* BISC 220Lg and (CHEM 105aLg or CHEM 115aLg) and (CHEM 105bL or CHEM 115bL) Duplicates Credit in former CE 210 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 412 Construction Contracts and Law
Units: 2 Terms Offered: Sp Legal aspects of property development and construction: land use, construction practices and specifications, architecture and engineering contracts, agency, subcontracting, professional registration, liability, insurance, liens, bonds. Instruction Mode: Lecture Grading Option: Letter

CE 428 Mechanics of Materials
Units: 3 Analysis of stress and deformation; equations of elasticity; bending of beams; elastic instability; torsion problems; introduction to plates and shells; elastic wave propagation; numerical methods. *Prerequisite:* CE 225. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-428

CE 443 Environmental Chemistry
Units: 3 Terms Offered: Fa Chemistry of water, gas, liquid and solid wastes. Chemical principles applicable to environmental engineering. *Prerequisite:* CHEM 105bL or CHEM 115bL. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-443

CE 450 Basic Coastal Engineering
Units: 3 Terms Offered: FaSp Mechanics of wave motion; wave refraction, diffraction and reflection; wave forecasting; shore processes; planning of coastal engineering projects; design of seawalls, breakwaters and offshore installations. Instruction Mode: Lecture Grading Option: Letter

CE 451 Water Resources and Coastal Engineering
Units: 4 Terms Offered: Sp Control and utilization of inland and coastal water, quantitative hydrology, groundwater, probability concepts, extreme events, coastal hydrodynamics, wave-structures interactions, multiple purposes water projects, economic study. *Prerequisite:* CE 309 Instruction Mode: Lecture Grading Option: Letter

CE 453 Water Quality Science and Engineering
Units: 4 Terms Offered: FaSp Water quality criteria and fundamentals of acceptability; processes employed in treatment of water and wastewater; water reclamation and reuse; sustainability in water and wastewater systems. *Prerequisite:* CHEM 105aLg or CHEM 115aLg *Corequisite:* CE 309 Instruction Mode: Lecture Grading Option: Letter

CE 456 Structural Design I
Units: 4 Terms Offered: FaSp Structural design processes for wood, steel, concrete, and masonry structural beams, columns, and connections; determination of structural loads; framing systems; and applications of structural mechanics to the design process. *Prerequisite:* CE 225 Duplicates Credit in former CE 207 and former CE 478

Instruction Mode: Lecture Grading Option: Letter

CE 457 Structural Design II
Units: 4 Terms Offered: Sp Design of structural systems in wood, steel, concrete and masonry, and the performance of structural systems for wind and seismic forces. *Prerequisite:* CE 358L and CE 456 Duplicates Credit in former CE 207 and former CE 478 Instruction Mode: Lecture Grading Option: Letter

CE 458 Computational Structural Analysis
Units: 4 Terms Offered: Sp Computerized structural analysis; displacement method; force method; large scale structural systems; static analyses; structural dynamics of systems; earthquake engineering; nonlinear analysis; elastic stability and buckling. *Prerequisite:* CE 358L Instruction Mode: Lecture, Lab Grading Option: Letter

CE 459 Introduction to Structural Dynamics
Units: 2 Terms Offered: Fa Response of single and multiple degree of freedom systems to dynamic excitation; structural modeling and approximate solutions; introduction to earthquake resistant design. *Prerequisite:* CE 458 Instruction Mode: Lecture Grading Option: Letter

CE 460 Construction Engineering
Units: 4 Terms Offered: FaSp Introduction to the construction processes; estimating and bidding, construction administration, planning and scheduling, equipment and methods, labor relations, cost control systems, safety and ethics. Instruction Mode: Lecture Grading Option: Letter

CE 461 Construction Estimating
Units: 4 Terms Offered: FaSp Fundamental principles and practices of advanced building cost estimating using Revit Models and industry standard databases. *Recommended Preparation:* CE 460 Registration Restriction: Open only to juniors, seniors and graduate students Instruction Mode: Lecture Grading Option: Letter

CE 462 Construction Methods and Equipment
Units: 2 Terms Offered: FaSp Current procedures in selected fields of construction; organization and planning; equipment economics; machinery. *Recommended Preparation:* CE 460 Registration Restriction: Open only to juniors, seniors and graduate students Instruction Mode: Lecture Grading Option: Letter

CE 464 Geotechnical Engineering
Units: 3 Fundamentals of soil mechanics and foundation engineering; soil classification, seepage, stress-strain behavior, shear strength, consolidation, design of retaining structures and foundations, and slope stability. Instruction Mode: Lecture, Lab Grading Option: Letter

CE 465 Water Supply and Sewerage System Design
Units: 4 Terms Offered: Sp Design of water supply systems, storm drains, sanitary sewers, and lift stations. *Prerequisite:* CE 453 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE 465

CE 467L Geotechnical Engineering
Units: 4 Terms Offered: Sp Fundamentals of geotechnical engineering; soil classification, seepage, stress-strain behavior, shear strength, consolidation, design of retaining structures and foundations, and slope stability. Soil testing. *Prerequisite:* CE 225. Duplicates Credit in CE 464. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 469 Sustainable Design and Construction
Units: 2 Terms Offered: Fa Leadership in Energy and Environmental Design (LEED); green building strategies; carbon footprinting; calculating the embodied energy of building materials; cyclical processes in design and construction. Instruction Mode: Lecture Grading Option: Letter

CE 470 Building Information Modeling: Project Visualization and Simulation for Management
Units: 4 Terms Offered: Sp Building Information Modeling, current BIM technologies; coordination of design and construction; information management throughout building lifecycle; project visualization and simulation for integrated practice. Registration Restriction: Open only to juniors, seniors and graduate students Instruction Mode: Lecture Grading Option: Letter

CE 471 Principles of Transportation Engineering
Units: 4 Terms Offered: Fa Planning, design, construction, maintenance, and operation of facilities for air, water, rail and highway transit systems. *Prerequisite:* MATH 226g or MATH 227 or MATH 229 Instruction Mode: Lecture Grading Option: Letter

CE 473 Engineering Law, Finance and Ethics
Units: 3 Terms Offered: Fa An examination of the legal, financial and ethical issues regularly considered by all practicing engineers. Instruction Mode: Lecture Grading Option: Letter

CE 476 Design of Hydraulic Systems
Units: 4 Terms Offered: Fa Design of pressurized and free surface hydraulic systems, piping networks, surge suppression, pumps, turbines, submarine outfalls, water wave interactions with marine structures, breakwater design. *Prerequisite:* CE 309 Duplicates Credit in former CE 466 Instruction Mode: Lecture Grading Option: Letter

CE 478 Timber and Masonry Design
Units: 3 Terms Offered: Fa Characteristics and properties of wood; beams, columns, trusses, connectors, and diaphragms. Properties of masonry, working stress and strength design, seismic design requirements. *Prerequisite:* CE 207, CE 225. Instruction Mode: Lecture Grading Option: Letter

CE 480 Civil and Environmental Engineering Capstone Design
Units: 4 Terms Offered: Sp Civil and Environmental Engineering capstone design project incorporating all disciplines of Civil Engineering and Environmental Engineering. *Prerequisite:* CE 408 and (CE 456 or CE 457 or CE 476 or CE 485) Instruction Mode: Lecture Grading Option: Letter

CE 482 Subsurface Foundation Design
Units: 4 Terms Offered: Fa Site exploration and characterization; analysis and design of structural foundations, including spread footings, mats, piles and drilled shafts; retaining wall and braced excavation design. *Prerequisite:* CE 467L Instruction Mode: Lecture Grading Option: Letter

CE 484 Water Treatment Design
Units: 3 Terms Offered: Fa Predesign studies, precipitation softening, coagulation and flocculation, sedimentation, filtration, sludge handling, chlorination, chloramination, ozonation; plant hydraulics, flow measurement, pumps, instrumentation and control, tertiary treatment. *Prerequisite:* CE 451. Instruction Mode: Lecture Grading Option: Letter

CE 485 Water Treatment Design
Units: 4 Terms Offered: Sp Engineering design of unit operations and unit processes for municipal wastewater treatment, including preliminary, primary, secondary, tertiary, and advanced treatments; disinfection; sludge treatment; sidestream treatment. *Prerequisite:* CE 453 and CE 363L Instruction Mode: Lecture Grading Option: Letter

CE 486a Innovation in Engineering and Design for Global Crises
Units: 3 Terms Offered: Fa Engineering innovation to design products, services and technologies with a human-centered approach to help solve the needs of people affected by global crises. Instruction Mode: Lecture Grading Option: Letter

CE 486b Innovation in Engineering and Design for Global Crises
Units: 3 Terms Offered: Sp Engineering innovation to design products, services and technologies with a human-centered approach to help solve the needs of people affected by global crises. *Prerequisite:* CE 486a Instruction Mode: Lecture Grading Option: Letter

CE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CE 495 Seminars in Civil Engineering
Units: 1 Terms Offered: FaSp Information necessary for successful transition to engineering practice with emphasis on substantive engineering topics, employee rights and responsibilities, communication skills, ethic and lifelong learning. Instruction Mode: Lecture Grading Option: Credit/No Credit

CE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content to be selected each semester from recent developments in civil engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

CE 501 Construction Practices
Units: 4 Terms Offered: FaSp Systems, processes, and constraints governing the initiation, direction, engineering, and delivery of major construction projects. Professional construction management, responsibilities, and practice. Instruction Mode: Lecture Grading Option: Letter

CE 502 Construction Accounting, Finance and Strategy
Units: 4 Terms Offered: FaSp Fundamental accounting principles, financial analysis and financial control, strategic management and a review of alternative project delivery methods. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 502

CE 503 Microbiology for Environmental Engineers
Units: 3 Basic microbiology of water, air, and soil. Application of microbiology to the practice of environmental pollution control. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-503

CE 504 Solid Waste Management
Units: 3 Characterization, production, storage, collection, and transport of solid wastes; alternative disposal methods; design principles and environmental impact; management of radiological solid wastes. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-504

CE 505 Data Management for Civil and Environmental Engineering
Units: 2 Terms Offered: Fa The basics of databases and database management systems as applied to engineering problems. Introduction to data mining concepts, techniques and knowledge discovery in database principles. Instruction Mode: Lecture Grading Option: Letter

CE 506 Heavy Construction Estimating
Units: 3 Terms Offered: Fa Methods engineering, work analysis and pricing for route construction. Grading, draining, paving, haul economy, plant-materials production, pipeline and bridge building. Instruction Mode: Lecture Grading Option: Letter

CE 507 Mechanics of Solids I
Units: 4 Terms Offered: Fa Fundamental theory of linear elasticity applicable to multiple branches of solid mechanics. *Recommended Preparation:* Expected to have knowledge of mechanics of deformable bodies or solid mechanics on the level of CE 225 or AME 204 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 507

CE 508 Mechanics of Solids II
Units: 3 Thermal stresses; introduction to elastic stability; yield criteria; constitutive equations for elastoplastic materials; elastoplastic stress analysis; viscoelasticity and creep. *Prerequisite:* CE 507 or CE 428. Instruction Mode: Lecture Grading Option: Letter

CE 509 Mechanics of Solids III
Units: 3 Advanced topics in mechanics of solids; complex variable methods for plane problems; three-dimensional problems; introduction to fracture mechanics. *Prerequisite:* CE 507. Instruction Mode: Lecture Grading Option: Letter

CE 510 Groundwater Management
Units: 3 Groundwater hydrology, aquifer testing technology, groundwater quality and contamination, geophysical method, well design and development, basin water balance, computer modeling, legal aspects, groundwater management system. Instruction Mode: Lecture Grading Option: Letter

CE 511 Flood Control Hydrology
Units: 3 Flood frequency, storm characteristics, net rain; surface drainage, peak discharge, flood runoff. Instruction Mode: Lecture Grading Option: Letter

CE 514a Advanced Sanitary Engineering Design
Units: 3 Design of water and waste treatment works. *Prerequisite:* CE 453. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-514a

CE 514b Advanced Sanitary Engineering Design
Units: 3 Design of water and waste treatment works. *Prerequisite:* CE 453. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-514B

CE 516 Geohydrology
Units: 3 Principles of groundwater motion; acquifer characteristics, prospecting, practical engineering problems, well design, maintenance and rehabilitation; hydrodynamic dispersion, field testing essentials and procedures, groundwater quality, artificial recharge. Instruction Mode: Lecture Grading Option: Letter

CE 517 Industrial and Hazardous Waste Treatment and Disposal
Units: 3, 2 years Terms Offered: Sm Physical, chemical, and biological treatment processes for industrial and hazardous wastes; pretreatment systems, biodegradation of toxic chemicals; groundwater and soil decontamination; biofilters for air decontamination. *Prerequisite:* CE 463L . Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-517

CE 518 Carbon Capture and Sequestration
Units: 3 The needs for carbon capture and sequestration (CCS) and systematic introduction to CCS technologies. Main topics include: introduction to global change, world energy consumption, greenhouse gases control, carbon capture and separation, and carbon sequestration. Instruction Mode: Lecture Grading Option: Letter

CE 519 Transportation Engineering
Units: 3 Principles of analysis and planning. Characteristics of transportation systems. Urban and regional systems. Relationship between environment and transportation systems. Estimating the impact of decisions. Instruction Mode: Lecture Grading Option: Letter

CE 520 Ocean and Coastal Engineering
Units: 4 Terms Offered: Sp Introduction to coastal engineering. Basic wave kinematics and dynamics, long wave theory, tsunamis, effects of climate change and coastal reliance. *Recommended Preparation:* Knowledge of fluid mechanics on the level of CE 309 or ENE 410, and partial differential equations on the level of CE 526 Duplicates Credit in former CE 520a and former CE 520b Instruction Mode: Lecture Grading Option: Letter

CE 522 Groundwater Hydrologic Modeling
Units: 3 Simulation of groundwater hydrologic processes through mathematical, analog, and physical models. Instruction Mode: Lecture Grading Option: Letter

CE 523 Physiochemical Processes in Environmental Engineering
Units: 4 Terms Offered: Fa Concepts and applications of physicochemical processes in engineered systems, including coagulation, sedimentation, filtration, adsorption and membrane processes. *Prerequisite:* CE 453 *Recommended Preparation:* CE 363L and CE 485 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE 523

CE 525 Engineering Mathematical Analysis
Units: 3 Terms Offered: Sp Engineering problems discussed on a physical basis with solutions via mathematical tools: Vector analysis; functions of complex variables, infinite series, residues and conformal mappings. Duplicates Credit in the former CE 525a. Instruction Mode: Lecture Grading Option: Letter

CE 526 Engineering Mathematical Methods
Units: 4 Terms Offered: Fa Engineering problems discussed on a physical basis with solutions via mathematical tools: Fourier series; Fourier and Laplace transforms; partial differential equations, wave and Laplace equations. *Recommended Preparation:* Knowledge of differential equations on the level of MATH 245 Instruction Mode: Lecture Grading Option: Letter

CE 527 Climate Change and Atmospheric Aerosols
Units: 4 Terms Offered: Fa (Enroll in ENE 527)

CE 528 Seismic Analysis and Design of Reinforced Concrete Bridges
Units: 3 Terms Offered: Sp Fundamental concepts, methods and current codes used in the analysis and design of reinforced concrete bridge structures. Experimental and earthquake observations of bridge performance. *Prerequisite:* CE 457; *Recommended Preparation:* CE 538. Instruction Mode: Lecture Grading Option: Letter

CE 529 Finite Element Analysis
Units: 4 Terms Offered: Fa Basic concepts; variational methods; isoparametric formulation; plane stress; plane strain; axisymmetric structures; plates and shells; structural dynamics; stability and buckling; computer applications; nonlinear analysis. *Recommended Preparation:* Knowledge in strength of materials equivalent to CE 225 or AME 204; Extensive knowledge of MATLAB at the level of CE 108 Duplicates Credit in former CE 529a and former CE 529b Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as AME 528

CE 530 Nonlinear Mechanics
Units: 3 Nonlinear problems in structural dynamics; elastic-plastic response; approximate methods of nonlinear analysis; stability theory; stability of periodic nonlinear oscillations; Liapounov's method; nonlinear buckling problems. Instruction Mode: Lecture Grading Option: Letter

CE 531 Soil Mechanics
Units: 3 Soil formation; clay mineralogy; steady state seepage; mechanical coupling between interstitial water and soil skeleton; experimental soil behavior and its modeling with constitutive equations. *Prerequisite:*

CE 464. Instruction Mode: Lecture Grading Option: Letter

CE 532 Principles of Foundation Engineering
Units: 3 Fundamental methods in foundation engineering; plastic collapse, limit equilibrium, bearing capacity, slope stability; soil-structure interaction; application of numerical methods, finite differences and finite elements. *Prerequisite:* CE 464. Instruction Mode: Lecture Grading Option: Letter

CE 533 Geotechnical Earthquake Engineering
Units: 4 Terms Offered: Sp Fundamental and design-oriented understanding of the "state-of-the-practice" of geotechnical earthquake engineering, related to analysis and design of foundations, slopes and retaining walls. *Recommended Preparation:* Knowledge of soil phase parameters and phase relations; effective stress concepts; and soil strength parameters and laboratory strength testing procedures on the level of CE 467L Instruction Mode: Lecture Grading Option: Letter

CE 534 Design of Earth Structures
Units: 3 Designed to provide a thorough understanding of the analytical and design principles underlying the construction of a broad range of earth structures. Instruction Mode: Lecture Grading Option: Letter

CE 535 Earthquake Engineering: Strong Motion Studies
Units: 2 Terms Offered: Fa Earthquake source mechanisms; wave propagation, scattering, diffraction and amplification; scaling of strong ground motion for seismic hazard analysis for earthquake resistant design. Instruction Mode: Lecture Grading Option: Letter

CE 537 Advanced Reinforced Concrete
Units: 4 Terms Offered: Fa Advanced beam flexural analysis; shear behavior of beams; beam-columns and interaction diagrams; torsion; structural wall design; analysis of D-regions; nonlinear behavior of RC systems. *Recommended Preparation:* CE 457; CE 225 or AME 204; CHEM 105aLg or CHEM 115aLg; PHYS 152L Instruction Mode: Lecture Grading Option: Letter

CE 538 Prestressed Concrete
Units: 2 Terms Offered: Fa Introduction to the concept, principles and applications of prestressed concrete; covers the analysis and design of prestressed concrete structures. *Recommended Preparation:* Expected to have knowledge of reinforced concrete design on the level of CE 457 Instruction Mode: Lecture Grading Option: Letter

CE 539 Advanced Steel Structures
Units: 4 Terms Offered: Fa Structural steel and its properties, the design of typical steel buildings and design and performance of steel buildings for earthquake loads. *Recommended Preparation:* Steel structure design knowledge on the level of CE 457 Instruction Mode: Lecture Grading Option: Letter

CE 540 Modeling and Analysis of Tall and Special Structures
Units: 2 Terms Offered: Sp Integration of structural modeling with the analysis and design of tall and special structures to resist earthquake motion through inelastic response. *Prerequisite:* CE 529 and CE 541 *Recommended Preparation:* Experience with ETABS and SAP Instruction Mode: Lecture Grading Option: Letter

CE 541 Dynamics of Structures
Units: 4 Terms Offered: Fa Forced vibrations of discrete and distributed systems; energy methods; analytical dynamics; computational techniques; approximate methods; random vibration concepts; nonstationary response; structural control; nonlinear system response. Registration Restriction: Open only to graduate students Duplicates Credit in former CE 541a and former CE 541b Instruction Mode: Lecture Grading Option: Letter

CE 542 Theory of Plates and Shells
Units: 2 Terms Offered: Sp Theory of plate bending; rectangular and circular plates; energy methods; numerical methods; vibration of plates, stability of plates, introduction to shell theory, membrane and bending stresses, cylindrical shells. *Recommended Preparation:* CE 358L or equivalent Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 542

CE 543 Structural Instability and Failure
Units: 4 Terms Offered: Sp Stability analysis of columns, frames, plates, circular rings and shells; Energy-based method; Dynamic analysis of structural stability; Elastic fracture mechanics; Small-strain plasticity. *Recommended Preparation:* Undergraduate strength of materials class on the level of CE 225 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 543

CE 545a Advanced Finite Element Method in Structural and Continuum Mechanics
Units: 3 Finite elements in nonlinear mechanics, elasticity, plasticity, viscoelasticity; advanced finite element applications in fracture mechanics, heat transfer, fluid mechanics; computational implementation of finite element method. *Prerequisite:* CE 529a . Instruction Mode: Lecture Grading Option: Letter

CE 545b Advanced Finite Element Method in Structural and Continuum Mechanics
Units: 3 Mathematical aspects of the finite element method; correctness of discretizations for elliptic, parabolic, and hyperbolic equations; accuracy and convergence considerations; stability of time dependent algorithms. *Prerequisite:* CE 545a. Instruction Mode: Lecture Grading Option: Letter

CE 546 Structural Mechanics of Composite Materials
Units: 2 Terms Offered: Sp Structural mechanics and applications of composites are discussed: anisotropic materials; laminated composites; buckling and dynamics; strength and failure; inter-laminar stresses; de-lamination; design considerations. *Recommended Preparation:* CE 358L or equivalent Instruction Mode: Lecture Grading Option: Letter

CE 547 Earthquake Engineering: Response of Structures
Units: 4 Terms Offered: Fa Develop skills for using current knowledge about structural response in the design of earthquake resistant structures. Instruction Mode: Lecture Grading Option: Letter

CE 548 Timber and Masonry Design
Units: 2 Terms Offered: Fa Introduction to the design of timber and masonry structures including seismic design of wood and masonry structural systems. Instruction Mode: Lecture Grading Option: Letter

CE 549 Building Design Project
Units: 3 Terms Offered: Sp Integrated design project following design office procedures. A building will be designed in detail using the team approach. Capstone for MEng in Structural Design. *Prerequisite:* CE 459 or CE 541a , CE 458 or CE 529a , CE 537; *Corequisite:* CE 539. Instruction Mode: Lecture Grading Option: Letter

CE 550 Computer-Aided Engineering
Units: 3 Basic concepts of computer-aided engineering. Modeling; simulation; visualization; optimization; artificial intelligence; manufacturing; information management. Organization and management of computer-aided engineering projects. Instruction Mode: Lecture Grading Option: Letter

CE 551 Computer-Aided Engineering Project
Units: 3 Computer-aided engineering in a project environment. Responding to RFPs; conceptual design; preliminary analysis; overall and detailed analysis and design; trade-off studies; project management; project presentation. Instruction Mode: Lecture Grading Option: Letter

CE 552 Managing and Financing Public Engineering Works
Units: 3 Terms Offered: FaSpSm Tools for improving the efficiency and effectiveness of public engineering works, taking into account the political and policy context. *Recommended Preparation:* microeconomic theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD-552

CE 553 Biological Processes in Environmental Engineering
Units: 4 Terms Offered: Sp Design of aerobic and anaerobic biological treatment processes for organic and inorganic pollutant removal and resource recovery from waste streams. *Prerequisite:* CE 453 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE 553

CE 554 Risk and Reliability Analysis for Civil Infrastructure Systems
Units: 3 Terms Offered: Sp Elements of feasibility, reliability, and risk analysis of civil infrastructure systems, simulation, optimization, life-cycle cost, evaluation and decision making. Instruction Mode: Lecture Grading Option: Letter

CE 555 Underwater Structures
Units: 3 Loads on underwater structures; stress analysis of typical structural elements; buckling problems; dynamic response. *Prerequisite:* CE 507. Instruction Mode: Lecture Grading Option: Letter

CE 557 Advanced Building Estimating
Units: 3 Terms Offered: Sp Processes in compiling a bid for construction of nonresidential building. Instruction Mode: Lecture Grading Option: Letter

CE 558 International Construction and Engineering
Units: 3 Terms Offered: Sp Business development and project management

in international markets. Topics include marketing, planning, contracts and negotiations, procurement, logistics, personnel and financing. Construction operations in adverse environments. Instruction Mode: Lecture Grading Option: Letter

CE 559 Strategic Planning in Construction Engineering
Units: 3 Terms Offered: Sp Elements and techniques of strategic planning for construction engineering. Fundamentals of engineering as a service sector enterprise. Assessment of markets (including international issues), competitors, and technology. Aspects of overseas engineering business. Management of technology and the role of R&D. Emphasis on concepts. *Recommended Preparation:* CE 502. Instruction Mode: Lecture Grading Option: Letter

CE 560 Simulation of Civil Infrastructure Systems Performance
Units: 3 Time/space and frequency/ wave number domain analysis, spectral representation of wind, earthquake and other natural loads, FEM techniques for system response simulation. Instruction Mode: Lecture Grading Option: Letter

CE 561 Uncertainty Quantification and Data Analytics in Civil and Mechanical Engineering
Units: 4 Terms Offered: Fa Data analysis and interpretation in the context of civil and mechanical engineering applications with a focus on statistical aspects of data and models. *Recommended Preparation:* Elementary statistics and probability concepts including introduction to statistical dependence expectation and probability distribution functions on the level of CE 408 Instruction Mode: Lecture Grading Option: Letter

CE 562 Aquatic Chemistry
Units: 4 Terms Offered: Sp (Enroll in ENE 562)

CE 563 Chemistry and Biology of Natural Waters
Units: 3 Chemical and biological limnology; cycles of carbon, nitrogen, phosphorous, sulfur, and other biologically-mediated chemical transformations; effect of pollution on biology and chemistry of natural waters. *Prerequisite:* CE 443 and CE 453. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-563

CE 564 Construction Planning and Preconstruction
Units: 4 Terms Offered: Fa The steps and processes for the planning and pre-construction phases of a project using tools and technologies for budgeting, scheduling and planning. *Recommended Preparation:* Knowledge of construction practices at the level of CE 501 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

CE 565 Wave Propagation in Solids
Units: 3 Elastic waves in infinite and semi-infinite regions; plates and bars; steady-state and transient scattering; dynamic stress concentration; viscoelastic and plastic bodies. Instruction Mode: Lecture Grading Option: Letter

CE 567 Smart Infrastructures
Units: 3 Examination of smart infrastructures relating to energy, water, waste and transportation drawing from the fields of engineering, sustainability, communications, sociology, and psychology. Instruction Mode: Lecture Grading Option: Letter

CE 568 Fundamental Concepts of Computing and Programming in Civil and Environmental Engineering
Units: 2 Terms Offered: Sp Concepts of computing and programming related to engineering; Form and operation of modern computational devices; Data structures and algorithms that support CEE software applications. Registration Restriction: Open only to civil and environmental engineering graduate students Instruction Mode: Lecture Grading Option: Letter

CE 569 Project Controls
Units: 4 Terms Offered: FaSp Project controls principles including costs and schedules, cost engineering concepts, schedule development, status evaluation, progress monitoring and responses to variances and changes. Duplicates Credit in former CE 556 and former CE 566 Instruction Mode: Lecture Grading Option: Letter

CE 570 Building Information Modeling for Collaborative Construction
Units: 3 Terms Offered: Sp Multidisciplinary and geographically distributed virtual project teams used to simulate engineering and construction problems for projects selected in collaboration with industry partners. *Prerequisite:* CE 470; *Recommended Preparation:* CE 556, CE 566. Instruction Mode: Lecture Grading Option: Letter

CE 571 Nuclear Safety and Security: Human Performance and Safety Culture
Units: 3 Provides an overview of human-systems integration considerations, human performance and safety culture in the nuclear power operations. Instruction Mode: Lecture Grading Option: Letter

CE 572 Construction Labor Management
Units: 2 Unionism in construction. Craft tradition, objectives, regulation, motivation, labor force economics, productivity, and technical change. Hiring systems, supervision of project labor operations, jurisdictional administration.

CE 573 Advanced Technologies in AEC Practices
Units: 4 Terms Offered: Fa Data-centric engineering paradigms, modeling and simulation technologies; applications for Architecture, Engineering and Construction (AEC) projects or challenges. Instruction Mode: Lecture Grading Option: Letter

CE 574 Construction Means and Methods
Units: 4 Terms Offered: Fa Job site logistics, field management, means and methods as they pertain to the builder, with an emphasis on constructability, productivity and schedule impacts for building construction. Instruction Mode: Lecture Grading Option: Letter

CE 575 Sustainability, Well-Being and Innovation in the Built Environment
Units: 4 Terms Offered: Sp Exploration of topics in sustainability, well-being and innovation in the built environment. Specifically, sustainable and healthy built environments; metrics and initiatives; end-user interactions; and innovation. Instruction Mode: Lecture Grading Option: Letter

CE 576 Invention and Technology Development
Units: 3 This project-oriented course elaborates on the process of engaging creative thought, tools and techniques for invention, and issues involved in bringing inventions to the production phase. Duplicates Credit in former ISE 555 Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as ENGR 576, SAE 576

CE 578 Technology-Enabled Architecture, Engineering and Construction (AEC) Projects
Units: 4 Terms Offered: Sp Integration of architecture, engineering and construction practices through the development of a construction project. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCH 578

CE 579 Introduction to Transportation Planning Law
Units: 2 Terms Offered: FaSm Federal and state statutory and regulatory requirements affecting California transportation systems, including transportation planning and funding law; and government contracting, environmental and civil rights requirements. *Recommended Preparation:* General background in either planning or engineering; should have an interest in transportation, but no prior coursework in transportation is needed Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD 588

CE 580 Law and Finance for Engineering Innovation
Units: 3 (Enroll in ISE 565)

CE 581 Negotiation For Engineering Management
Units: 3 Terms Offered: Sp (Enroll in ISE 581)

CE 582 Transportation System Security and Emergency Management
Units: 4 Terms Offered: FaSp Multimodal transportation resilience with emphasis on transit systems. Principles of emergency management, preparedness, vulnerability assessment, countermeasures. Related topics in policy and economics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD 582

CE 583 Design of Transportation Facilities
Units: 4 Terms Offered: Sp Planning, design, staging, construction, test and maintenance of the public works and facilities for land, water, and air transportation. *Recommended Preparation:* CE 471 and CE 457; probility and statistics on the level of CE 408. This course is primarily for graduate engineering students. It is not appropriate for applied social science students. Instruction Mode: Lecture Grading Option: Letter

CE 584 Intelligent Transportation Systems
Units: 4 Terms Offered: FaSp Fundamentals of intelligent transportation systems, including automated vehicle technology and applications, communication systems, advanced transportation management systems, policy issues, transportation network services and smart cities. *Recommended Preparation:* Prior

coursework in transportation engineering at the level of CE 471 or PPDE/CE 637 Registration Restriction: Note that this course is primarily for graduate engineering students, but is accessible to applied social science students if they have a special interest in the topic, particularly if they have an undergraduate engineering background. Students who are unsure of their preparation should consult with the instructor, who will help make a careful determination of whether students are likely to succeed in the course. Instruction Mode: Lecture Grading Option: Letter

CE 585 Traffic Engineering and Control
Units: 3 Terms Offered: Sp Conceptual engineering geometric design, installation, and calibration of vehicular storage and traffic controls; safe flow optimization of vehicles on various thoroughfares. *Recommended Preparation:* CE 471. Instruction Mode: Lecture Grading Option: Letter

CE 586 Modeling Transportation Network Supply and Demand
Units: 4 Terms Offered: Sp Theories and applications of transportation network demand and supply models and simulation techniques. Hands-on opportunities to work with simulation software to solve problems. *Recommended Preparation:* Undergraduate engineering background or the equivalent, including basic knowledge of 1 programing language, statistics and optimization (such as linear programming). Instruction Mode: Lecture, Discussion Grading Option: Letter

CE 587 Transportation Energy Analysis
Units: 3 Energy consumption and socioeconomic impacts of past, present, and future transportation systems; analysis of alternatives between energy-intensive and low-cost transportation modes. Instruction Mode: Lecture Grading Option: Letter

CE 588 Railroad Engineering
Units: 3 Railroad infrastructure including passenger and freight operations, track alignment (horizontal and vertical) design, basic components and terminology used in rail design and an understanding of this mode of transportation. *Recommended Preparation:* CE 471. Instruction Mode: Lecture Grading Option: Letter

CE 589 Port Engineering: Planning and Operational Analysis
Units: 4 Terms Offered: SpSm Marine port/terminal and landside logistics systems and support facilities. Planning, design, operational efficiency and advanced technologies. *Recommended Preparation:* General background in either planning or engineering; should have an interest in transportation and logistics with some prior related coursework Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 589, PPD 589

CE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CE 591 Civil and Environmental Engineering Research Colloquium
Units: 1 Max Units: 02 Terms Offered: FaSp A forum for the exploration and critical assessment of current research activities in civil and environmental engineering; presentations from academia and industry. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as ENE 591

CE 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 09 Course content will be selected each semester to reflect current trends and developments in the field of civil engineering. Instruction Mode: Lecture Grading Option: Letter

CE 603 System Identification
Units: 4 Terms Offered: FaSp Methods for building linear and nonlinear dynamical models from input and output time series data; theoretical models, algorithms, and toolbox implementation. *Prerequisite:* EE 482 or AME 451 *Recommended Preparation:* Basic probability (e.g., CE 408, EE 364, or MATH 407); Exposure to basic optimization (e.g., ISE 330 or ISE 536) Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 603

CE 611 Stochastic Modeling and Simulation
Units: 3 Stochastic methods for modeling and simulating physical, chemical and biological processes. Topics include: Stochastic partial differential equations, Monte Carlo simulations, moment equation methods, stochastic expansions. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PTE-611, CHE-611

CE 629 Advanced Finite Element Analysis
Units: 2 Terms Offered: Sp Nonlinear mechanics; geometric nonlinearity; total Lagrangian and updated Lagrangian formulations; hyperelasticity, plasticity, viscoelasticity; computational fluid mechanics; static and eigenvalue solvers; geometric modeling, meshing and optimization. *Prerequisite:* CE 529a or CE 529 Duplicates Credit in former CE 529b Instruction Mode: Lecture Grading Option: Letter

CE 633 Urban Transportation Planning and Management
Units: 4, 2 years Terms Offered: Fa (Enroll in PPD 633)

CE 634 Institutional and Policy Issues in Transportation
Units: 4 Terms Offered: Sp (Enroll in PPD 634)

CE 637 Urban Mass Transit
Units: 4 Terms Offered: Fa (Enroll in PPDE 637)

CE 638 Stochastic Optimization
Units: 3 Terms Offered: FaSp (Enroll in ISE 638)

CE 640 Advanced Theory of Elasticity
Units: 3 Curvilinear tensors; equations of nonlinear elasticity; elementary solutions; small deformations superimposed on large deformations; bifurcation of equilibrium states; nonlinear shell theory. *Prerequisite:* CE 507. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-640

CE 645 Uncertainty Modeling and Stochastic Optimization
Units: 3 Introduction to the mathematical foundations, numerical algorithms, and computational tools necessary for solving problems of optimization under uncertainty. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-645, ISE-645, EE-645

CE 647 Multiscale Methods in Mechanics
Units: 3 Behavior of man-made and natural materials at different scales; experimental methods to characterize behavior; governing equations, interscale coupling, information exchange; probabilistic representations; error analysis. *Prerequisite:* AME 525 or AME 526 or CE 525 or CE 526. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-647

CE 670 Advanced Research Methods for Built Environment Informatics
Units: 3 Terms Offered: FaSp Research methods in informatics for intelligent built environments; data acquisition, analysis and interpretation for adaptive and responsive built environments and their interactions with end users. Instruction Mode: Lecture Grading Option: Letter

CE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Laboratory study of specific problems by candidates for the degree Engineer in Civil Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

CE 692 Transportation and the Environment
Units: 4 Terms Offered: Sp (Enroll in PPD 692)

CE 694a Thesis
Units: 2 Required for the degree Engineer in Civil Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 694b Thesis
Units: 2 Required for the degree Engineer in Civil Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 694z Thesis
Units: 0 Required for the degree Engineer in Civil Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Community Oral Health

COH 593a Capstone Project
Units: 2 Terms Offered: FaSpSm Guided learning of the research process by the design and implementation of an approved project. Instruction Mode: Lecture Grading Option: Letter

COH 593b Capstone Project
Units: 2 Terms Offered: FaSpSm Independent study to prepare an oral defense of the Capstone project. *Prerequisite:* COH 593a Instruction Mode: Lecture Grading Option: Letter

COH 701 Community Health Sciences
Units: 2 Terms Offered: FaSpSm Examination of common theoretical and conceptual models, health education methodologies and emerging technology to provide health services in community settings. Instruction Mode: Lecture Grading Option: Letter

COH 702 Social and Behavioral Sciences
Units: 2 Terms Offered: FaSpSm Social and behavioral factors of diverse groups that can affect the health status and choices of communities. Instruction Mode: Lecture Grading Option: Letter

COH 703 Community Health Program Planning and Implementation
Units: 2 Terms Offered: FaSpSm Introduction to the concepts and processes used in evidence-based community oral health program development. Instruction Mode: Lecture Grading Option: Letter

COH 704 Environmental Health Sciences
Units: 3 Terms Offered: FaSpSm Environmental factors affecting community health and evidence-based approaches to control or reduce the risks of these health problems. Instruction Mode: Lecture Grading Option: Letter

COH 705 Research and Biostatistics in Healthcare
Units: 2 Terms Offered: FaSpSm Introduction to research processes; emphasizes methods and designs frequently used to study health and health care delivery. Instruction Mode: Lecture Grading Option: Letter

COH 706 Foundations and Strategies in Health Education
Units: 2 Terms Offered: FaSpSm Examines the impact of education in community oral health, identifying strategies to engage and empower the members of the community to achieve health and wellness. Instruction Mode: Lecture Grading Option: Letter

COH 707 Epidemiology
Units: 2 Terms Offered: FaSpSm The fundamental understanding of epidemiology that concerns various domains and disciplines; application of epidemiologic principles in community oral health projects. Instruction Mode: Lecture Grading Option: Letter

COH 708 Community Health Science Administration, Assessment and Evaluation
Units: 2 Terms Offered: FaSpSm Development of foundational knowledge and skills to be administrative and executive leaders in the healthcare industry. Instruction Mode: Lecture Grading Option: Letter

COH 709 Community Health Program Execution and Communication
Units: 2 Terms Offered: FaSpSm Development of communication skills as an administrator, including social marketing techniques for health promotion. Instruction Mode: Lecture Grading Option: Letter

COH 710 Health Assessment
Units: 2 Terms Offered: FaSpSm The importance of health assessment; identification of strategies to understand the needs and priorities of a healthy community. Instruction Mode: Lecture Grading Option: Letter

COH 711 Practicum 1
Units: 1 Terms Offered: FaSpSm Provides the opportunity to apply acquired competencies to real world settings to improve health promotion and disease prevention. Instruction Mode: Lecture Grading Option: Letter

COH 712 Practicum 2
Units: 1 Terms Offered: FaSpSm Incorporates a service learning approach involving a partnership between the student, community organization and designated faculty or research team members. Instruction Mode: Lecture Grading Option: Letter

COH 713 Health Education and Promotion
Units: 2 Terms Offered: FaSpSm Development of an action plan for health education and promotion, including the planning, designing and evaluation of instruction and materials. Instruction Mode: Lecture Grading Option: Letter

COH 714 Community Health Funding and Support
Units: 2 Terms Offered: FaSpSm Approaches to the generation and allocation of financial support for community oral health policies, programs and systems. Instruction Mode: Lecture Grading Option: Letter

COH 715 Community Health Practice Standards
Units: 2 Terms Offered: FaSpSm Standards of practice, regulations, policies and ethical principles that affect healthcare providers, payers and other stakeholders in community healthcare settings. Instruction Mode: Lecture Grading Option: Letter

COH 716 Healthcare Communication Technology
Units: 2 Terms Offered: FaSpSm Emerging technology for patient and professional health-related education and applications for patient access to care. Instruction Mode: Lecture Grading Option: Letter

COH 717 Practicum 3
Units: 1 Terms Offered: FaSpSm Participation in a multidisciplinary team; collection of community health data to build a plan for sustainability and maintenance. Instruction Mode: Lecture Grading Option: Letter

Chemical Engineering

CHE 120 Introduction to Chemical Engineering
Units: 4 Terms Offered: FaSp Problem-solving techniques in chemical engineering, including an introduction to engineering problem analysis, mass balances, and energy balances. *Corequisite:* MATH 125g and (CHEM 105aLg or CHEM 115aLg) Registration Restriction: Open only to the Viterbi School of Engineering Instruction Mode: Lecture Grading Option: Letter

CHE 205 Numerical Methods in Chemical Engineering
Units: 3 Terms Offered: Sp Computational tools for solving numerical problems in Chemical Engineering. *Prerequisite:* MATH 125. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 301g Introduction to Engineering Biology
Units: 4 Terms Offered: Fa Engineering methods to understand and design molecules, cells, and living organisms. Techniques to analyze biological systems at the molecular and microscopic level. Computational analysis. *Prerequisite:* CHEM 105a or CHEM 115a or MASC 110 *Recommended Preparation:* Basic understanding of chemistry, atoms, and molecules. Completion of an Advanced Placement chemistry class in high school is acceptable preparation for CHE 301g. Satisfies New General Education in Category D: Life Sciences Registration Restriction: Open only to Viterbi School of Engineering students Instruction Mode: Lecture Grading Option: Letter

CHE 305 Numerical and Statistical Analysis for Chemical Engineers
Units: 4 Terms Offered: Fa Introduction to numerical algorithms, computational tools, principles of probability and statistics, and their application to chemical engineering problems. *Prerequisite:* MATH 125g and MATH 126g *Corequisite:* MATH 226g Duplicates Credit in former CHE 205 and former CHE 405 Instruction Mode: Lecture Grading Option: Letter

CHE 330 Chemical Engineering Thermodynamics
Units: 4 Terms Offered: Fa Basic laws, energy and entropy balances. Multi-component phase behavior. Physical and chemical equilibria. Energy conversion and equilibrium separation processes, estimation and use of property data. *Corequisite:* MATH 226g Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 350 Introduction to Separation Processes
Units: 4 Terms Offered: Sp Introduction to the design of chemical separation processes based on the principles of phase equilibrium, material balance and energy balance. *Prerequisite:* CHEM 105bL or CHEM 115bL *Recommended Preparation:* CHE 330 Instruction Mode: Lecture Grading Option: Letter

CHE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CHE 391L Introduction to Nanotechnology Research
Units: 2 Planning and execution of an experiment, and presentation of findings through oral presentations and a written report. Application of the scientific method learned through immersion in a lab environment. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

CHE 405 Applications of Probability and Statistics for Chemical Engineers
Units: 3 Terms Offered: Fa Principles of probability and statistics, random variables and random functions. Application to chemical engineering problems, including process design, process safety, heterogeneous materials and processes. *Prerequisite:* MATH 245. Instruction Mode: Lecture Grading Option: Letter

CHE 410L Introduction to Biomaterials and Tissue Engineering
Units: 4 Terms Offered: FaSp (Enroll in BME 410L)

CHE 430 Principles and Applications of Systems Biology
Units: 4 Terms Offered: Fa (Enroll in BME 430)

CHE 442 Chemical Reactor Design
Units: 4 Terms Offered: Fa Problem-solving techniques in Chemical Reactor Design, including the description of chemical kinetics and rates, and analysis of mass balances, and energy balances. *Prerequisite:* MATH 245 and CHE 443 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 443 Viscous Flow
Units: 4 Terms Offered: Sp Fundamental principles of fluid mechanics and momentum transfer applied to chemical engineering and chemical processing operations. *Corequisite:* CHE 350 or MATH 245 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 444aL Chemical Engineering Laboratory
Units: 2 Terms Offered: Sp Conduct experiments and analyze data to generate results used to solve chemical engineering problems. Communicate results, data, and solutions in written reports and oral presentations. *Prerequisite:* CHE 120 *Corequisite:* CHE 330 and CHE 350 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHE 444bL Chemical Engineering Laboratory
Units: 2 Terms Offered: Fa Conduct experiments and analyze data to generate results used to solve chemical engineering problems. Communicate results, data, and solutions in written reports and oral presentations. *Prerequisite:* CHE 330 *Corequisite:* CHE 443 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHE 444cL Chemical Engineering Laboratory
Units: 2 Terms Offered: Sp Conduct experiments and analyze data to generate results used to solve chemical engineering problems. Communicate results, data, and solutions in written reports and oral presentations. *Prerequisite:* CHE 330 and CHE 444bL *Corequisite:* CHE 447 Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CHE 445 Heat Transfer in Chemical Engineering Processes
Units: 2 Phenomenological rate laws, differential and macroscopic equations, and elementary kinetic theory of heat transfer processes with emphases on conduction and convection. *Prerequisite:* CHE 443, MATH 245. Duplicates Credit in AME 331. Instruction Mode: Lecture Grading Option: Letter

CHE 446 Mass Transfer in Chemical Engineering Processes
Units: 2 Terms Offered: Sp Molecular and continuum approaches to diffusion and convection in fluids and multicomponent mixtures; simultaneous mass, heat and momentum transfer; steady-state and time-dependent diffusion; Maxwell-Stefan equations. *Prerequisite:* MATH 245, CHE 443, CHE 445. Instruction Mode: Lecture Grading Option: Letter

CHE 447 Heat and Mass Transfer in Chemical Engineering Processes
Units: 4 Terms Offered: Sp Differential and macroscopic equations of heat transfer; molecular and continuum approaches to diffusion and convection in fluids; simultaneous heat, mass and momentum transfer. *Prerequisite:* MATH 245 and CHE 443 Duplicates Credit in former CHE 445 and former CHE 446 Instruction Mode: Lecture Grading Option: Letter

CHE 450 Sustainable Energy
Units: 4 Terms Offered: Fa Overview of sustainable energy, with emphasis on quantitative approaches to evaluate sustainability and examination of renewable sources of energy from the perspective of sustainability. *Prerequisite:* CHE 330 *Corequisite:* CHE 443 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 460L Chemical Process Dynamics and Control
Units: 4 Terms Offered: Sp Dynamic analysis and automation of chemical processes using closed loop control schemes. Control schemes are analyzed, simulated and implemented in the laboratory. *Prerequisite:* CHE 120 *Corequisite:* MATH 245 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHE 461 Formation Data Sensing with Well Logs
Units: 4 Terms Offered: Fa (Enroll in PTE 461)

CHE 462 Economic, Risk and Formation Productivity Analysis
Units: 4 (Enroll in PTE 462)

CHE 463L Introduction to Transport Processes in Porous Media
Units: 4 Terms Offered: Fa (Enroll in PTE 463L)

CHE 464L Modeling and Simulation of Subsurface Flow Systems
Units: 4 Terms Offered: Sp (Enroll in PTE 464L)

CHE 465L Drilling Technology and Subsurface Methods
Units: 3 (Enroll in PTE 465L)

CHE 472 Polymer Science and Engineering
Units: 4 Terms Offered: Fa Introduction to major concepts in chemistry and physics of synthetic polymers, and understanding of how they are used in the modern engineering applications *Prerequisite:* CHEM 322aL Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 472

CHE 474L Polymer Science and Engineering Laboratory
Units: 3 Terms Offered: Sp Experimental methods for the preparation, characterization, and properties of synthetic polymers. *Recommended Preparation:* CHE 472. Instruction Mode: Lab Required Grading Option: Letter

CHE 475 Physical Properties of Polymers
Units: 4 Terms Offered: Sp Introduction to polymer physical properties and characterization, relationship to synthesis techniques and processing techniques, natural and synthetic materials, property optimization and modern applications. *Recommended Preparation:* CHEM 325aL Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 475

CHE 476 Chemical Engineering Materials
Units: 4 Terms Offered: Fa Introduction to major concepts in materials science and engineering directly applicable to materials-related processing, research and development in chemical engineering. *Prerequisite:* CHEM 322a Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 476 and MASC 476

CHE 477 Computer Assisted Polymer Engineering and Manufacturing I
Units: 3 Terms Offered: Sp Estimation of physical, mechanical, chemical and processing properties of thermal plastics. Major molding processes. Mold flow simulation and residual stresses analysis. Case studies. *Prerequisite:* junior class standing. Instruction Mode: Lecture Grading Option: Letter

CHE 480 Chemical Process and Plant Design
Units: 4 Terms Offered: Sp Design and evaluate a chemical process/plant based on safety, economics, sustainability and engineering viability through the application of unit operations, thermodynamics, kinetics and separations. *Prerequisite:* CHE 485 Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: Letter

CHE 485 Computer-Aided Chemical Process Design
Units: 4 Terms Offered: Fa Simulate, design and optimize chemical engineering unit operations and process using modern process simulation software. *Prerequisite:*

CHE 442 and CHE 443 Instruction Mode: Lecture Grading Option: Letter

CHE 486 Design of Environmentally Benign Process Plants
Units: 3 Terms Offered: Sp Chemical Process Plants interact with the environment as an integrated system. This course discusses design procedures to minimize unwanted effluents to air, water and solid wastes. *Corequisite:* CHE 480 or CHE 485. Instruction Mode: Lecture Grading Option: Letter

CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes
Units: 4 Terms Offered: Fa Properties and processing of nanomaterials including polymeric, metallic, and ceramic nanoparticles, composites, colloids, and surfactant self-assembly for templated nanomaterial production. *Prerequisite:* CHEM 105aLg or CHEM 115aLg or MASC 110L Instruction Mode: Lecture Grading Option: Letter

CHE 488 Molecular and Cellular Bioengineering
Units: 3 Terms Offered: Fa Design, synthesis, and analysis of biological molecules; routes to understand and engineer living systems at the molecular and cellular level; systems and synthetic biology. *Prerequisite:* BISC 320. Instruction Mode: Lecture Grading Option: Letter

CHE 489 Biochemical Engineering
Units: 4 Terms Offered: Sp Theoretical, quantitative, and experimental methods for understanding and engineering cellular systems for biotechnological applications. *Prerequisite:* CHE 330 and BISC 320Lg Instruction Mode: Lecture Grading Option: Letter Crosslisted as BME 489

CHE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CHE 491 Nanotechnology Research for Undergraduates
Units: 2 Max Units: 4.0 Independent research in nanotechnology. Research project selected by the student in close consultation with a research adviser. *Prerequisite:* CHE 391L. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

CHE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content to be selected each semester from recent developments in chemical engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

CHE 501 Modeling and Analysis of Chemical Engineering Systems
Units: 4 Terms Offered: Fa Advanced treatment of mathematical modeling and analysis of Chemical Engineering core topics including fluid flow, heat and mass transfer, reaction engineering, and deformation of materials. *Recommended Preparation:* Knowledge of real analysis on the level of MATH 425a and MATH 425b *Corequisite:* CHE 442 and CHE 447 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

CHE 502 Numerical Methods for Diffusive and Convective Transport
Units: 3 Terms Offered: Sp Numerical solution of ordinary and partial differential equations describing fluid flow, diffusion with chemical reaction, and conduction in heterogeneous media. Instruction Mode: Lecture Grading Option: Letter

CHE 510 Energy and Process Efficiency
Units: 3 Terms Offered: Sp Management and engineering strategies utilized to improve energy efficiency. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in AME 577. Instruction Mode: Lecture Grading Option: Letter

CHE 520 Mathematical Methods for Deep Learning
Units: 4 Terms Offered: Sp (Enroll in MASC 520)

CHE 523 Principles of Electrochemical Engineering
Units: 3 (Enroll in MASC 523)

CHE 530 Thermodynamics for Chemical Engineers
Units: 4 Terms Offered: Sp Elements of classical and statistical thermodynamics. Molecular theory and property estimation, emphasis on multi-component multi-phase fluid systems. Advanced applications, including highly non-ideal solutions, polymers, electrolytes. *Recommended Preparation:* Undergraduate-level thermodynamics on the level of CHE 330 and a proficiency with MATLAB or a spreadsheet program Instruction Mode: Lecture Grading Option: Letter

CHE 532 Vapor-Liquid Equilibrium
Units: 3 Thermodynamics of phase relations; prediction and correlation of phase behavior. *Prerequisite:* CHE 330. Instruction Mode: Lecture Grading Option: Letter

CHE 538 Transport Processes I
Units: 4 Terms Offered: Fa Fundamentals of transport processes - momentum, heat and mass transfer - in systems of interest to chemical engineering. *Recommended Preparation:* Knowledge of mathematical modeling for chemical processes on the level of CHE 501; knowledge of fluid mechanics on the level of CHE 443; knowledge of heat and mass transport on the level of CHE 445 Duplicates Credit in former CHE 540, former CHE 541 and former CHE 544 Instruction Mode: Lecture Grading Option: Letter

CHE 539 Transport Processes II
Units: 4 Terms Offered: Sp An advanced exploration of the principles of heat and mass transfer with applications to problems in chemical engineering. *Prerequisite:* CHE 538 Duplicates Credit in former CHE 540, former CHE 541 and former CHE 544 Instruction Mode: Lecture Grading Option: Letter

CHE 540 Viscous Flow
Units: 3 Fluid mechanical problem of interest to chemical engineers involving laminar flows of incompressible fluids, viscous-dominated creeping flows, and motion of bubbles and drops. *Prerequisite:* CE 309 or AME 309 or CHE 443. Instruction Mode: Lecture Grading Option: Letter

CHE 541 Mass Transfer
Units: 3 Fundamentals of mass transfer within a single phase and between phases; applications to separation processes. *Recommended Preparation:* CHE 445. Instruction Mode: Lecture Grading Option: Letter

CHE 542 Chemical Engineering Kinetics
Units: 4 Terms Offered: Sp Advanced concepts in Reaction Engineering and Reactor Design. *Prerequisite:* CHE 442 *Recommended Preparation:* BS degree in Chemical Engineering or equivalent Instruction Mode: Lecture Grading Option: Letter

CHE 544 Heat Transmission
Units: 3 Principles of conduction, radiation, and convection of heat; application to chemical and related industries. *Recommended Preparation:* CHE 330, CHE 445. Instruction Mode: Lecture Grading Option: Letter

CHE 550 Seminars in Chemical Engineering
Units: 0, 1 Max Units: 02 Terms Offered: FaSp Seminars to cover recent developments in the field of chemical engineering given by invited speakers. *Recommended Preparation:* graduate standing. Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

CHE 554 Principles of Tissue Engineering
Units: 3 Terms Offered: Fa Advanced scientific and engineering principles of tissue engineering including stem cell biology, biomaterial scaffolds, protein-surface interaction, bioreactor, and selected bioartificial organs (e.g., kidney, bone, skin). *Recommended Preparation:* CHE 476, CHE 489. Instruction Mode: Lecture Grading Option: Letter

CHE 560 Advanced Separation and Bioseparation Processes
Units: 3 Terms Offered: Sp Experimental techniques for separation and bioseparation processes and theoretical and computational techniques for modeling them. Instruction Mode: Lecture Grading Option: Letter

CHE 572 Advanced Topics in Polymer Kinetics and Rheology
Units: 3 Terms Offered: Fa Kinetics of polymer synthesis reactions and rheology of polymer solutions. *Recommended Preparation:* CHE 442, CHE 472. Instruction Mode: Lecture Grading Option: Letter

CHE 586 Process Data Analytics and Machine Learning
Units: 3 Terms Offered: Sp Topics include multi-linear regression, supervised learning, unsupervised learning, principal component analysis, partial least squares, canonical correlation analysis, clustering methods, lasso, neural networks, and deep learning. Applications include analysis of chemical process data, quality data, and indirectly measured data. *Recommended Preparation:* Programming experience in R or MATLAB preferred; an understanding of engineering statistics and knowledge of matrix operations; emphasis is on linear algebraic approach over a probabilistic approach Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

CHE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHE 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 596 Chemical Reactions in the Atmosphere
Units: 3 (Enroll in ENE 596)

CHE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content will be selected each semester to reflect current trends and developments in the field of chemical engineering. Instruction Mode: Lecture Grading Option: Letter

CHE 611 Stochastic Modeling and Simulation
Units: 3 (Enroll in CE 611)

CHE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Laboratory study of specific problems by candidates for the degree Engineer in Chemical Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Chemistry

CHEM 050x General Chemistry Tutorial
Units: 2 Weekly tutorial for selected students in CHEM 105aLg. Strong emphasis on chemical mathematics and key concepts in general chemistry. *Concurrent Enrollment:* Concurrent enrollment: CHEM 105aLg. Instruction Mode: Lecture Grading Option: Credit/ No Credit Crosslisted as Topics parallel lectures in CHEM 105aLg.

CHEM 051x General Chemistry Tutorial
Units: 2 Structured tutorial for selected students in CHEM 105bL. Strong emphasis on chemical mathematics and key concepts in general chemistry. *Prerequisite:* CHEM 105a; *Concurrent Enrollment:* Concurrent enrollment: CHEM 105bL. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as Topics parallel lectures in CHEM 105bL.

CHEM 102 The Molecular World
Units: 4 Basic chemistry and its impact on the contemporary world. Topics include: structures and reactions of molecules, stoichiometry, nomenclature, gases, solutions. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 103Lgx General Chemistry for the Environment and Life
Units: 4 Terms Offered: FaSpSm Chemistry for environmental studies, neuroscience and other life sciences: organic and inorganic structures, nomenclature, stoichiometry, solutions, gases, non-covalent interactions, equilibria, acid-base and redox reactions. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 105aLg General Chemistry
Units: 4 Terms Offered: FaSpSm Fundamental principles and laws of chemistry; laboratory work emphasizes quantitative procedures. *Prerequisite:* Prerequisite to all more advanced courses in chemistry. CHEM 050x or passing of placement test. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in CHEM 115aLg or CHEM 115bL Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CHEM 105bL General Chemistry
Units: 4 Terms Offered: FaSpSm Fundamental principles and laws of chemistry; laboratory work emphasizes quantitative procedures. *Prerequisite:* CHEM 105aLg or CHEM 107Lg or CHEM 115aLg Duplicates Credit in CHEM 115bL Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CHEM 107Lg General Chemistry for Chemistry Majors
Units: 4 Terms Offered: FaSp Fundamental principles and laws of chemistry emphasizing contemporary chemistry; laboratory work focuses on quantitative procedures. Satisfies New General Education in Category E: Physical Sciences Registration Restriction: Open only to Chemistry and Biochemistry majors Duplicates Credit in CHEM 105a and CHEM 115a. Instruction Mode: Lecture, Lab, Quiz Grading Option: Letter

CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium
Units: 4 Terms Offered: FaSp Fundamental principles and laws of chemistry emphasizing contemporary chemistry; laboratory work focuses on quantitative procedures. Second-semester general chemistry course for majors. *Prerequisite:* CHEM 105aLg or CHEM 107Lg or CHEM 115aLg Registration Restriction: Open only to Chemistry and Biochemistry majors Duplicates Credit in CHEM 105bL and CHEM 115bL Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CHEM 115aLg Advanced General Chemistry
Units: 4 Terms Offered: Fa Equivalent to CHEM 105aLg -CHEM 105bL, but taught at a higher level for exceptionally well-prepared students. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in CHEM 105aLg or CHEM 105bL Instruction Mode: Lecture, Discussion, Lab Required, Quiz Grading Option: Letter

CHEM 115bL Advanced General Chemistry
Units: 4 Terms Offered: Sp Equivalent to CHEM 105a - CHEM 105b, but taught at a higher level for exceptionally well-prepared students. *Prerequisite:* CHEM 105a or CHEM 107 or CHEM 115a Duplicates Credit in CHEM 105b Instruction Mode: Lecture, Discussion, Lab Required, Quiz Grading Option: Letter

CHEM 201Lgx Chemistry in the Environment, Energy and Society
Units: 4 A range of issues where chemistry impacts society will be explored. Topics such as global warming, pollution, energy utilization and genetic engineering will be covered. Students who have taken CHEM 105a, CHEM 105b previously or concurrently with CHEM 201 will not receive credit for CHEM 201. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 203Lgx AIDS Drug Discovery and Development
Units: 4 Terms Offered: Fa Scientific principles underlying molecular approaches to diagnosis and treatment of diseases, using specific models within a societal (business, legal, ethical) context. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 205Lgx Chemical Forensics: The Science, and Its Impact
Units: 4 Scientific principles underlying forensic approaches to the investigation of crimes and its societal impact on law, culture and media. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 221x Organic Chemistry Problem Solving Workshop
Units: 2 Terms Offered: Sp Distance learning course designed to bridge

the gap between general and organic chemistry. Focus on problem solving and understanding the language of organic chemistry. Not for major credit for chemistry, chemistry (chemical nanoscience), chemistry (chemical physics), chemistry (research) or chemistry (chemical biology) majors. *Prerequisite:* CHEM 105b. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 250x Organic Chemistry Tutorial A
Units: 2 Major principles of organic chemistry and its relevance. Topics covered parallel to those of CHEM 322aL. *Prerequisite:* CHEM 105bL. *Corequisite:* CHEM 322aL. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 251x Organic Chemistry Tutorial B
Units: 2 Terms Offered: FaSp Structured tutorial course, which enables students to understand fundamental principles, better approach problems with success. Explores the major principles of organic chemistry and its relevance. Topics covered will parallel CHEM 322b. *Prerequisite:* CHEM 322aL. *Corequisite:* CHEM 322bL. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 280x Research Design, Interpretation and Statistics
Units: 2 Fundamental principles behind the design and execution of scientific research in the chemical, physical and biological sciences, emphasizing scientific reasoning, data interpretation and statistical analysis. Instruction Mode: Lecture Grading Option: Letter

CHEM 290a Special Laboratory
Units: 1 Terms Offered: FaSpSm Laboratory component for CHEM 105a, CHEM 105b, 322, or CHEM 322b for students with equivalent lecture credit from another institution. *Prerequisite:* consent of department head. Instruction Mode: Lab Required Grading Option: Letter

CHEM 290b Special Laboratory
Units: 1 Terms Offered: FaSpSm Laboratory component for CHEM 105a, CHEM 105b, 322, or CHEM 322b for students with equivalent lecture credit from another institution. *Prerequisite:* consent of department head. Instruction Mode: Lab Required Grading Option: Letter

CHEM 290c Special Laboratory
Units: 1 Terms Offered: FaSpSm Laboratory component for CHEM 105a, CHEM 105b, 322, or CHEM 322b for students with equivalent lecture credit from another institution. *Prerequisite:* consent of department head. Instruction Mode: Lab Required Grading Option: Letter

CHEM 290d Special Laboratory
Units: 1 Terms Offered: FaSpSm Laboratory component for CHEM 105a, CHEM 105b, 322, or CHEM 322b for students with equivalent lecture credit from another institution. *Prerequisite:* consent of department head. Instruction Mode: Lab Required Grading Option: Letter

CHEM 292 Supervised Research
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Supervised undergraduate research experience. *Corequisite:* CHEM 105a or CHEM 115a. Instruction Mode: Lecture Grading Option: Letter

CHEM 294 Undergraduate Research Seminar
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminars in current research in the chemical and molecular sciences. *Corequisite:* CHEM 105a or CHEM 115a. Instruction Mode: Lecture Grading Option: Letter

CHEM 300L Analytical Chemistry
Units: 4 Terms Offered: FaSp Theory and practice in chemical analysis, emphasizing instrumental techniques; error analysis, fractional distillation, extraction; chromatography; visible, ultraviolet, and infrared spectroscopy; introductions to electrochemistry and nuclear magnetic resonance spectroscopy. *Prerequisite:* CHEM 105bL or CHEM 108L or CHEM 115bL *Corequisite:* CHEM 322aL or CHEM 325aL Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

CHEM 322aL Organic Chemistry
Units: 4 Terms Offered: FaSpSm Chemistry of the carbon compounds of the aliphatic and aromatic series; laboratory preparation of typical compounds of both series. *Prerequisite:* CHEM 105bL or CHEM 108L or CHEM 115bL Instruction Mode: Lecture, Discussion, Lab Required, Quiz Grading Option: Letter

CHEM 322bL Organic Chemistry
Units: 4 Terms Offered: FaSpSm Chemistry of the carbon compounds of the aliphatic and aromatic series; laboratory preparation of typical compounds of both series. *Prerequisite:* CHEM 322aL or CHEM 325aL Instruction Mode: Lecture, Discussion, Lab Required, Quiz Grading Option: Letter

CHEM 325aL Organic Chemistry
Units: 4 Terms Offered: Fa Required of majors in chemistry. *Prerequisite:* CHEM 105bL or CHEM 108L or CHEM 115bL Registration Restriction: Open only to Chemistry and Biochemistry majors Instruction Mode: Lecture, Discussion, Lab Required, Quiz Grading Option: Letter

CHEM 325bL Organic Chemistry
Units: 4 Terms Offered: Sp Required of majors in chemistry. *Prerequisite:* CHEM 325aL or CHEM 322aL Registration Restriction: Open only to Chemistry and Biochemistry majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 330L Biochemistry
Units: 4 Terms Offered: FaSp (Enroll in BISC 330L)

CHEM 332L Physical Chemical Measurements
Units: 4 Experimental study of topics discussed in CHEM 430 and CHEM 431; adsorption, magnetic susceptibility; electron spin resonance, kinetics, equilibria, molecular spectra and structure, viscosity, dielectric properties. *Corequisite:* CHEM 430b or CHEM 431 Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

CHEM 350g Molecular Principles of Biochemistry
Units: 4 Terms Offered: FaSp Biomolecular structures, protein and nucleic acid chemistry and functions, carbohydrates, lipids, membranes, enzyme catalysis and kinetics, coenzymes, biochemical signaling, major metabolic pathways, control of gene expression, replication, transcription, and translation. *Prerequisite:* CHEM 105bL or CHEM 108L or CHEM 115bL *Recommended Preparation:* BISC 220Lg or BISC 221Lg *Corequisite:* CHEM 322aL or CHEM 325aL Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry
Units: 4 Terms Offered: Sp Advanced synthetic, analytical, and physical measurement techniques in organic and inorganic chemistry. Emphasis on laboratory work with discussion of theoretical background. *Prerequisite:* CHEM 300L, CHEM 322bL or CHEM 325bL. Instruction Mode: Lecture, Lab Required, Discussion Grading Option: Letter

CHEM 426 Advanced Organic Chemistry
Units: 4 Terms Offered: Fa Advanced treatment of organic chemistry from a mechanistic point of view according to the following topics: polar and isopolar reactions, intermediates. *Prerequisite:* CHEM 322bL or CHEM 325bL. Instruction Mode: Lecture Grading Option: Letter

CHEM 430 Physical Chemistry: Thermodynamics and Kinetics
Units: 4 Terms Offered: Fa Kinetic theory; equations of state; thermodynamics; phase equilibria; chemical equilibrium; statistical thermodynamics; kinetics; electrochemistry; surface and colloid chemistry; polymers. *Prerequisite:* (CHEM 300L or CHEM 322aL or CHEM 325aL) and (MATH 225 or MATH 226g) and PHYS 151Lg Duplicates Credit in former CHEM 430a Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 431 Physical Chemistry: Quantum Mechanics
Units: 4 Terms Offered: Sp Classical and quantum mechanics: atomic structure; molecular structure; chemical bonds; solid state; symmetry; electric and magnetic properties of molecules; atomic spectroscopy; rotational and vibrational spectroscopy; electronic spectroscopy. *Prerequisite:* PHYS 152L Duplicates Credit in former CHEM 430b Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 432 Physical Chemistry for the Life Sciences
Units: 4 Terms Offered: Fa Principles of physical chemistry relevant for the life sciences: thermodynamics, chemical equilibria, molecular dynamics, kinetics, molecular structures and interactions, spectroscopy, statistical thermodynamics and macromolecular structures. *Prerequisite:* CHEM 300L or CHEM 322aL or CHEM 325aL; MATH 126; PHYS 135a L or PHYS 151Lg. Duplicates Credit in CHEM 430a. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 453 Advanced Inorganic Chemistry
Units: 4 Terms Offered: Sp Atomic structure, theory of bonding, molecular structure,

metallic state, coordination compounds, transition and nontransition metals, magnetic and optical properties, crystal field theory, mechanism of reactions. *Prerequisite:* (CHEM 105bL or CHEM 108L or CHEM 115bL) and (CHEM 322aL or CHEM 325aL) Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 455 Chemical Nanotechnology
Units: 4 Studies in the fundamental principles governing nanoscale materials. Structure and chemical bonding, preparative methods, and electrical, optical and magnetic properties of nanoscale materials and applications. *Prerequisite:* CHEM 322aL or CHEM 325aL Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 463L Chemical Nanotechnology Laboratory
Units: 2 Experimental techniques in the synthesis and characterization of nanoscale materials. Emphasis on examining size-dependent properties of various nano - scale materials using spectroscopic techniques. *Prerequisite:* CHEM 322aL or CHEM 325aL Instruction Mode: Lecture, Lab Grading Option: Letter

CHEM 465L Chemical Instrumentation
Units: 4 Principles of operation of instruments used in physical sciences. Basic electronics, interconnection of building blocks, data acquisition and data reduction, noise, instrument systems. *Prerequisite:* CHEM 332L or CHEM 430b or CHEM 431 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 467L Advanced Chemical Biology Laboratory
Units: 2 Principles, methods and protocols of chemical biology through experimentation focusing on the interactions of small molecules with biomacromolecules such as proteins and DNA. *Prerequisite:* CHEM 322b or CHEM 325b *Corequisite:* CHEM 300 Instruction Mode: Lecture, Lab Grading Option: Letter

CHEM 488 Introduction to Theory and Practice of X-ray Crystallography
Units: 4 Terms Offered: Fa Introduction to single crystal X-ray diffraction theory and its extension to two-dimensional diffraction. Application of modern instrumentation and software techniques to problems of current chemical interest. *Prerequisite:* CHEM 300; CHEM 322a or CHEM 325a; and CHEM 322b or CHEM 325b. Instruction Mode: Lecture Grading Option: Letter

CHEM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CHEM 494x Advanced Research Experience
Units: 2, 4 Max Units: 4.0 Terms Offered: FaSpSm Directed undergraduate research supervised by faculty, with advanced capstone research experience. *Prerequisite:* CHEM 490. Instruction Mode: Lecture Grading Option: Letter

CHEM 495 Beyond the Classroom - Research in Modern Chemistry
Units: 2 Current topics in chemical research, understanding structures of modern graduate training program and navigating the process of graduate program application. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

CHEM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Lectures and discussions on specialized topics in chemistry. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 510x Alternative Energy Technologies and Options
Units: 4 Introduce the essential scientific background to understand complex issues involving energy use and its environmental consequences. Critically analyze energy issues that will shape policy decisions. Instruction Mode: Lecture Grading Option: Letter

CHEM 515 Structure and Bonding in Inorganic and Organometallic Chemistry
Units: 4 An integrated core course of structure and bonding in inorganic, coordination and organometallic chemistry within an oxidation state framework. Symmetry, electronic properties. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 516 Synthesis, Reactivity, and Mechanism in Inorganic and Organometallic Chemistry
Units: 4 A reactivity framework for inorganic and organometallic chemistry. Synthesis, reaction mechanisms and energetics. Homogeneous catalysis. *Prerequisite:* CHEM 515. Instruction Mode: Lecture Grading Option: Letter

CHEM 519 Biochemistry and Molecular Biology: An Introduction for Chemists
Units: 4 Amino acids and peptides; protein structure and function; enzyme kinetics; structure, analysis and synthesis of nucleic acids; chemical biology of DNA and RNA; biotechnology. Instruction Mode: Lecture Grading Option: Letter

CHEM 520a Advanced Chemical Biology
Units: 2 Chemical approaches to investigate protein function and posttranslational modifications. *Recommended Preparation:* CHEM 322ab, and BISC 330 (or equivalent). Instruction Mode: Lecture Grading Option: Letter

CHEM 520b Advanced Chemical Biology
Units: 2 Chemical approaches to investigate protein function and posttranslational modifications. *Recommended Preparation:* CHEM 322ab, and BISC 330 (or equivalent). Instruction Mode: Lecture Grading Option: Letter

CHEM 521 Basic Principles of Physical Methods in Biochemistry
Units: 2 Principles underlying physical analytical methods commonly utilized in research in biochemistry and molecular biology. Instruction Mode: Lecture Grading Option: Letter

CHEM 523 Introduction to Functional Inorganic Materials
Units: 2 An introduction to functional inorganic materials emphasizing crystalline materials and how their properties can be understood based on their structure, elemental composition, and electronic structure. *Recommended Preparation:* A basic understanding of molecular orbital theory and electronic structure of extended solids Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 524 Inorganic Materials Chemistry
Units: 2 Studies in the fundamental principles governing inorganic materials. Structure and chemical bonding, preparative methods, and electrical, optical and magnetic properties of inorganic materials and applications. *Prerequisite:* CHEM 515. Instruction Mode: Lecture Grading Option: Letter

CHEM 526 Structure and Mechanism in Organic Chemistry
Units: 4 Review of modern structural theory of organic chemistry; and relation to the mechanisms of organic chemical reactions. Instruction Mode: Lecture Grading Option: Letter

CHEM 527 Synthetic Organic Chemistry
Units: 4 A survey of representative groups of widely used synthetic organic reactions; emphasis on scope, limitations, and stereochemical consequences. Instruction Mode: Lecture Grading Option: Letter

CHEM 532 Molecular Photochemistry and Photophysics
Units: 2 Terms Offered: FaSp Molecular electronic structure; description of the excited state; radiative/nonradiative decay and electron/energy transfer. *Recommended Preparation:* CHEM 515 and CHEM 526 Instruction Mode: Lecture Grading Option: Letter

CHEM 535 Introduction to Molecular Spectroscopy
Units: 4 Theory and experimental methods of molecular spectroscopy and applications to chemistry. Rotational, vibrational, electronic and nuclear magnetic resonance spectroscopies. *Prerequisite:* CHEM 544. Instruction Mode: Lecture Grading Option: Letter

CHEM 536 Molecular Dynamics
Units: 2 or 4 Potential energy surfaces, reaction dynamics, scattering theories, classical trajectories, statistical theories, molecular energy transfer, photodissociation dynamics, gas- surface interactions, experimental results, beam and laser techniques. Instruction Mode: Lecture Grading Option: Letter

CHEM 538 Mathematical Techniques of Physical Chemistry
Units: 4 Fundamentals and techniques of mathematics and physics. Linear algebra, differential equations, mechanics, electricity and magnetism. Applications to physical chemistry/chemical physics. Instruction Mode: Lecture Grading Option: Letter

CHEM 539 Surface Chemistry
Units: 4 Physical and chemical properties of solid surfaces; thermodynamics and kinetics of gas chemisorption; chemical bonding at surfaces; applications to catalysis and electronic materials. Instruction Mode: Lecture Grading Option: Letter

CHEM 540 Introduction to Statistical Mechanics
Units: 4 Study of macroscopic systems from molecular viewpoint using statistical mechanics: ensembles, fluctuations, gases, gas-solid interfaces, crystals, polymers, critical phenomena, non-equilibrium systems. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 544 Introduction to Quantum Chemistry
Units: 4 Basic principles of quantum mechanics and their application to chemistry. Electronic structure of atoms and molecules. Instruction Mode: Lecture Grading Option: Letter

CHEM 545 Theory and Practice of Molecular Electronic Structure
Units: 4 Provide working knowledge and hands-on experience in current quantum chemical methods for chemists who would like to employ these techniques in their own research. *Prerequisite:* CHEM 538, CHEM 544. Instruction Mode: Lecture Grading Option: Letter

CHEM 546 Mathematics in Physical Chemistry
Units: 2 Introduction to mathematical methods in physical chemistry and quantum mechanics: ordinary and partial differential equations, orthogonal polynomials, Fourier series, Fourier transforms, eigenvalue and matrix equations Duplicates Credit in CHEM 538 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 547 Numerical Calculations in Physical Chemistry
Units: 2 Introduction to numerical calculations in physical chemistry and quantum mechanics: translational and vibrational wavepackets, tunneling motions, particle in a potential, rotational-vibrational spectra of diatomic molecules. Duplicates Credit in CHEM 538 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 548 Computer Simulations of Chemical and Biological Systems
Units: 4 Key aspects of the rapidly growing field of computer simulation of molecular systems in general and biological molecules in particular. *Recommended Preparation:* undergraduate course in physical chemistry or equivalent. Instruction Mode: Lecture Grading Option: Letter

CHEM 550 Special Topics in Chemical Physics
Units: 2, 3, 4 Max Units: 8.0 Study of selected areas of chemical physics. Critical evaluation of recent advances in the field. Instruction Mode: Lecture Grading Option: Letter

CHEM 551 Theory of Open Quantum Systems
Units: 4 (Enroll in PHYS 550)

CHEM 555 Computational Quantum Chemistry: Methods and Applications
Units: 2, 3, 4 Max Units: 04 Introduction to modern computational quantum chemistry. Prediction of molecular structure, molecular spectra and molecular reaction mechanisms using ab initio and semi-empirical methods. *Prerequisite:* CHEM 430b or CHEM 431 *Recommended Preparation:* CHEM 544 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 561 Polymer Synthesis
Units: 4 Concepts of polymer structure and stereochemistry. Organic chemistry of polymerization reactions with emphasis on condensation, radical, cationic, anionic, and coordination- - metathesis polymerization. Instruction Mode: Lecture Grading Option: Letter

CHEM 565L Advanced Practical Nuclear Magnetic Resonance Spectroscopy
Units: 2 Application of multidimensional and time resolved NMR spectroscopy to problems in structure determination and thermochemistry. *Prerequisite:* CHEM 322b or CHEM 325b; *Recommended Preparation:* CHEM 625. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 570 Seminar in Chemical Biology
Units: 2 Max Units: 4.0 Introduce students to emerging research areas in chemical biology through a thorough discussion of seminal research articles and presentations of current research topics. *Recommended Preparation:* some research experience and familiarity with literature search. Instruction Mode: Lecture Grading Option: Letter

CHEM 575 Modern Trends in Physical Chemistry
Units: 2 Max Units: 4.0 Emerging research areas in physical and theoretical chemistry through a thorough discussion of seminal research articles and presentations of current research topics. *Recommended Preparation:* some research experience and familiarity with literature search. Instruction Mode: Lecture Grading Option: Letter

CHEM 577a Medicinal Chemistry and Drug Design
Units: 2 Introduction to fundamentals of medicinal chemistry with special attention to the drug discovery process. *Recommended Preparation:* PSCI 664 and CHEM 519. PSCI 664. Instruction Mode: Lecture Grading Option: Letter

CHEM 577b Medicinal Chemistry and Drug Design
Units: 2 Concepts, methods and examples of current approaches to drug design including computer-based molecular modeling techniques. *Recommended Preparation:* PSCI 664 and CHEM 519. PSCI 664. Instruction Mode: Lecture Grading Option: Letter

CHEM 580 Current Topics in Inorganic Chemistry and Nanoscience
Units: 2 Max Units: 4.0 Introduction to emerging research areas in inorganic chemistry and nanoscience through a discussion of seminal research articles and presentations of current research topics. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 581 Current Topics in Sustainable Energy Generation and Storage
Units: 2 Introduction to emerging research areas in the chemistry of sustainable energy generation and storage through discussion of core research areas and presentations on current research. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 588 Advanced Practical X-ray Structure Determination of Small Molecules
Units: 2 Advanced techniques and methods in small molecule X-ray crystal structure determination. Emphasis on practical and laboratory work. Duplicates Credit in former CHEM 588a Instruction Mode: Lecture Grading Option: Letter

CHEM 589 Macromolecular Crystallography
Units: 2 Advanced techniques and methods in X-ray crystal structure determination of biological macromolecules with emphasis on practical work. Duplicates Credit in former CHEM 588b Instruction Mode: Lecture Grading Option: Letter

CHEM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 593x Practicum in Teaching Chemistry
Units: 2 Practical principles for effective teaching in the laboratory. Intended for teaching assistants in Chemistry. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 599 Special Topics
Units: 2, 3, 4 Special topics in chemistry. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 625 Chemical Applications of Magnetic Resonance Spectroscopy
Units: 4 Elementary theory of magnetic resonance spectroscopy, methods of spectral analysis, treatment of Fourier Transform methods and time dependent phenomena; recent applications in organic chemistry. Instruction Mode: Lecture Grading Option: Letter

CHEM 626 Natural Products Chemistry
Units: 2 Survey of the chemistry and biogenesis of the major classes of secondary metabolites along biogenetic lines: terpenes, acetogenins, and alkaloids. Instruction Mode: Lecture Grading Option: Letter

CHEM 630 Fundamentals of Electrochemical Energy Systems
Units: 2 Fundamentals of electrochemical energy systems including various batteries, fuel cells and electrolyzers with a focus on materials, operating principles and applications. Instruction Mode: Lecture Grading Option: Letter

CHEM 632 Introduction to Surface Chemistry and Electrocatalysis
Units: 2 Introduction to principles governing physical and chemical behavior of surfaces: structures, thermodynamics, adsorption, desorption, diffusion, electron transfer and electrocatalytic reactions, and experimental surface analytical techniques. Instruction Mode: Lecture Grading Option: Letter

CHEM 661 Selected Topics in Polymer Synthesis
Units: 2, 3, 4 Max Units: 8.0 Advanced level study in selected areas of polymer synthesis. Critical evaluation of recent advances. Topic examples: ionic polymerization; stereo chemistry of polymers; silicon polymers; ladder polymers. Instruction Mode: Lecture Grading Option: Letter

CHEM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Criminal Justice

CJ 500 Criminology
Units: 2 Terms Offered: FaSpSm Key theories and frameworks used to explain crime and inform responses to crime. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 505 Analysis of Criminal Justice Systems
Units: 2 Terms Offered: FaSpSm The criminal justice system's response to crime through a theoretical and interdisciplinary lens. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 510 Criminal Justice Leadership
Units: 2 Terms Offered: FaSpSm Theory and practice of traditional and contemporary approaches to leadership in the context of criminal justice. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 515 Applied Research Methods for Criminal Justice
Units: 2 Terms Offered: FaSpSm Fundamental research methods and design commonly used to answer questions related to criminal justice. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 520 Applied Statistics and Data Analysis in Criminal Justice
Units: 2 Terms Offered: FaSpSm Fundamentals of statistics and statistical analyses commonly used to interpret crime data for evaluation and performance. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 525 Ethical Decision-Making in Criminal Justice
Units: 2 Terms Offered: FaSpSm Examination and analysis of how societal expectations for ethical behavior and regulatory oversight affect leaders and managers in criminal justice. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 530 Organizational Change in Criminal Justice
Units: 2 Terms Offered: FaSpSm Knowledge, skills, and tools necessary to lead organizational change within the context of criminal justice systems. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 535 Youthful Offenders
Units: 2 Terms Offered: FaSpSm Key concepts and evidence-based interventions and responses to promote positive growth and reduced recidivism in the youthful offender population. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 540 Criminal Justice Policy and Program Development
Units: 2 Terms Offered: FaSpSm In-depth analysis of all major stages of the criminal justice policymaking process. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 545 Criminal Investigations
Units: 2 Terms Offered: FaSpSm Explores criminal investigative techniques such as search and seizure, use of technology, and multi-jurisdictional and transnational crime investigations. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 550 Corrections and Community Supervision
Units: 2 Terms Offered: FaSpSm Examines evidence-based corrections and community supervision practices including offender rehabilitation, bail, restorative justice and victims' issues. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

CJ 555 Making a Difference in Criminal Justice
Units: 2 Terms Offered: FaSpSm Preparing for the critical role of leadership through policy evaluation and policy change initiatives. Registration Restriction: Open only to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

Classics

All of the following courses require a knowledge of Greek or Latin.
CLAS 500 to CLAS 794z.

CLAS 101g The Ancient World
Units: 4 Terms Offered: FaSpSm (Enroll in HIST 101gp)

CLAS 150gp The Greeks and their Legacies
Units: 4 Terms Offered: FaSp Introduction to the culture of ancient Greece and its influence on contemporary ideas, institutions, values, and literary and artistic works of the imagination. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

CLAS 151gp The Legacy of Rome
Units: 4 Terms Offered: FaSp Ancient Roman values, ideas, and institutions of relevance to later periods of civilization. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

CLAS 160gp Ancient Lives
Units: 4 Terms Offered: FaSp The lives of prominent Greeks, Romans and others in their ancient historical and biographical contexts and in modern reevaluations through various written and visual media. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

CLAS 170gp Classics of Music and Literature: from Ancient Greece Through Contemporary LA
Units: 4 Terms Offered: FaSp Joint introduction to classical music and classical literature through close study of works of music inspired by the Greek and Roman literary tradition. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as MUSC 170

CLAS 180g Classic Mythology and the Mythic Imagination
Units: 4 Introduction to central works of mythology in classical Greek, Roman and Near Eastern traditions; emphasis on the relationship of myth, culture and the human imagination. Satisfies New General Education in Category B: Humanistic

Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

CLAS 190g History of Science: Antiquity to the Scientific Revolution
Units: 4 Introduction to the history of premodern science and the social and intellectual processes and practices that have shaped the work of scientists. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 190

CLAS 202 Archaeology: Our Human Past
Units: 4 (Enroll in ANTH 202)

CLAS 212 Archaeology: Interpreting the Past
Units: 4 Terms Offered: Sp Methods and techniques employed in modern archaeological research, including the tools and principles of allied scientific fields and the impact of analytical and technological advances. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CLAS 280gp Classical Mythology in Art and Literature
Units: 4 Terms Offered: FaSp Classical Greek and Roman mythology as inspiration for literature, art, music, and film in various historical contexts. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

CLAS 300 Women in Antiquity
Units: 4 Theoretical approaches to women's history; evidence for the daily life, legal status, and religion of ancient Greek and Roman women; the female in literature and art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-300

CLAS 305 Roman Law
Units: 4 History and elements of Roman law, including persons, property, obligations, and inheritance, in context of social structure (family, gender, class, slavery, empire). *Recommended Preparation:* CLAS 151 or HIST 101. Instruction Mode: Lecture Grading Option: Letter

CLAS 307 Law and Society in Classical Greece
Units: 4 Investigations of the legal culture of classical Greece, focusing on regulation of social practices and on the role of social values in defining crime. Instruction Mode: Lecture Grading Option: Letter

CLAS 310 Pagans and Christians
Units: 4 The Christian reception and transformation of pagan religious and philosophical thought. Instruction Mode: Lecture Grading Option: Letter

CLAS 315 Sport and Spectacle in the Ancient World
Units: 4 Terms Offered: FaSp The role of athletic training and competition in ancient society, from the Greek Olympic games to Roman gladiatorial combat and modern recreations. Instruction Mode: Lecture Grading Option: Letter

CLAS 320gmp Diversity and the Classical Western Tradition
Units: 4 Terms Offered: Sp Political, ethical, and ideological aspects of classical Western attitudes towards human diversity. Relationship between classical tradition and - contemporary discussions of diversity and unity. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

CLAS 321 Greek Art and Archaeology
Units: 4 Terms Offered: Fa (Enroll in AHIS 321)

CLAS 322 Roman Art and Archaeology
Units: 4 Terms Offered: Sp (Enroll in AHIS 322)

CLAS 323 Aegean Archaeology
Units: 4 Terms Offered: FaSp Survey of the Bronze Age Aegean societies of Minoan Crete and Mycenaean Greece; emphasis on archaeological theory and method in a prehistoric context. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS-320, REL-323

CLAS 324 Late Antique Art and Archaeology
Units: 4 Investigation of the transformation between classical antiquity and the middle ages through examination of cities, buildings, images and artifacts of the 3rd–8thcentury Mediterranean. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS-324

CLAS 325 Ancient Epic
Units: 4 Representative epics of the Greek and Roman world; development of the character of the hero; later influences. Instruction Mode: Lecture Grading Option: Letter

CLAS 328 Archaeology of Religion in the Greco- Roman World
Units: 4 Examination of ancient objects, images and archaeological sites as evidence for religious practice and ideas about the sacred in the GrecoRoman world. *Recommended Preparation:* AHIS 120gp, AHIS 201g Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS-326, REL-328

CLAS 330 Ancients VS. Moderns
Units: 4 Terms Offered: FaSp The history of the conflicts and compromises between advocates of antiquity and of modernity that continues to shape our own approaches to the past. Instruction Mode: Lecture Grading Option: Letter

CLAS 333 Cult and City in Ancient Greece
Units: 4 Explores the relationship between civic and religious institutions in ancient Greece: city planning, warfare, mystery cults, drama, sacrifice, and women's rituals. Instruction Mode: Lecture Grading Option: Letter

CLAS 336 Rome and its Discontents: Literature and Social Change
Units: 4 Terms Offered: FaSp A study of major literary texts in translation from early imperial Rome and their responses to profound political and social change. Instruction Mode: Lecture Grading Option: Letter

CLAS 337gp Ancient Drama
Units: 4 Tragedies and comedies of the ancient world; later influences. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

CLAS 338 Warfare, State, and Society in the Ancient World
Units: 4 War, warriors, and their relationship to politics and culture in the ancient world. Mobilization, socioeconomic status of soldiers, discipline, organization, and hierarchy. Memory of war. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 311

CLAS 339 Ancient Science
Units: 4 Cross-cultural investigation of aims, origins, and transmission of various scientific traditions in antiquity. Relationship between science and philosophy, scientific thought and practice. Instruction Mode: Lecture Grading Option: Letter

CLAS 340 Ethics and Politics in Ancient Rome
Units: 4 Introduction to ethical and political thought of classical Roman writers. Relationship between theory and practice. Implications for contemporary society. *Recommended Preparation:* Basic familiarity with Roman history. Instruction Mode: Lecture Grading Option: Letter

CLAS 348g Athens in the Age of Democracy and Empire
Units: 4 Terms Offered: FaSp Democratic Institutions and practices, empire building, and cultural innovations of fifth and fourth century B.C. Athens using historical, rhetorical, dramatic, philosophical, and artistic sources. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

CLAS 349gp Ancient Empires
Units: 4 Terms Offered: FaSpSm History and cultures of the ancient empires of southwest Asia, from Cyrus the Great to the establishment of Islam. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Duplicates Credit in former CLAS 149 Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 349

CLAS 370 Leaders and Communities: Classical Models
Units: 4 Terms Offered: FaSp Examination of political and moral leadership in classical republican, democratic, and imperial communities; consideration of how these models are useful to contemporary democracies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT-370

CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion
Units: 4 Terms Offered: FaSp The history and culture of the Greek kingdoms in Egypt and Asia. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 387

CLAS 375 Alexander the Great
Units: 4 Ancient sources on Alexander's life, personality and conquests. Modern evaluations of his achievements as a

prototype for autocracy and empire-building from antiquity to today. Instruction Mode: Lecture Grading Option: Letter

CLAS 378 Ptolemaic Egypt
Units: 4 Terms Offered: FaSp Social, cultural, and political history of Egypt from Alexander to Cleopatra; state formation; immigration and cultural interaction between ethnic groups. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 378, HIST 328

CLAS 380 Approaches to Myth
Units: 4 Advanced study of uses and interpretations of myth. Approaches include myth and ritual; psychology; gender; myth in literature, film and art. *Recommended Preparation:* CLAS 280. Instruction Mode: Lecture Grading Option: Letter

CLAS 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CLAS 410a Research in Classical Studies
Units: 2 Current approaches to study of the ancient world. Research methods and resources. Registration Restriction: Open only to Classics majors. Instruction Mode: Lecture Grading Option: Letter

CLAS 410b Research in Classical Studies
Units: 2 Supervised independent research and writing of project developed in CLAS 410a. Registration Restriction: Open only to Classics majors. Instruction Mode: Lecture Grading Option: Letter

CLAS 415 Object-Worlds: Histories and Theories of Things
Units: 4 (Enroll in AHIS 415)

CLAS 420 Science and Empire from Baghdad to Byzantium
Units: 4 Terms Offered: FaSp Seminar on medieval science and scientists in the Byzantine and Islamic empires, including astronomy, astrology, medicine, and alchemy. Instruction Mode: Lecture Grading Option: Letter

CLAS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology
Units: 4 Max Units: max 8 Terms Offered: Irregular (Enroll in AHIS 425)

CLAS 465 Archaeology and Society
Units: 4 Terms Offered: FaSpSm
The interaction of archaeology and contemporary societies through political and moral claims; archaeologists' role as stewards and interpreters of ancient cultures and their remains. Capstone course for the Archaeology major. *Recommended Preparation:* background in archaeology, classics, or related field Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 465, REL 465, ARCG 465

CLAS 470 Democracies Ancient and Modern
Units: 4 Democratic and republican governments in Athens and Rome; their influence on republicanism in early modern Italy and 18th-century America; their relevance for contemporary democracies. Instruction Mode: Lecture Grading Option: Letter

CLAS 485 Comparative Grammar of Greek and Latin
Units: 4 A systematic comparative and historical linguistic study of the phonological, morphological and syntactic components of the grammars of the ancient Greek and Latin languages. Instruction Mode: Lecture Grading Option: Letter

CLAS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

CLAS 495x Honors Research
Units: 4 Individual research for honors in the major leading to a substantial paper or other project. Instruction Mode: Lecture Grading Option: Letter

CLAS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

CLAS 500 Proseminar
Units: 2 Terms Offered: Sp Introduction to classical scholarship; research methods; bibliography. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 501a Cross Registration with UCLA
Units: 21/2 Special studies in selected areas of classical civilization and literature. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 501b Cross Registration with UCLA
Units: 21/2 Special studies in selected areas of classical civilization and literature. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 501c Cross Registration with UCLA
Units: 21/2 Special studies in selected areas of classical civilization and literature. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 501d Cross Registration with UCLA
Units: 21/2 Special studies in selected areas of classical civilization and literature. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 510 Seminar in Classical Philology
Units: 4 Max Units: 12 Terms Offered: Fa Close study of the Greek and Latin languages and linguistic theory. *Recommended Preparation:* Knowledge of Greek or Latin Instruction Mode: Lecture Grading Option: Letter

CLAS 511 Sanskrit I
Units: 4 Introduces the student to the fundamentals of Sanskrit grammar, the ancient Indo- European language most closely related to Greek. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 512 Sanskrit II
Units: 4 Completes the acquisition of the fundamentals of Sanskrit grammar and enables the student to read a variety of Vedic and classical Sanskrit texts. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 515 Topics in Classical Scholarship
Units: 4 Max Units: 12 Terms Offered: FaSp Intensive study of individual authors, genres, periods, or areas of classical scholarship. Recommended Preparation: knowledge of Greek or Latin. *Recommended Preparation:* Knowledge of Greek or Latin Instruction Mode: Lecture Grading Option: Letter

CLAS 520 Approaches to Antiquity
Units: 4 Max Units: 12 Terms Offered: FaSp Study in the history and theory of classical scholarship. Recommended Preparation: knowledge of Greek or Latin. *Recommended Preparation:* Knowledge of Greek or Latin Instruction Mode: Lecture Grading Option: Letter

CLAS 525 Studies in Ancient and Pre-Modern Cultures
Units: 4 Max Units: 12 Terms Offered: FaSp Investigation of cultural interaction among Greeks, Romans and other ancient peoples. Includes a comparative study of pre-modern cultures. Recommended Preparation: knowledge of Greek or Latin. *Recommended Preparation:* Knowledge of Greek or Latin Instruction Mode: Lecture Grading Option: Letter

CLAS 540 Seminar in Early Greek Literature
Units: 4, 3 years Terms Offered: Fa Homer through Aeschylus. Instruction Mode: Lecture Grading Option: Letter

CLAS 545 Seminar in Theoretical Approaches to Greek Culture and Literature
Units: 4 Max Units: 12 Terms Offered: FaSp Introduces students to the study of Greek culture and to the range of theories useful for modeling that culture and its literature. Instruction Mode: Lecture Grading Option: Letter

CLAS 550 Seminar in Classical and Hellenistic Literature
Units: 4, 3 years Terms Offered: Sp Tragic poetry, comic poetry, Hellenistic poetry. Instruction Mode: Lecture Grading Option: Letter

CLAS 555 Seminar in Greek History, Culture and Society
Units: 4 Max Units: 12 Terms Offered: FaSp Develops a historical framework for Greek culture from the Mycenaean period through the Hellenistic world. Emphasis on prose texts: historians, philosophers, orators. Instruction Mode: Lecture Grading Option: Letter

CLAS 560 Seminar in Republican Latin Literature
Units: 4, 3 years Terms Offered: Fa Early Latin literature through Virgil. Instruction Mode: Lecture Grading Option: Letter

CLAS 565 Seminar in Theoretical Approaches to Roman Culture and Literature
Units: 4 Max Units: 12 Terms Offered: FaSp

Introduces students to the study of Roman culture and to a range of theories useful for modeling that culture and its literature. Instruction Mode: Lecture Grading Option: Letter

CLAS 570 Seminar in Imperial Latin Literature
Units: 4, 3 years Terms Offered: Sp Latin literature from the Augustan period to that of the Antonines. Instruction Mode: Lecture Grading Option: Letter

CLAS 575 Seminar in Roman History, Culture and Society
Units: 4 Max Units: 12 Terms Offered: FaSp Introduces students to research in Roman history and historiography. Instruction Mode: Lecture Grading Option: Letter

CLAS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CLAS 593x Practicum in Teaching Liberal Arts: Classics
Units: 2 Terms Offered: Fa Basic principles of philosophical pedagogy, with emphasis on practical applications and the importance of career-long skill development. Required for first-semester teaching assistants in Classics. Registration Restriction: Open only to doctoral students in Classics. Instruction Mode: Lecture Grading Option: Credit/No Credit

CLAS 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Special topics in classical language, literature and culture. Instruction Mode: Lecture Grading Option: Letter

CLAS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CLAS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Community Dentistry

CMDT 501 Introduction to Community Dentistry Programs
Units: 1 Lectures and practical field experiences introducing the role of the dentist in a variety of organized public health programs. Instruction Mode: Lecture Grading Option: Letter

CMDT 502a Contemporary Dental Practice
Units: 2 Economic, legal, and professional aspects of dental practice; alternative careers in dentistry. Instruction Mode: Lecture Grading Option: Letter

CMDT 502b Contemporary Dental Practice
Units: 2 Economic, legal, and professional aspects of dental practice; alternative careers in dentistry. Instruction Mode: Lecture Grading Option: Letter

CMDT 507a Ethical Issues in the Practice of Dentistry
Units: 0 Examination of the major ethical issues in the current practice of dentistry; study of effective and proper methods of addressing the issues. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

CMDT 507b Ethical Issues in the Practice of Dentistry
Units: 0 Examination of the major ethical issues in the current practice of dentistry; study of effective and proper methods of addressing the issues. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

CMDT 507c Ethical Issues in the Practice of Dentistry
Units: 1 Examination of the major ethical issues in the current practice of dentistry; study of effective and proper methods of addressing the issues. Instruction Mode: Lecture Grading Option: Letter

CMDT 601 Mobile Clinic
Units: 1 Clinic experience in provision of dental care for children of low income agricultural workers through use of mobile dental clinic on location. Instruction Mode: Lecture Grading Option: Letter

CMDT 603 Multiphasic Experiences in Extramural Dentistry
Units: 1 Community responsibilities of dentists in a dynamic society. Practical experiences include consultations and visitations to private offices, group practices, hospitals, and neighborhood health clinics. Instruction Mode: Lecture Grading Option: Letter

CMDT 606 Business Principles in Dentistry
Units: 2 Overview of basic business administration principles, including economics, accounting, marketing, finance, entrepreneurship, and strategic planning as relevant to the practice of dentistry. Instruction Mode: Lecture Grading Option: Letter

Communication Management

CMGT 500 Managing Communication
Units: 4 Production and distribution of information within large organizations; information networks, organization structure, control and decision-making functions. Resources necessary for effective organizational communication systems. Instruction Mode: Lecture Grading Option: Letter

CMGT 501 Communication Management Pro-Seminar
Units: 4 Terms Offered: Sp Central issues of theory and practice in the management of communication; broad introduction to all areas of the program. Registration Restriction: Open only to Communication Management majors Instruction Mode: Lecture Grading Option: Letter

CMGT 502 Strategic Corporate Communication
Units: 4 Roles, responsibilities and requirements of communication functions within corporations; design and implementation of communication plans; strategic message production for internal and external audiences. Instruction Mode: Lecture Grading Option: Letter

CMGT 503 Strategic Communication Consulting
Units: 4 Communication consulting skills including facilitation, training, presentation coaching, benefits writing, speech writing, and communicating organizational change; consulting basics, proposals, cost estimating, and final reports. Instruction Mode: Lecture Grading Option: Letter

CMGT 504 Writing for Strategic Communication
Units: 4 Writing skills necessary for an organizational communicator; review of strategic writing fundamentals; development of portfolio of diverse media applications based on strategic corporate communication requirements. Instruction Mode: Lecture Grading Option: Letter

CMGT 505 Communication in Work Settings
Units: 4 How work settings determine communication: basic structures of communication, influence of technology, social contexts, and physical space. Applications to management. Instruction Mode: Lecture Grading Option: Letter

CMGT 506 Images and Image Management
Units: 4 Examines images and image manipulation in communication, management and social control. Synthesizes work ranging from cognition and interpersonal behavior to mass media and popular culture. Instruction Mode: Lecture Grading Option: Letter

CMGT 507 Information Management
Units: 4 Terms Offered: FaSp Conceptual frameworks to understand variability, uncertainty and bias associated with information and data. Principles and strategies for critical analyses, sense-making, knowledge discovery, data-based

presentation. Instruction Mode: Lecture Grading Option: Letter

CMGT 508 Communicating Strategy and Change
Units: 4 Examination of role of communication in developing and implementing business strategy; critical assessment and practice with models, tools, and techniques for communicating change. Instruction Mode: Lecture Grading Option: Letter

CMGT 509 Influential Communication in the Marketplace
Units: 4 Promotional messages as both creative expressions and agents for behavioral change; application of social science theories of persuasion and compliance in interpersonal and mass-media venues. Instruction Mode: Lecture Grading Option: Letter

CMGT 510 Communication, Values, Attitudes and Behavior
Units: 4 Theory and research on value and attitude formation and change; consequences for communication and behavior. Instruction Mode: Lecture Grading Option: Letter

CMGT 511 Health Communication
Units: 4 Connections between health providers' communication and patients' well-being; consultation language, nonverbal behavior, physical settings, design of media messages, information technologies in patient education and care. Instruction Mode: Lecture Grading Option: Letter

CMGT 512 Unintended Consequences of Communication
Units: 4 A multidisciplinary examination of the unintended consequences of interpersonal, mass media, political, commercial and social communication by analyzing tactical and strategic errors in communication campaigns. Instruction Mode: Lecture Grading Option: Letter

CMGT 514 Analytical Tools for Communication Decisions
Units: 4 Terms Offered: Fa Decision making for communication professionals utilizing statistics, methods, and analysis. Identifying solutions and how to communicate these solutions to others. *Prerequisite:* CMGT 540 Registration Restriction: Open only to Communication Management majors Instruction Mode: Lecture Grading Option: Letter

CMGT 515 Innovation and the Information Economy
Units: 4 Analysis of the innovation dynamics fueled by the information and communication technology revolution; economic, technological, institutional and personal underpinnings of innovation and entrepreneurship. Instruction Mode: Lecture Grading Option: Letter

CMGT 516 Communication Strategies For Innovators and Entrepreneurs
Units: 4 Terms Offered: FaSp Communication research, analysis and strategies for new ventures to establish spread and acceptance in saturated mediascapes. Help founders find persuasive voice and identity. Instruction Mode: Lecture Grading Option: Letter

CMGT 520 Social Roles of Communication Media
Units: 4 How mass media shape public images of groups, channel political power, promote consumption of goods. Social and political theories as tools in evaluating media impact. Instruction Mode: Lecture Grading Option: Letter

CMGT 528 Web Strategies for Organizations
Units: 4 Terms Offered: Sp Students learn to assess organizations' online needs, to examine the use of the Internet in terms of electronic commerce and global pressures, and design Web page strategies. Instruction Mode: Lecture Grading Option: Letter

CMGT 529 Social Media Entertainment and Creator Culture
Units: 4 Terms Offered: Sp Maps the global rise and evolution of Social Media Entertainment and China's Wang Hong industries distinguished by creators, aka influencers, YouTubers, live streamers, KOLs and Wang Hong. Instruction Mode: Lecture Grading Option: Letter

CMGT 530 Social Dynamics of Communication Technologies
Units: 4 Impact of television, satellites, computers, and other new technologies; competing theories about the role of technology in society; historical effects of introducing new technologies. Instruction Mode: Lecture Grading Option: Letter

CMGT 531 Communication and the International Economy
Units: 4 Examines the impact of global economic changes on communications industries, the political and economic forces shaping these industries and the roles of its managers. Instruction Mode: Lecture Grading Option: Letter

CMGT 532 Development of American Electronic Media Industry
Units: 4 Origins of American radio and television broadcasting industry and analysis of its development into the contemporary media industry; covers history, technology, regulation, and business practices. Instruction Mode: Lecture Grading Option: Letter

CMGT 533 Emerging Communication Technologies
Units: 4 Basics of multimedia; new forms of audio and video interactive technologies; computer communication networks; social, political, cultural, interpersonal, organizational issues related to emerging communication technologies. Duplicates Credit in former COMM 533. Instruction Mode: Lecture Grading Option: Letter

CMGT 535 Online Communities for Organizations
Units: 4 How Web-based technologies affect organizational communication, including issues related to collaboration, innovation and knowledge management, forecasting, and networking. Duplicates Credit in former COMM 535. Instruction Mode: Lecture Grading Option: Letter

CMGT 536 Team Communication and Leadership
Units: 4 Theories of effective team communication and leadership; case studies of effective and ineffective teams and leaders; teamwork and communication development; and distributed work teams. Instruction Mode: Lecture Grading Option: Letter

CMGT 537 The Industry, Science and Culture of Video Games
Units: 4 History, social dynamics, and cultural impact of video games; developments in technology and design; issues confronting the video game industry and organizations. Instruction Mode: Lecture Grading Option: Letter

CMGT 540 Uses of Communication Research
Units: 4 Applications of both data and interpretation in communications management. Topics include: audience ratings, surveys, experimental tests of programs and campaigns, formative evaluation, secondary data sources. Registration Restriction: Open only to Communication Management and Communications Management Online students Instruction Mode: Lecture Grading Option: Letter

CMGT 541 Integrated Communication Strategies
Units: 4 Communication strategies for product marketing and advertising; communication's role in developing domestic and international marketplaces; practical applications of persuasion theory. Instruction Mode: Lecture Grading Option: Letter

CMGT 542 Business Strategies of Communication Firms
Units: 4 Terms Offered: FaSpSm An overview of business strategies in communication agencies. Emphasis on active cases. Students prepare strategic and executional aspects for communication needs in client firms. Instruction Mode: Lecture Grading Option: Letter

CMGT 543 Managing Communication in the Entertainment Industry
Units: 4 Examination, application and critique of traditional and contemporary organizational communication theory as it applies to the entertainment industry's unique internal and external environments. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PR 583

CMGT 544 Creating Organizational Identity: Meaning Through Messages
Units: 4 Use of rhetorical theories and communication models to create organizational identification with internal and external audiences; the role of values and ethics in creating identities. Instruction Mode: Lecture Grading Option: Letter

CMGT 545 Communication and Global Competition
Units: 4 How communication technologies are used to secure competitive advantage; how firms use communication systems to sustain effective positioning in an industry; convergence of communication industries. Instruction Mode: Lecture Grading Option: Letter

CMGT 546 Sports Media and Society
Units: 4 History and evolution of sports media industry; traditional, new and alternative sports media; globalization of sports; sports promotions and personalities. Instruction Mode: Lecture Grading Option: Letter

CMGT 547 Distribution of Recordings: Media, Retail and Online Channels
Units: 4 Cultural and critical analyses of radio and recording industry development and business strategy; influence of legal and regulatory institutions, impact of new forms of distribution. Instruction Mode: Lecture Grading Option: Letter

CMGT 548 Issues in Children's Media
Units: 4 Historical review of children's programming; programming genres; ethical and business issues of marketing to children; children's uses of various media. Instruction Mode: Lecture Grading Option: Letter

CMGT 549 Case Studies in Digital Entertainment
Units: 4 Explores foundation of U.S. media policy in the digital age; students prepare White Papers on an urgent issue of contemporary digital media and entertainment policy. Instruction Mode: Lecture Grading Option: Letter

CMGT 550 Hollywood 3.0 — Entertainment Industry in the Convergence Age
Units: 4 In-depth analysis of the challenges confronting the entertainment industry in the wake of media convergence including a survey of media convergence history and theories. Instruction Mode: Lecture Grading Option: Letter

CMGT 551 Communicating Entertainment Media Identities
Units: 4 Understanding dynamics in entertainment markets enabled by emerging digital technologies; broad and niche strategies to target appropriate audiences, building audience engagement with entertainment content identities. Instruction Mode: Lecture Grading Option: Letter

CMGT 552 Visual Storytelling: Production, Management and Culture
Units: 4 Focuses on management, production and distribution of scripted film, television and web stories to understand visual storytelling as a communicative strategy for advertising and education. Instruction Mode: Lecture Grading Option: Letter

CMGT 553 Marketing Communication Theory and Application
Units: 4 Terms Offered: Sp Applies communication theory and research to understand emerging marketing communication topics and issues. Registration Restriction: Open only to Master of Communication Management students Instruction Mode: Lecture Grading Option: Letter

CMGT 554 Copywriting and Creativity
Units: 4 Foundational and advanced practices for copywriting and related design in communication; integrated analysis of concepts and pragmatics surrounding creativity for communication effectiveness. Instruction Mode: Lecture Grading Option: Letter

CMGT 555 Online Marketing Communication Development and Analysis
Units: 4 Analysis and development of online communication and marketing campaigns; exploration of current Internet best practices in social media, SEM, privacy, location-based marketing, and online measurement. Instruction Mode: Lecture Grading Option: Letter

CMGT 556 Global Marketing Communication
Units: 4 Communication strategies in a global marketing environment; analysis of global-local challenges and opportunities; effective global integrated communication to create and sustain competitive advantage. Instruction Mode: Lecture Grading Option: Letter

CMGT 557 Communication Policy in the Global Marketplace
Units: 4 Comparative analysis of various countries' communication and information technology policies; examines developments in telecommunications, broadcasting, and entertainment industries and policy questions for global media marketplace. Instruction Mode: Lecture Grading Option: Letter

CMGT 558 The International Entertainment Marketplace
Units: 4 Global influences on entertainment industries (broadcasting, film, telecommunications, Internet, video games, and music); case analyses of specific organizations and geographic regions; impact on local cultures. Instruction Mode: Lecture Grading Option: Letter

CMGT 559 Global Hollywood
Units: 4 Examines the influence of the transglobal flow of media between the U.S. entertainment industries and other national media industries. Instruction Mode: Lecture Grading Option: Letter

CMGT 560 Communications Policy
Units: 4 Evolving regulation of telephone, radio, television, cable, print, and other media. Major policy-makers and decision points in policy-making at local, state, national, and international levels. Instruction Mode: Lecture Grading Option: Letter

CMGT 562 Foundations of Effective PR Writing
Units: 4 Terms Offered: Other (Enroll in PR 562)

CMGT 564 Methodological Fundamentals of Big Data in Communication
Units: 4 Understanding of fundamental methodological issues about big data: types, platforms, tools, analysis techniques, and relevant theoretical frameworks. Instruction Mode: Lecture Grading Option: Letter

CMGT 565 Communication Law and Broadcasting
Units: 4 History and present status of broadcast regulations; emphases on First Amendment, character of regulatory agencies, impact of court decisions, influence of technological advances. Instruction Mode: Lecture Grading Option: Letter

CMGT 566 Communication Law and New Technologies
Units: 4 Development of law in newer technologies. Cases include cable television, low power television, direct broadcast satellites, teletext, video cassettes, telephone, data networks, computer regulation. Instruction Mode: Lecture Grading Option: Letter

CMGT 567 Internet Policy, Practice and Regulation
Units: 4 Examines how legal decisions impact commercial and personal uses of the Internet; regulatory responses to court decisions. Instruction Mode: Lecture Grading Option: Letter

CMGT 568 Influencer Strategies
Units: 4 Terms Offered: Fa Students master skills and strategies to distinguish the truly influential from the merely popular, manage international influencer campaigns and develop successful influencers. Instruction Mode: Lecture Grading Option: Letter

CMGT 571 Communications Technologies
Units: 4 Basic technological concepts necessary to understand the workings of modern communications products and services, to include frequency, bandwidth, electricity, modulation, and digital conversion. Instruction Mode: Lecture Grading Option: Letter

CMGT 573 Evaluating Communication Needs
Units: 4 Participation as consultants in field projects. Use of organizational, interpretive, and statistical methods to design organizational communication systems is emphasized. Instruction Mode: Lecture Grading Option: Letter

CMGT 574 Tele-Media: Strategic and Critical Analysis
Units: 4 Strategic and critical analyses of emerging and new communication technologies from historical, business, financial, consumer, and policy perspectives. Instruction Mode: Lecture Grading Option: Letter

CMGT 576 Communication Strategies for Conflict Management
Units: 4 Communication strategies for effective negotiation, mediation and facilitation of disputes; structures for public interventions; emergence of online dispute resolution systems. Instruction Mode: Lecture Grading Option: Letter

CMGT 577 Communicating Corporate Social Responsibility
Units: 4 Evolution, models, metrics and stakeholders. Key communication issues in designing and implementing initiatives, CSR reporting, strategic partnerships and online communities. Analysis of communication paradoxes. Instruction Mode: Lecture Grading Option: Letter

CMGT 578 Non-profit Advocacy
Units: 4 Examines non-profit advocacy (vs. for-profit communication) marked by different rhythmic and creative drivers; non-profit audience analysis; creation of conversations for viral communication impact. Instruction Mode: Lecture Grading Option: Letter

CMGT 580 Chinese Media and Society
Units: 4 Terms Offered: FaSp Legacy and emerging media industries in China. Focus on key actors, particularly relationships between platforms, creators, content, audience, intermediaries and sponsors. Instruction Mode: Lecture Grading Option: Letter

CMGT 581 Media in Social Services: Design and Evaluation of Campaigns
Units: 4 Theory and research issues in the use of media for changing behavior in

health, public safety, welfare, and other areas of social services. Duplicates Credit in former COMM 581. Instruction Mode: Lecture Grading Option: Letter

CMGT 582 International Communication: National Development
Units: 4 Comparison of traditional communication programs and newer information and communication technologies for analyzing needs of international communities; design, implementation, monitoring, and evaluation of development-related projects. Instruction Mode: Lecture Grading Option: Letter

CMGT 583 Social Marketing and Entertainment Education
Units: 4 Theoretical foundations of social marketing and entertainment education; uses of dramatic serials, telenovelas and animation to promote human rights; program design, evaluation. Instruction Mode: Lecture Grading Option: Letter

CMGT 584 Communication and the Multicultural Marketplace
Units: 4 Popular culture and marketing communication; race, gender, sexual orientation and consumer culture; consumption patterns and identity, loyalty and self-actualization; cultural marketing campaigns and sociopolitical conflict. Instruction Mode: Lecture Grading Option: Letter

CMGT 585 Communication Leadership in the Entertainment Industry
Units: 4 Examination of the communicative elements of leadership in entertainment products and processes; the role of communication experts in supporting, coaching and facilitating entertainment leadership. Instruction Mode: Lecture Grading Option: Letter

CMGT 586 Entertainment Media: Content, Theory, and Industry Practices
Units: 4 Examination of social scientific theory and research on patterns of media content; effects of mass media exposure on individuals and society; and industry practices. Instruction Mode: Lecture Grading Option: Letter

CMGT 587 Audience Analysis
Units: 4 Fundamental principles of audience research; critique of existing methodologies; implications for global audiences and mass media markets. Instruction Mode: Lecture Grading Option: Letter

CMGT 588 Global Storytelling: The Power of Narrative
Units: 4 Theory, structure and effects of culture on narrative. Story in non-profit and health organizations; new fields that recognize the importance of storytelling; storytelling in diverse media. Instruction Mode: Lecture Grading Option: Letter

CMGT 589 Storytelling, Culture and Experiential Communication
Units: 4 Terms Offered: FaSp How to communicate through storytelling in contemporary culture. Strategic story development for brands, for self-branding, and for social impact. Story creation utilizes narrative theories and workshop-style participatory activities. Instruction Mode: Lecture Grading Option: Letter

CMGT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the school. Duplicates Credit in former COMM 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

CMGT 591 Communication Internship
Units: 1, 2 Max Units: 03 Terms Offered: FaSpSm Field experience in applying communication principles to settings in organizations, campaigns, or other contexts; analysis and assessment of issues and problems. Registration Restriction: Open only to graduate students in the following majors: Communication PhD, Communication Management, Global Communication, Digital Social Media, Public Diplomacy, Public Diplomacy (Practitioner and Mid-Career Professional) Instruction Mode: Lecture Grading Option: Credit/No Credit

CMGT 592 Theory and Practice of Professional Presentations
Units: 2 Application of communication and persuasion theories in the creation of oral presentations; critical assessment of the role of new technologies for professional presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

CMGT 597a Communication Research Practicum
Units: 2 Terms Offered: FaSpSm Students design and produce an original project appropriate for their emphasis area within the Master of Communication degree. *Prerequisite:* CMGT 501 and CMGT 540. Duplicates Credit in former CMGT 597. Instruction Mode: Lecture Grading Option: Letter

CMGT 597b Communication Research Practicum
Units: 2 Terms Offered: FaSpSm Students design and produce an original project appropriate for their emphasis area within the Master of Communication degree. *Prerequisite:* CMGT 501 and CMGT 540. Duplicates Credit in former CMGT 597. Instruction Mode: Lecture Grading Option: Letter

CMGT 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

Motion Picture Producing

Note: Instructor availability for a particular course or section cannot be guaranteed.

CMPP 541a Producing Workshop
Units: 4 Terms Offered: Fa Hands-on workshops in creative and physical filmmaking. Duplicates Credit in CTPR 504 and former CMPP 541L. Instruction Mode: Lecture Grading Option: Letter

CMPP 541b Producing Workshop
Units: 4 Terms Offered: Sp Further hands-on creative and physical filmmaking, making more advanced short films. Duplicates Credit in CTPR 504 and former CMPP 541L. Instruction Mode: Lecture Grading Option: Letter

CMPP 548 Introduction to Producing for Television
Units: 2 Terms Offered: Fa An introduction to the creative and business aspects of producing for television. Registration Restriction: Open only to PFTM students. Instruction Mode: Lecture Grading Option: Letter

CMPP 550 Script Analysis for the Producer
Units: 2 Terms Offered: FaSp Detailed evaluation of completed scripts and of the producer's role in bringing them to fruition. Instruction Mode: Lecture Grading Option: Letter

CMPP 560 Script Development
Units: 2 Terms Offered: FaSp From idea and story to finished shooting script. Instruction Mode: Lecture Grading Option: Letter

CMPP 561 Motion Picture and Television Marketing
Units: 2 Terms Offered: Fa Analysis and preparation of film and television show marketing campaigns from creative concept to targeting across various media. Instruction Mode: Lecture Grading Option: Letter

CMPP 563 Producing Symposium
Units: 1 Terms Offered: Fa Lectures on creative aspects of producing. Instruction Mode: Lecture Grading Option: Credit/No Credit

CMPP 564 Digital Media and Entertainment
Units: 2 Terms Offered: Sp Exploring the effect of digital media on the entertainment landscape. Instruction Mode: Lecture Grading Option: Letter

CMPP 565 Scheduling and Budgeting
Units: 4 Terms Offered: FaSp Concept and preparation of a complete schedule and budget. Instruction Mode: Lecture Grading Option: Letter

CMPP 566 Finance
Units: 2 Terms Offered: FaSp Seminar on financial aspects of film industry and methods of financing films. Instruction Mode: Lecture Grading Option: Letter

CMPP 568 Producing for Television
Units: 2 Terms Offered: Fa Discussions of the creative and financial aspects of television producing. Instruction Mode: Lecture Grading Option: Letter

CMPP 569 Seminar on Non-Mainstream Producing
Units: 2 Terms Offered: FaSp Discussions on non-major studio producing options, including non-traditional financing and non-theatrical producing. Instruction Mode: Lecture Grading Option: Letter

CMPP 570 Advanced Television
Units: 2 Terms Offered: Fa Advanced studies of the business of television, including the economic structure of the television industry. Instruction Mode: Lecture Grading Option: Letter

CMPP 571 Producing the Screenplay
Units: 2 Terms Offered: FaSp Workshop for the creation and development of a screenplay or teleplay. Instruction Mode: Lecture Grading Option: Letter

CMPP 589a Graduate Film Business Seminar
Units: 3 Terms Offered: Fa Economics of the entertainment industry, including entertainment law, and rights acquisition. Includes weekly film screening. Instruction Mode: Lecture Grading Option: Letter

CMPP 589b Graduate Film Business Seminar
Units: 4 Terms Offered: Sp Economics of the entertainment industry, including

entertainment law, and rights acquisition. Includes weekly film screening. Instruction Mode: Lecture Grading Option: Letter

CMPP 591 Producing Practicum
Units: 2 Terms Offered: Irregular Producing workshop encompassing all aspects of producing, including script development, budgeting, casting and actual production. Instruction Mode: Lecture Grading Option: Letter

CMPP 592 Individual Project Seminar
Units: 4 Terms Offered: Sp Directed research project and seminars in related topics. Duplicates Credit in former CTPR 592. Instruction Mode: Lecture Grading Option: Letter

CMPP 599 Special Topics
Units: 2 Terms Offered: Irregular Investigation of new and emerging aspects of producing motion pictures and television; special and experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Cinematic Arts

Note: Instructor availability for a particular course or section cannot be guaranteed.

CNTV 101 Reality Starts Here
Units: 2 Terms Offered: Fa Introduction to emerging forms of immersive entertainment, to Cinematic Arts faculty, and to guest speakers who will comment on the changing nature of the industry. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 325 Film and Digital Cinematography
Units: 3 Terms Offered: Sm The craft of cinematography for film and digital media; includes lectures, on-set film and video production exercises, and scene studies. Instruction Mode: Lecture Grading Option: Letter

CNTV 332 The Art of Motion Picture Editing
Units: 2 Analyzing and deconstructing all the elements of the art of creatively manipulating visual images through editing. Instruction Mode: Lecture Grading Option: Letter

CNTV 367 The Music Video: Business and Practice
Units: 4 Terms Offered: Sm Creating concepts, writing treatments, pitching, and the realities and details of music video production including budgeting, pre- and post-production. Duplicates Credit in CTPR 497 Music Video Production. Instruction Mode: Lecture Grading Option: Letter

CNTV 370 3-D Animation for Film and Video
Units: 4 Terms Offered: Sm The basics of 3-D computer animation techniques and their use in creating animated characters. Instruction Mode: Lecture Grading Option: Letter

CNTV 372 Developing the Screenplay
Units: 2 Terms Offered: Sm The process of script development, examining a project from the initial idea and tracking its progress through to the completed screenplay ready for production. Instruction Mode: Lecture Grading Option: Letter

CNTV 375 Breaking Into the Entertainment Industry
Units: 2 Terms Offered: FaSm An overview of the entertainment industry and the tools needed to secure jobs and survive and succeed in the market. Instruction Mode: Lecture Grading Option: Letter

CNTV 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CNTV 392 Filmmaking Intensive
Units: 4 Terms Offered: Sm The basic technical and aesthetic concepts underlying motion picture production and an exploration of visual language. Instruction Mode: Lecture Grading Option: Letter

CNTV 393 16mm Filmmaking: Structuring Scenes That Work
Units: 4 Terms Offered: Sm The creative and technical aspects of 16mm filmmaking, particularly as they apply to the short film or the individual scene. Instruction Mode: Lecture Grading Option: Letter

CNTV 403 Filmmaking Online
Units: 4 Terms Offered: Sm An intensive online course in expressing ideas through the moving image. Writing, directing, photographing and editing short projects. Instruction Mode: Lecture Grading Option: Letter

CNTV 405 Studio Producing and Directing
Units: 4 Terms Offered: Sm Understanding the craft and art of directing in the studio system, and developing a working methodology for creative producing. Instruction Mode: Lecture Grading Option: Letter

CNTV 410 Non-Fiction Filmmaking
Units: 4 Terms Offered: Sm Conceiving, researching, writing, producing, directing, and editing an original non-fiction work and exploring practical training in techniques of non-fiction film. Instruction Mode: Lecture Grading Option: Letter

CNTV 411 Creating the Short Film
Units: 4 Terms Offered: Sm An overview of the concerns, functions and responsibilities associated with creating a short narrative film. Casting, producing and directing an individual project. Instruction Mode: Lecture Grading Option: Letter

CNTV 413 Digital Editing
Units: 4 Terms Offered: Sm Introduction to non-linear editing techniques, hardware, digitizing, logging, and special effects, using the AVID Media Composer editing system. Instruction Mode: Lecture Grading Option: Letter

CNTV 415 Commercial Production: The Art of the Sixty-Second Story
Units: 4 Terms Offered: Sm The three main components of commercials: agency creation, spot production, and post-production. Writing, pitching, casting, directing, and editing commercials. Instruction Mode: Lecture Grading Option: Letter

CNTV 419 Inside the Business of Film and Television
Units: 4 Terms Offered: FaSpSm An overview of the contemporary studio system, independent films, and television, including script analysis, pitching, optioning properties, the marketplace, representation, career management, and networking. Instruction Mode: Lecture Grading Option: Letter

CNTV 420 Independent Feature Filmmaking
Units: 2 Terms Offered: FaSpSm Independent feature film development, financing, production, and distribution. Discussions with independent filmmakers. Instruction Mode: Lecture Grading Option: Letter

CNTV 427 The Art and Commerce of Independent Film
Units: 4 Terms Offered: FaSp A comprehensive analysis of the development-to-release life cycle of independently produced films. Instruction Mode: Lecture Grading Option: Letter

CNTV 440 The Business of the Entertainment Industry: Motion Pictures, Television, Animation, Video Games, and Interactive Entertainment
Units: 2 Terms Offered: Fa An in-depth analysis of the history, evolution, and current state of the motion picture, television, animation, video game, and interactive entertainment industries. Instruction Mode: Lecture Grading Option: Letter

CNTV 441 Business and Cinematic Arts Entertainment Practicum
Units: 2 Terms Offered: Sp Application of business and cinematic arts concepts to entertainment industry networking and career-building experiences. Peer collaboration/competition, and identifying organizational compatibility. Registration Restriction: Open only to Business Administration (Cinematic Arts) majors Instruction Mode: Lecture Grading Option: Letter

CNTV 457 The Entertainment Entrepreneur: Getting Your First Project Made
Units: 2 Terms Offered: Fa The practical aspects of entrepreneurial producing in the entertainment industry. Identifying and understanding the pitfalls and benefits of creating one's own projects. Instruction Mode: Lecture Grading Option: Letter

CNTV 458 Producing and Marketing Feature Length Films
Units: 2 Terms Offered: Fa The principles and business practices of producing and marketing feature length films in the motion picture industry. Registration Restriction: Open only to Business Administration (Cinematic Arts) majors Instruction Mode: Lecture Grading Option: Letter

CNTV 463 Television: Integrating Creative and Business Objectives
Units: 2 Terms Offered: Fa An investigation of the creative and business sides of television and how they connect, including changes caused by fractionalization and digital technology. Registration Restriction: Open only to Business Administration (Cinematic Arts) students. Instruction Mode: Lecture Grading Option: Letter

CNTV 467 The Future of Digital Media and the Entertainment Industry
Units: 2 Terms Offered: Sp Examines how digital media will affect the future of the television, motion picture, game, music, and interactive industries. Instruction Mode: Lecture Grading Option: Letter

CNTV 474 Digital DNA: Media Redefined
Units: 2 Terms Offered: FaSp A practical, hands-on learning experience in creating media content and turning that content into a myriad of viable businesses. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 478 Horror Film Analysis and Production
Units: 4 Terms Offered: Sm The fundamentals of horror filmmaking, analysis of horror as a genre and professional opportunities in the entertainment industry. Instruction Mode: Lecture Grading Option: Letter

CNTV 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CNTV 495 Internship in Cinematic Arts
Units: 1, 2, 4 Max Units: 04 Terms Offered: FaSpSm On-the-job film, television, and interactive industry experience in the areas of interest of the individual student. Requires departmental approval. Duplicates Credit in former CTIN 495 and former CTPR 495 Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in cinematic arts. Instruction Mode: Lecture Grading Option: Letter

CNTV 501 Cinematic Arts Seminar
Units: 1 Max Units: 4.0 Terms Offered: Fa Introduction to an industry and art form in the midst of transformation, with guest speakers and cinematic arts faculty who will address new research and technologies. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 521 The World of the Producer
Units: 4 Terms Offered: FaSp A comprehensive overview of the role of the producer in creating television programming, feature films, and new media content. Instruction Mode: Lecture Grading Option: Letter

CNTV 522 The Television Industry: Networks, Cable and the Internet
Units: 4 Terms Offered: FaSp The current state of the television industry and future business paradigms. Instruction Mode: Lecture Grading Option: Letter

CNTV 523 Feature Film Financing and the Studio System
Units: 4 Terms Offered: FaSp An overview of the motion picture studio system and how to finance feature films. Principles, business practices, and future trends. Instruction Mode: Lecture Grading Option: Letter

CNTV 524 Digital Technologies and the Entertainment Industry
Units: 4 Terms Offered: FaSp The impact of digital technologies on the film, television, and music industries from content creation to distribution. Instruction Mode: Lecture Grading Option: Letter

CNTV 525 Entertainment Marketing in Today's Digital Environment
Units: 4 Terms Offered: Fa Entertainment industry marketing disciplines, covering motion pictures, television, music, theme parks, home entertainment, and video games. Current principles and business practices. Instruction Mode: Lecture Grading Option: Letter

CNTV 530 Cinematic Ethics
Units: 1 Terms Offered: FaSp An introductory course in the ethical questions professionals encounter in the field of cinematic arts. Case studies and guest lectures. Registration Restriction: Open only to students in the School of Cinematic Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

CNTV 561 Publicity for Cinema and Television
Units: 4 Terms Offered: FaSp Analysis and preparation of advertising and publicity campaigns for entertainment films and television. Duplicates Credit in former CTPR 561 Instruction Mode: Lecture Grading Option: Letter

CNTV 562 Seminar in Motion Picture Business
Units: 4 Terms Offered: FaSp Problems of studio operation, production, distribution, exhibition or legal procedures relating to the motion picture. Duplicates Credit in former CTPR 562 Instruction Mode: Lecture Grading Option: Letter

CNTV 563 The Business of Representation
Units: 4 Terms Offered: FaSp Various roles an agent, manager, attorney and publicist play in representing talent, producers and writers. Taught by professionals who are at the forefront of the entertainment industry. Duplicates Credit in former CTPR 563 Instruction Mode: Lecture Grading Option: Letter

CNTV 589 Graduate Film Seminar
Units: 2 or 4 Max Units: 8.0 Terms Offered: FaSp Detailed investigations and discussion of various aspects of film. Instruction Mode: Lecture Grading Option: Letter

CNTV 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CNTV 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CNTV 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CNTV 595 Professional Practicum
Units: 1, 2, 4 Max Units: 8 Terms Offered: FaSpSm Film, media, archival and interactive industry experience in areas of interest to the individual student, and development of a personal brand. Requires departmental approval. Registration Restriction: Open only to graduate students. Grading Option: Credit/No Credit

CNTV 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Detailed investigation of new or emerging aspects of cinematic arts; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CNTV 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CNTV 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CNTV 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CNTV 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CNTV 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

Comparative Literature

COLT 101gp Masterpieces and Masterminds: Literature and Thought
Units: 4 Terms Offered: Fa A broad introduction to the great works of Western culture from antiquity to 1800. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in former COLT 150x. Instruction Mode: Lecture, Discussion Grading Option: Letter

COLT 102g On Location: The Place of Literature in Global Cultures
Units: 4 Terms Offered: FaSp Comparative study of works from a broad range of cultural traditions that originate from, and provide insight into, vital global locations outside the Western sphere. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

COLT 250g Cultures of Latin America
Units: 4 Terms Offered: Fa Comparative study of Latin American cultures, especially vis-a-vis those of Europe and the U.S. Materials drawn from literature, but also film, opera, history, cultural theory. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

COLT 251g Modern Literature and Thought of the West Since 1800
Units: 4 Terms Offered: SpSm Survey of literary and other cultural texts from the 19th to the 21st centuries, with emphasis on the individual and social change. Satisfies

New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

COLT 255gw Southeast Asian Literature and Film
Units: 4 Terms Offered: FaSp (Enroll in EALC 255gw)

COLT 264gp Asian Aesthetic and Literary Traditions
Units: 4 A comparative study of the Asian aesthetic heritage of poetry, painting, music, and drama; of literary themes, trends, and myths. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as EALC-264

COLT 302 Introduction to Literary Theory
Units: 4 Terms Offered: Fa Introduction to general forms of reflection on literary discourse. Instruction Mode: Lecture Grading Option: Letter

COLT 303 Globalization: Culture, Change, Resistance
Units: 4 Terms Offered: Sp Cultural dimensions of issues in globalization: migration, diaspora, terrorism, communications, climate change, collectives, production and technology, money and exchange. Instruction Mode: Lecture Grading Option: Letter

COLT 311 Epic
Units: 4 Formation and development of epic poetry from Near Eastern and Greco-Roman antiquity through the Renaissance to the present. Emphasis on relation to political and cultural change. Instruction Mode: Lecture Grading Option: Letter

COLT 312 Heroes, Myths and Legends in Literature and the Arts
Units: 4 Study of transformations of characters and themes from myth, legend or fairytale (Oedipus, Antigone, Faust, Don Juan, Cinderella, Comic and Tragic Twins, Hero and Monster). Instruction Mode: Lecture Grading Option: Letter

COLT 324 Women in Medieval and Renaissance Europe
Units: 4 Study of literary, social and cultural lives of women during the European Middle Ages and Renaissance. Reading and analysis of texts written by and about women. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-324

COLT 331g The Black Atlantic: Narratives of Migration and Travel
Units: 4 Terms Offered: FaSp (Enroll in AMST 331gw)

COLT 335 Decadence and Modernity
Units: 4 Study of the notion of "decadence" and its impact on modern and contemporary literary/cultural production, with a comparatist focus on different linguistic traditions. Instruction Mode: Lecture Grading Option: Letter

COLT 345 Realist Fiction
Units: 4 Study of the ways literature presents the "real" (social and/or individual) through readings of selected novels and short stories in the realist and naturalist traditions. Instruction Mode: Lecture Grading Option: Letter

COLT 346 Fictions of the First Person
Units: 4 Study of prose fiction in the first person as a model of fiction in general and as a reflection of the fictional structure of selfhood. Instruction Mode: Lecture Grading Option: Letter

COLT 347g Modern Arab Culture and Literature
Units: 4 (Enroll in MDES 343g)

COLT 348 Modernist Fiction
Units: 4 Study of the Modernist aesthetic in narrative texts by Gide, Joyce, Kafka, Woolf and others; possible focus on related trends in other literary traditions. Instruction Mode: Lecture Grading Option: Letter

COLT 354 Revolutions in Theater
Units: 4 Comparative study of groundbreaking contributions to modern theories of theater and performance in the context of other 20th century revolutions — aesthetic, cultural, and social. Instruction Mode: Lecture Grading Option: Letter

COLT 357 The Avant-Garde
Units: 4 Max Units: 8.0 Study of the relationship between literary modes and other arts since 1900, focusing on particular avant-garde movements. Instruction Mode: Lecture Grading Option: Letter

COLT 360gp Fictions of Africa
Units: 4 Introduction to African cultural history by way of a comparative study of major literary works and intellectual thought from representative regions and countries in Africa. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

COLT 365 Literature and Popular Culture
Units: 4 Study of mass-reproduced verbal and visual art forms, such as graphic novels, comics, animation, popular music, video, graffiti, advertising. Instruction Mode: Lecture Grading Option: Letter

COLT 370 Leaders and Communities: Classical Models
Units: 4 Terms Offered: FaSp (Enroll in CLAS 370)

COLT 373 Literature and Film
Units: 4 Examines literature and film as distinct modes of representation, narration, and structuring of time, language, memory, and visuality. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CTCS-373

COLT 374gm Women Writers in Europe and America
Units: 4 Terms Offered: Sp Introduction to works of major women writers from the Middle Ages to the 20th century in their literary, social and cultural contexts. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as SWMS 374, ITAL 374

COLT 375 Latin American Cultural and Literary Theory
Units: 4 Survey of cultural critique focused on Latin America as a cultural region and on Latin Americanism as a transnational academic practice. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SPAN 375

COLT 377 Gender and Sexuality in Literary Theory
Units: 4 Literary representations and theories of gender difference. Examines questions of gendered voice in writing and the cultural construction of gender in various periods and cultures. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 378

COLT 379 Nationalism and Postcolonialism in Southeast Asian Cinema
Units: 4 Cinema from Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Vietnam in local and global cultural contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CTCS-379

COLT 381 Psychoanalysis and the Arts
Units: 4 Introduction to psychoanalytic literature on the arts, including classic texts by Freud, Jones, Lacan, Derrida, and others. Readings of theoretical and fictional works. Instruction Mode: Lecture Grading Option: Letter

COLT 382gw Zen and Daoism in Asian Literature
Units: 4 Studies of the presence and influence of Zen Buddhism and Daoism in Asian literature, with a focus on China and Japan. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL 382

COLT 385 Literature and Justice
Units: 4 Examination of literary and autobiographical texts that raise questions of justice in multicultural societies; links to theories of justice in historical, political, or philosophical contexts. Instruction Mode: Lecture Grading Option: Letter

COLT 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

COLT 391 Literary Criticism from Plato to Postmodernism
Units: 4 Survey of major texts in the literary criticism of the West from the Greeks to postmodern theories. Instruction Mode: Lecture Grading Option: Letter

COLT 393 Seminar in French Thought and Theory
Units: 4 Max Units: 8 Terms Offered: FaSp (Enroll in FREN 393)

COLT 420 The Fantastic
Units: 4 Representative works from the "fantastic" and related currents within the European, U.S., and Spanish American traditions; reading of texts by authors such as Borges, Cortazar, Kafka, and Poe. Discussion of relevant theoretical concepts and critical works. Instruction Mode: Lecture Grading Option: Letter

COLT 426 Utopias
Units: 4 Examination of selected utopias in their historical context as "no places" whose

projections of alternate cultures always comment on their own. Instruction Mode: Lecture Grading Option: Letter

COLT 437 Arabic Autobiography: Writing and Interpreting the Self
Units: 4 Terms Offered: FaSpSm Exploration of twentieth-century Arabic autobiographical writings and interrogation of the complex ways by which such works unsettle fundamental assumptions of literary history and modernity. Duplicates Credit in COLT 448 Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 437

COLT 445 Europe and the Writing of Others
Units: 4 Analysis of European texts — literary, musical, philosophical, visual — that focus on other cultures, as well as of non-European texts dealing with Europe or - European cultural forms. Instruction Mode: Lecture Grading Option: Letter

COLT 447 Traveling Genres: Politics/ Poetics of Modern Arabic Prose
Units: 4 Terms Offered: FaSpSm Introduction to nineteenth-century Arabic travel-writing and investigation of its role in the reconfiguration of the Arabic tradition at the interface of aesthetics and politics. Duplicates Credit in COLT 448 Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 447

COLT 448 Multilingual Encounters
Units: 4 Exploration of multilingual encounters in literary works, films, and theoretical texts. Topics may include immigrant languages, dialects, jargons, imaginary or hybrid languages, theories of translation. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 449

COLT 449g Dante
Units: 4 Terms Offered: FaSp (Enroll in ITAL 382g)

COLT 451 Opera and Cultural Theory
Units: 4 Study of the words and plots of operas from the viewpoint of gender, postcolonial, and psychoanalytical theory. Special attention to contemporary stagings and film versions. Instruction Mode: Lecture Grading Option: Letter

COLT 453 Bildungsroman in Modern East Asia
Units: 4 Terms Offered: Sp (Enroll in EALC 454)

COLT 454 Aesthetic Philosophy and Theory
Units: 4 Introduction to philosophical and critical writings on the nature of art and aesthetic experience. Special attention to technology's impact on art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-454

COLT 460 Love, Self and Gender in Japanese Literature
Units: 4 (Enroll in EALC 460)

COLT 462 Soundtracks of Our Lives
Units: 4 The reciprocal, ideological relations between modes of listening, sounds, music; and literature, film, culture. Examines a range of issues in auditory culture across a broad historical span. Instruction Mode: Lecture Grading Option: Letter

COLT 470 Literature and Media in Latin America
Units: 4 Study of the relations between Latin American literature and different mass-media genres. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SPAN-470

COLT 471 Literature, Theory, History
Units: 4 Examines the relation between historical and theoretical approaches to literary works. Instruction Mode: Lecture Grading Option: Letter

COLT 472 Los Angeles Crime Fiction
Units: 4 The noir tradition in books and films set in Los Angeles. Emphasis on generic conventions, representations of the city, and discourses of class, gender, race. Instruction Mode: Lecture Grading Option: Letter

COLT 474 Desire, Literature, Technology
Units: 4 Relations between technology, desire, power and literature through contemporary philosophers, theorists and literary critics. Examines literature and philosophy in relation to global technological planning. Instruction Mode: Lecture Grading Option: Letter

COLT 475 Politics and the Novel
Units: 4 Examination of the modern realist novel with special focus on the representation of social change (revolution, class conflict, sexual politics). Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL 475

COLT 476 Narrative and the Law
Units: 4 Study of the relationship between law and narrative through Western literature, including the realist novel, medieval morality plays and Greek drama. Instruction Mode: Lecture Grading Option: Letter

COLT 478 Family in Theory and Literature
Units: 4 Representations of the family in literary works and films across different cultures and historical periods. Readings in anthropology, philosophy, psychoanalysis, and feminist and gender theory. Instruction Mode: Lecture Grading Option: Letter

COLT 480 Dada and Surrealism
Units: 4 A comparative study of Dada and Surrealism in literature in relation to painting, sculpture, photography and cinema. Instruction Mode: Lecture Grading Option: Letter

COLT 485 The Shoah (Holocaust) in Literature and the Arts
Units: 4 A critical analysis, in their historical contexts, of representative literary, dramatic, musical and artistic works created by or about the victims of the Shoah (Holocaust). Instruction Mode: Lecture Grading Option: Letter

COLT 486 Deconstructive Thought
Units: 4 Deconstructive analysis of theories of language, representation, selfhood, the human, art and technology, politics and ethics. Study of works by Derrida and others. Instruction Mode: Lecture Grading Option: Letter

COLT 487 Critical Image
Units: 4 Introduction to critical reflection on the image. Analysis of criticism, fiction, film, and visual artifacts. Instruction Mode: Lecture Grading Option: Letter

COLT 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. *Prerequisite:* departmental approval. Instruction Mode: Lecture Grading Option: Letter

COLT 495 Senior Honors Thesis
Units: 4 Writing of an honors thesis under individual faculty supervision. Instruction Mode: Lecture Grading Option: Letter

COLT 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Intensive study of selected author or authors in the context of a major literary tradition. Instruction Mode: Lecture Grading Option: Letter

COLT 510 Introduction to Translation Studies
Units: 4 Terms Offered: FaSp Introduction to the graduate certificate in Translation Studies; study of canonical works in translation theory. Registration Restriction: Only open to graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC 510

COLT 511 Translating Race
Units: 4 Max Units: 08 Terms Offered: FaSp Contemporary notions of racial, cultural, and religious difference across languages and history. *Recommended Preparation:* COLT 510 Registration Restriction: Only open to graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC 511

COLT 512 Literary and Cinematic Translingualism and Translation
Units: 4 Max Units: 08 Terms Offered: FaSp Introduces key debates regarding translingualism and translation in postcolonial, comparative, and cross-cultural literary and cinematic contexts Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC 512

COLT 519 Translation in Theory and Practice
Units: 4 Terms Offered: FaSp Workshop in translation; capstone to graduate certificate in Translation Studies. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC 519

COLT 525 Studies in Literary and Cultural History
Units: 4 Max Units: 08 Literary and cultural currents from classical antiquity through modernity. Varying focus on specific genres, periods, movements or problematics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC 525

COLT 545 Studies in Literature and the Other Arts
Units: 4 Max Units: 08 Study of intersections between the literary arts and music, opera, film, theatre, photography, dance or painting. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC 545

COLT 555 Studies in Literatures of the Americas
Units: 4 Max Units: 8.0 Comparative study of literary currents in the U.S., Canada, Latin America, and the Caribbean. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC-555

COLT 565 Studies in Literatures of Asia
Units: 4 Max Units: 8.0 Study of major cultural paradigms and their divergent influences in the literatures of China, Japan, Korea, and Southeast Asia. Instruction

Mode: Lecture Grading Option: Letter Crosslisted as CSLC-565

COLT 575 Studies in Literature and Ethnicity
Units: 4 Max Units: 8.0 Study of literary expression in different cultural, racial, or religious communities. Possible focus on African, Asian, Hispanic, or Jewish themes across several national traditions. Instruction Mode: Lecture Grading Option: Letter

COLT 585 Studies in Literature and Gender
Units: 4 Max Units: 8.0 Emphasis on gender difference and sexual difference as signifying categories for literary works, criticism, or theory. Instruction Mode: Lecture Grading Option: Letter

COLT 593 Teaching Practicum for Graduate Students
Units: 2 Terms Offered: FaSp Practical principles for the long-term development of effective teaching within College disciplines. Intended for teaching assistants in Dornsife college. Registration Restriction: Open only to Dornsife College doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

COLT 602 Seminar in Literary Theory
Units: 4 Max Units: 12 Intensive study of a theoretical tradition or critical movement, or of an individual topic or thinker, in literary criticism or theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC 602

COLT 620 Seminar in Literature, Culture and Thought
Units: 4 Max Units: 12 Varying focus on social and political thought, psychoanalysis, and philosophy in relation to literary and cultural analysis. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC 620

Communication

COMM 200 Communication and Social Science
Units: 4 Terms Offered: FaSp
Social scientific inquiry into human communication; core theories of message production and reception in interpersonal, group and organizational contexts. Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 204 Public Speaking
Units: 4 Principles and practices of effective oral communication; analysis of the speaking-listening process; selection and organization of speech materials; use of new presentation technologies. Instruction Mode: Lecture Grading Option: Letter

COMM 205x Communication Practicum
Units: 1, 2 Max Units: 4.0 Students address communication issues in a field setting. They will evaluate communication practices using appropriate methodology. Projects are jointly evaluated by internship supervisor and professor. Instruction Mode: Lecture Grading Option: Credit/No Credit

COMM 206 Communication and Culture
Units: 4 Terms Offered: FaSpSm Examines cultural institutions, ideologies, artifacts, and productions; role of culture in everyday life; cultural studies as methodology; culture and power. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ACAD-206

COMM 209 Communication and Media Economics
Units: 4 Terms Offered: FaSp Economic and political economic principles for the analysis of communication and media industries including broadcasting, newspapers, motion pictures, music, video games, advertising and public relations. Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 211x Professional Effectiveness Through Third Space Thinking
Units: 2 Terms Offered: Fa Experiential learning and structured practice to build skills in communication effectiveness, problem solving, decision making and self-awareness. Not for major credit for Communication majors. Credit Restriction: Not available for major credit for communication majors Instruction Mode: Lecture Grading Option: Letter

COMM 300 Entertainment, Communication and Society
Units: 4 Terms Offered: FaSp Theoretical foundation for understanding the construction, consumption, and consequences of entertainment from classical to contemporary times; situates entertainment within the ecology of information and communication. Instruction Mode: Lecture Grading Option: Letter

COMM 301Lg Empirical Research in Communication
Units: 4 Terms Offered: FaSpSm Experimental and survey methods for communication study; basic statistical concepts, procedures, and tests. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

COMM 302 Persuasion
Units: 4 Theories and research in social influence; strategies and tactics of persuasive communications in such settings as politics, public relations, advertising, business. Instruction Mode: Lecture Grading Option: Letter

COMM 303 Learning from Case Studies in Communication
Units: 4 Case study approaches to communication research; reliability, validity, generalizability, and ethics in qualitative social research; cases in communication policy and practices. Instruction Mode: Lecture Grading Option: Letter

COMM 304 Interpersonal Communication
Units: 4 Analysis of face-to-face interaction; role of communication in the development, maintenance and destruction of relationships; communication processes in managing interpersonal conflict. Instruction Mode: Lecture Grading Option: Letter

COMM 305 Understanding Social Science Research
Units: 4 Students learn to be consumers rather than creators of social science research. Examines the challenges and opportunities of communicating research through mass media. Instruction Mode: Lecture Grading Option: Letter

COMM 306 Innovation, Entertainment, and the Arts
Units: 4 Terms Offered: FaSpSm Explorations of innovation in the entertainment business. The effects of digital mobile media on TV, movies, music, advertising, social networks and art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-306

COMM 307 Sound Clash: Popular Music and American Culture
Units: 4 Music as inter-cultural communication and method for exploring race and ethnicity in the constitution of American culture and American self; role of music industry. Instruction Mode: Lecture Grading Option: Letter

COMM 308 Communication and Conflict
Units: 4 Nature and functions of communication in human conflict; development of communication skills for managing conflict productively in interpersonal, organizational and intercultural contexts. Instruction Mode: Lecture Grading Option: Letter

COMM 309 Communication and Technology
Units: 4 Terms Offered: FaSp Cultural, social, political, and economic dynamics of communication technologies, including internet architecture, social media, participatory cultures, privacy, surveillance, networked journalism, big data, algorithms, online activism. Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 310 Media and Society
Units: 4 Interplay between media and society, including family and children's socialization, inter-group relations and community, pornography and violence, gender and race, media ethics, conduct of politics. Instruction Mode: Lecture Grading Option: Letter

COMM 311 Communication and Publics
Units: 4 Terms Offered: FaSp Forms of civic life; opportunities and obstacles in forming, participating in, and disrupting community; issues of knowledge, power, identity; theories/methods of rhetorical analysis and production. Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 312 The Business and Culture of Celebrity
Units: 4 Employs the concept of "celebrity" as an optic through which to view and assess some of the key aspects of the communication revolution. Instruction Mode: Lecture Grading Option: Letter

COMM 313 Communication and Mass Media
Units: 4 Terms Offered: FaSp Survey of mass communication research; history, content, effects, theories, and policy implications of various media. Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 315 Health Communication
Units: 4 Terms Offered: FaSpSm Behavioral approaches to health communication; communication competencies in health care settings, theories of risky behaviors and behavioral change programs. *Recommended Preparation:* COMM 301Lg Instruction Mode: Lecture Grading Option: Letter

COMM 320 Small Group and Team Communication
Units: 4 Group process theories relevant to communicative behavior in small group/team settings, including information exchange, decision making, leadership,

and meetings; student team projects testing theoretic propositions. Instruction Mode: Lecture Grading Option: Letter

COMM 321 Communication and Social Media
Units: 4 Social media within the broader social, political, and historical contexts; key themes include labor, Web 2.0, self-branding, celebrity, participation, privacy, online shaming, and activism. Instruction Mode: Lecture Grading Option: Letter

COMM 322 Argumentation and Advocacy
Units: 4 Basic argumentation theory including analysis, research and evidence, case construction, refutation; discursive and visual argument; diverse fields of advocacy including law, politics, organizations, interpersonal relations. Instruction Mode: Lecture Grading Option: Letter

COMM 323 Public Deliberation
Units: 4 Introduction to deliberative democracy in culture and governance; examines historical and contemporary institutions of democratic discourse and emerging communication norms. Instruction Mode: Lecture Grading Option: Letter

COMM 324mw Intercultural Communication
Units: 4 Terms Offered: FaSpSm Cultural variables and social psychological processes that influence intercultural interaction; relationship between communication and culture in diverse settings including business, medicine, and education. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

COMM 325 Intercultural Britain: Media, History and Identity
Units: 4 Examines urgent social and political issues as they are shaped, represented and expressed by the institutions of media, culture and communication within the United Kingdom. Instruction Mode: Lecture Grading Option: Letter

COMM 326 Latinx Media Studies
Units: 4 Terms Offered: FaSp Introduces students to critical analyses of media texts, industries and technologies that shape the lives of Latinx communities in the United States. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 326

COMM 330 Rhetoric in Classical Culture
Units: 4 Theories of communication and persuasion in ancient Greece and Rome; cultural and social contexts of classical rhetorical theory; major historical figures and concepts. *Recommended Preparation:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 335 Rhetoric in Contemporary Culture
Units: 4 Theories of communication and persuasion in contemporary society; cultural and social contexts of contemporary rhetorical theory; major theorists, concepts and controversies. *Recommended Preparation:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 336 Communicating About Sex
Units: 4 Terms Offered: Irregular Communicating with partners, friends, parents and health care professionals about sexual behavior; interpersonal and mediated contexts; understanding of sexual scripts; current theory and research. Instruction Mode: Lecture Grading Option: Letter

COMM 337 The LGBTQ Revolution and the Media
Units: 4 Terms Offered: Irregular Explores the role of the media in the LGBTQ revolution that transformed the lives of sexual and gender minorities in the United States. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 337

COMM 339 Communication Technology and Culture
Units: 4 Examination of philosophies and popular representations of technology from the origins of western culture to the present and identifies the complex attitudes toward technology. Instruction Mode: Lecture Grading Option: Letter

COMM 340 The Cultures of New Media
Units: 4 Cultural implications of computer-mediated communication and related media. Ideological responses to media innovation; debates over artificial intelligence, virtual communities, and virtual reality. *Recommended Preparation:* COMM 339. Instruction Mode: Lecture Grading Option: Letter

COMM 345 Social and Economic Implications of Communication Technologies
Units: 4 Social and economic impacts of information and communication technologies; social factors that shape technological change; issues include access, privacy, freedom of expression, productivity, democratic control. Instruction Mode: Lecture Grading Option: Letter

COMM 350 Video Games: Content, Industry, and Policy
Units: 4 Introduction to the medium; history of video games; video games as aesthetic products, cultural products, economic outputs; policy issues, effects, and sites of community. Instruction Mode: Lecture Grading Option: Letter

COMM 355 Advertising and Communication
Units: 4 Advertising as a mode of communication; U.S. advertising history and institutions; economic and policy contexts (domestic and global); critical analysis of advertising texts. Instruction Mode: Lecture Grading Option: Letter

COMM 360 Los Angeles: Communication and Culture
Units: 4 Terms Offered: FaSp Representations of Los Angeles communicated in diverse media; the city as a rhetorical text; analysis of cultural identities, art, architecture and representations in popular culture. Instruction Mode: Lecture Grading Option: Letter

COMM 362 Engaging Media in the UK
Units: 4 Terms Offered: FaSp Engage with Communication professionals; visit, analyze and evaluate the working practices of media organizations in the UK. Registration Restriction: Open only to Communication, Journalism and Public Relations majors Instruction Mode: Lecture Grading Option: Letter

COMM 363 Media Consumption
Units: 4 Theoretical approaches to the study of media consumption and audiences; examines international media and consumption practices; explores new media's impact on consumption. Instruction Mode: Lecture Grading Option: Letter

COMM 364 Comparative Media: United States and the United Kingdom
Units: 4 Cross-national approaches to the study of U.S. and U.K. media; focuses on news and entertainment media products; examines content, industries, technologies and audiences. Instruction Mode: Lecture Grading Option: Letter

COMM 365 The Rhetoric of London
Units: 4 Terms Offered: FaSpSm Examination of the modern city as a communicative text with London as the case study. Instruction Mode: Lecture Grading Option: Letter

COMM 366 Designing Media for Social Change
Units: 4 Terms Offered: FaSpSm Students explore the theoretical and practical issues involved in designing effective media and communication projects for social change in international contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 366

COMM 367 Community Engagement and Service Learning
Units: 2 Max Units: 04 Students engage with a community partner, bridging classroom learning with "real world" experiences by working within the diverse community surrounding USC. Instruction Mode: Lecture Grading Option: Letter

COMM 369w Public Diplomacy and Global Citizenship
Units: 4 (Enroll in PUBD 369w)

COMM 371 Media Censorship and the Law
Units: 4 Terms Offered: FaSp The study of current and historical battles over the limits of free expression from press and public parks to television, movies, music, online and social media. Instruction Mode: Lecture Grading Option: Letter Crosslisted as JOUR 371

COMM 372 The Image of the Journalist in Popular Culture
Units: 4 (Enroll in JOUR 375)

COMM 373 Media Technologies and Free Speech
Units: 4 Terms Offered: FaSp Exploration of how freedom of speech has been adapted and applied to "new media" from film to computer algorithms and video games. Instruction Mode: Lecture Grading Option: Letter

COMM 375 Business and Professional Communication
Units: 4 Terms Offered: FaSpSm Oral and written communication skills demanded in the workplace including informative and persuasive speeches; interviewing; team communication; and training material preparation. *Recommended Preparation:* COMM 204. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-375

COMM 380 Forensics Laboratory
Units: 1, 2, 3, 4 Max Units: 8.0 Directed individual research studies of contemporary problems. Supervised laboratory experience. Registration Restriction: Open only to members of the University debate

squad. Instruction Mode: Lecture Grading Option: Letter

COMM 381 Issues in Contemporary Sport
Units: 4 Explores social, political and ethical issues in elite sports and how issues are addressed through popular media; examination includes the relationship between sports and politics. Instruction Mode: Lecture Grading Option: Letter

COMM 382 Sports, Business and Media in Today's Society
Units: 4 (Enroll in JOUR 380)

COMM 383m Sports, Communication and Culture
Units: 4 Rhetorical and critical approaches to sports and public discourse; application to sports organizations, the news and popular media; representations of gender and race in sports. Instruction Mode: Lecture Grading Option: Letter

COMM 384 Interpreting Popular Culture
Units: 4 Popular culture as an indicator of cultural values, a producer and reflection of cultural meaning, and a means of communication; theory and case studies. Instruction Mode: Lecture Grading Option: Letter

COMM 385 Organizational Communication
Units: 4 How communication processes both create organizations and are constrained by them. Theory and research into topics such as culture, technology, power, leadership and decision-making in a variety of organizational contexts. Instruction Mode: Lecture Grading Option: Letter

COMM 387 Sports and Social Change
Units: 4 Application of critical, sociological and rhetorical theories to sports events and sport media; examination of the role of sports in enacting social change. Instruction Mode: Lecture Grading Option: Letter

COMM 388 Ethics in Human Communication
Units: 4 Value perspectives on communication in varied settings: interpersonal, organizational, and public. Issues of truth and responsibility in family and social interactions, advertising, and governmental communication. Instruction Mode: Lecture Grading Option: Letter

COMM 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

COMM 391 Made in Italy: The Marketing of an Ideal
Units: 4 Terms Offered: FaSp Examines case studies on important Italian companies, ranging from the transportation to the luxury goods industries from both an economical and business point of view. Registration Restriction: Open only to Communication, Journalism and Public Relations majors Instruction Mode: Lecture Grading Option: Letter Crosslisted as PR 391

COMM 392 Media and Migration in Times of European Crisis
Units: 4 Terms Offered: FaSp Investigates the implications of the perceptual process of mass media generated immigration discourse in Europe Registration Restriction: Open only to Communication, Journalism, and Public Relations majors Instruction Mode: Lecture Grading Option: Letter Crosslisted as JOUR 392, PR 392

COMM 393 The Rhetoric of Rome
Units: 4 Terms Offered: FaSp Examination of the modern city as a communicative text with Rome as the case study. Registration Restriction: Open only to Communication, Journalism, and Public Relations majors Instruction Mode: Lecture Grading Option: Letter

COMM 395m Gender, Media and Communication
Units: 4 Issues of gender in communication, including: media representations of femininity and masculinity; and gender's role in communication at the interpersonal, public, and cultural levels. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as SWMS 395

COMM 396g Fashion, Media and Culture
Units: 4 Fashion as a form of communication and culture; fashion's role in identity, body politics, art, nationhood, celebrity and Hollywood culture, youth cultures and subversive practices. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

COMM 400 Seminar in Communication
Units: 4 Max Units: 12.0 Advanced readings in communication theory and research (broadly defined); specialized interest areas of individual faculty on the frontiers of knowledge; seminar topics change each semester. Instruction Mode: Lecture Grading Option: Letter

COMM 401 Audience Analysis
Units: 4 Examines audience analysis methodologies including focus groups, shadow juries, surveys, test marketing and content analysis; application of statistical sampling procedures, data analysis, interpretation and presentation. *Prerequisite:* COMM 301Lg. Instruction Mode: Lecture Grading Option: Letter

COMM 402 Public Communication Campaigns
Units: 4 Theory and research in public health communication campaigns; design, implementation, and evaluation; extensive discussion of historical case studies and reasons for success or failure. Instruction Mode: Lecture Grading Option: Letter

COMM 405 From the Ground Up: Communicating About Food
Units: 4 Terms Offered: Irregular Explores food communication as a facilitator of human interaction and cultural diplomacy; controversies regarding food production/consumption; and evolution of food entertainment programming. Instruction Mode: Lecture Grading Option: Letter

COMM 411 Communication Criticism
Units: 4 Terms Offered: FaSp Methods and functions of criticism in forms of public communication; historical-contextual, textual and interpretive procedures; diverse theoretical approaches including formalism, dramatism, genre and ideology. *Recommended Preparation:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 412 Communication and Social Movements
Units: 4 Social and political movements as rhetorical phenomena; ideology, organization, and influence of such movements as civil rights, "New Left," feminism, "New Right," environmentalism. Instruction Mode: Lecture Grading Option: Letter

COMM 413 Propaganda, Ideology and Public Controversy
Units: 4 Terms Offered: FaSp Seminar examining the relationship between propaganda, ideology, critical thinking and rhetoric; application to contemporary controversies, both domestic and global; role of public argument. Instruction Mode: Lecture Grading Option: Letter

COMM 414 Communication and Social Change in China
Units: 4 Examines social, political, and cultural implications of media and communication on Chinese society; regulations relevant to Chinese communication; market reforms, telecommunication, Internet and creative industries. Instruction Mode: Lecture Grading Option: Letter

COMM 415m African American Rhetoric and Image
Units: 4 Interactive course addresses how people of color use symbols to construct identities and communities and disrupt networks through media, politics, entertainment and technology. *Recommended Preparation:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 417 Global Engagement: Designing Public Diplomacy Strategies
Units: 4 (Enroll in PUBD 417)

COMM 418 International Exchanges and Public Diplomacy
Units: 4 (Enroll in PUBD 418)

COMM 419 Public Diplomacy in Los Angeles
Units: 4 (Enroll in PUBD 419)

COMM 420 Regional Studies in Public Diplomacy
Units: 4 Max Units: 08 (Enroll in PUBD 420)

COMM 421 Legal Communication
Units: 4 Terms Offered: FaSp How lawyers and judges communicate in the courtroom; how legal issues are discussed by lay people; how lawyers and judges are viewed in popular culture. *Recommended Preparation:* COMM 322 Instruction Mode: Lecture Grading Option: Letter

COMM 422 Legal Issues and New Media
Units: 4 Examines laws and regulatory policies shaping new media, especially the Internet; impact of regulation on development and use of communication technology. Instruction Mode: Lecture Grading Option: Letter

COMM 425 Communicating Religion
Units: 4 Genres of religious communication, including sermon, prayer, ritual, polemic, and revival. Impact of technological and cultural change on religious advocacy, beliefs, and practices. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-425

COMM 426 Religion, Media and Hollywood: Faith in TV
Units: 4 How religion, ethics and spirituality

are embedded, embodied and emplotted in television drama; how secular texts represent "lived religion" to increasingly diverse audiences. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-426

COMM 427 Topics in Media Economics, Law and Policy
Units: 4 Max Units: 8 Selected current topics in the overlapping areas of media economics, law, and policy. Instruction Mode: Lecture Grading Option: Letter

COMM 429 The Internet, Economy, and Society
Units: 4 Terms Offered: Sp Examines the effects of the Internet on communication industries, the economy, economic policy, and on social, political, and cultural practices. Instruction Mode: Lecture Grading Option: Letter

COMM 430 Global Entertainment
Units: 4 Survey of economic, political, and cultural dimensions of the global entertainment marketplace; focuses on the international production and distribution of media products and services. Instruction Mode: Lecture Grading Option: Letter

COMM 431 Global Strategy for the Communications Industry
Units: 4 Addresses the practical and theoretical aspects of the international economy that are most relevant to management strategy in the communications industry. Instruction Mode: Lecture Grading Option: Letter

COMM 432 American Media and Entertainment Industries
Units: 4 Examines the history, technology, regulations and business practices of American broadcast and entertainment industries. Instruction Mode: Lecture Grading Option: Letter

COMM 433 Home Entertainment: From Networks to Streaming
Units: 4 Terms Offered: FaSp History and impact of television and ancillary home entertainment (pay television, cable television, home video, DVD, DVR, video-on-demand, games, streaming, etc.) on media industries, devices and consumer experience. Instruction Mode: Lecture Grading Option: Letter

COMM 434 Italian Media: Popes, Politicians, and Popular Culture
Units: 4 Terms Offered: FaSp Provides an overview of 2,000 years of Italian-style communications, from Julius Caesar to Machiavelli, Mussolini and the Mafia. Instruction Mode: Lecture Grading Option: Letter

COMM 440 Music as Communication
Units: 4 Examines music's unique characteristics as a communicative form and the cultural, economic, political and social influences in music interpretation and production. Instruction Mode: Lecture Grading Option: Letter

COMM 441 Podcasting: Origin Stories
Units: 2 (Enroll in JOUR 412)

COMM 443 Communicating Better Health: What Works and Why
Units: 4 Terms Offered: Sp How communication -- interpersonal, mass media, information technologies -- shapes health behavior. Topics: doctor-patient consults; marketing campaigns; health in entertainment, news; internet; social media; mobile devices. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HP 443

COMM 444 Critical Theories of Sport
Units: 4 Focuses on critical theories that examine social and political roles of sport in society and how these roles play out in media and broadcast platforms. Instruction Mode: Lecture Grading Option: Letter

COMM 445 Global Networks of Sport
Units: 4 Focuses on global technologies, media, money, and labor in the sport sector. Investigates both deviant and regulatory networks of sport in the context of globalization. Instruction Mode: Lecture Grading Option: Letter

COMM 449 Perspectives on the Networked Press
Units: 4 Critical survey of the forces defining today's networked press, examining the people, technologies, and institutions that produce news in today's online environments. *Recommended Preparation:* COMM 309 Instruction Mode: Lecture Grading Option: Letter

COMM 450 Visual Culture and Communication
Units: 4 Examines issues of visual images in communication related to history, modernity, cityscapes, news media, advertising, evidence, science, digital technology, and globalization. Instruction Mode: Lecture Grading Option: Letter

COMM 451 Visual Communication and Social Change
Units: 4 Analysis of photography's evolution; new strategies for the photographic image, photo documentary work and global social issues; analysis of images on blogs and Websites. Instruction Mode: Lecture Grading Option: Letter

COMM 454 Media, Money, and Society
Units: 4 Money as communication; social scientific analysis of money and financial markets; money and popular culture; the business press; representations of Wall Street in Hollywood cinema. Instruction Mode: Lecture Grading Option: Letter

COMM 456 Entertainment, Marketing and Culture
Units: 4 Explores blurring of entertainment, marketing and culture in advanced information economies; intersections of culture and media and their social ramifications. Instruction Mode: Lecture Grading Option: Letter

COMM 457 Youth and Media
Units: 4 Terms Offered: FaSp Exploration of youth media and culture, including television, movies, video games, toys, magazines, music, social media. Examines representations of youth and youth as audience. Instruction Mode: Lecture Grading Option: Letter

COMM 458m Race and Ethnicity in Entertainment and the Arts
Units: 4 Terms Offered: FaSpSm Examines how race and ethnicity as social categories are shaped by communication media; focuses on how race and ethnicity sustain entertainment and media industries. *Recommended Preparation:* COMM 206 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 458

COMM 459 Fact and Fiction: From Journalism to the Docudrama
Units: 4 (Enroll in JOUR 459)

COMM 460 Collaboration and Group Decision Making
Units: 4 Advanced seminar examining the theoretical, empirical and practical aspects of human and technological communication in group processes; experiential and/or field experiences in group observation. Instruction Mode: Lecture Grading Option: Letter

COMM 464 Social Responsibility of the News Media
Units: 4 (Enroll in JOUR 460)

COMM 465m Gender in Media Industries and Products
Units: 4 Examination of the effect of gender stratification in media industries upon the cultural products they create, especially gender and gender/race role portrayals. Instruction Mode: Lecture Grading Option: Letter

COMM 466m People of Color and the News Media
Units: 4 (Enroll in JOUR 466m)

COMM 467 Gender and the News Media
Units: 4 (Enroll in JOUR 467)

COMM 468 Cross-Cultural Negotiations: Communication and Strategy
Units: 4 Application of intercultural communication theories and negotiation theories in the preparation and execution of global negotiations; strategies for creating mutual gains and sustained partnerships. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MOR-468, PPD-468

COMM 473 Advanced Issues in Communication and Technology
Units: 4 Advanced level readings into human-computer interfaces; social interaction with artifacts; concept of presence, and emerging social and psychological issues of new communication and computer technologies. *Prerequisite:* COMM 301. Instruction Mode: Lecture Grading Option: Letter

COMM 475 Environmental Communication
Units: 4 Communication about environmental controversies in the public sphere: history of environmentalism; forms of citizen participation; media coverage; advocacy campaigns and movements; scientific and industrial discourses. Instruction Mode: Lecture Grading Option: Letter

COMM 479 Trauma and Communication
Units: 4 Terms Offered: FaSp Trauma and testimony in the field of communication; interdisciplinary analysis of testimonial networks; trauma and protest journalism; trauma and memory; news coverage of catastrophe; trauma in cinema and popular culture. Instruction Mode: Lecture Grading Option: Letter

COMM 480 Nonverbal Communication
Units: 4 Theory and research; examination of the influence of environmental factors, physical behavior, and vocal cues on human communication. Instruction Mode: Lecture Grading Option: Letter

COMM 482 Comparative Media in Europe
Units: 4 Terms Offered: Sm (Enroll in JOUR 482)

COMM 486 Human and Technological Systems in Organizations
Units: 4 How communication and information technologies are linked to organizational control, design, cultures; technology and competitive advantage; ethics and policy issues; technology-mediated work. *Recommended Preparation:* COMM 385. Instruction Mode: Lecture Grading Option: Letter

COMM 487 Communication and Global Organizations
Units: 4 The role of communication in global organizations; information, networks, and communication technologies for global organizing; computer-based collaborative work and virtual organizations. *Recommended Preparation:* COMM 385. Instruction Mode: Lecture Grading Option: Letter

COMM 488 Communication Research in Organizations
Units: 4 Seminar in application of communication research tools; diagnosis and analysis of communication problems; current topics in organizational communication scholarship; students complete original research projects. *Recommended Preparation:* COMM 385. Instruction Mode: Lecture Grading Option: Letter

COMM 489 Campaign Communication
Units: 4 Problems in political communication: creating an informed electorate, use of mass media, factors in voter persuasion. Guest experts in political analysis, opinion polling, communication evaluation. Instruction Mode: Lecture Grading Option: Letter

COMM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

COMM 494x Research Practicum
Units: 2, 3, 4 Max Units: 4.0 Students gain research experience in the design, implementation, analysis, and reporting of communication research. Students serve as research assistants to faculty members. Instruction Mode: Lecture Grading Option: Letter

COMM 495 Honors Seminar
Units: 4 Max Units: 8.0 Advanced study of issues in communication; recent developments in communication and rhetorical theories. Recommended for seniors. *Recommended Preparation:* COMM 301Lg. Registration Restriction: Open only to students in COMM honors program. Instruction Mode: Lecture Grading Option: Letter

COMM 497x Honors Thesis
Units: 4 Terms Offered: FaSp Writing of the honors thesis. Instruction Mode: Lecture Grading Option: Letter

COMM 498 Ethical Issues in Entertainment and Communication
Units: 4 Terms Offered: FaSpSm Examines social and political controversies over conflicting ethical standards for communication in a variety of media: mass-media, communication technology and entertainment. Instruction Mode: Lecture Grading Option: Letter

COMM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in communication Instruction Mode: Lecture Grading Option: Letter

COMM 502 Theoretical Approaches to Multidisciplinary Design Projects
Units: 4 Terms Offered: Fa Focuses on theories and research in communication and social sciences to bridge disciplines to produce a proposal, business plan, publication, or a research project. Registration Restriction: Open only to Communication Data Science and to Digital Social Media majors Instruction Mode: Lecture Grading Option: Letter

COMM 504x Interpersonal Communication
Units: 4 Theories of communication behavior in relatively unstructured, face-to-face situations; examination of decoder-encoder, message, channel, and situational variables. Instruction Mode: Lecture Grading Option: Letter

COMM 508x Power, Politics and Conflict in Communication
Units: 4 Human communicative behavior involving the creation and resolution of conflict in interpersonal, small group, and formal organizational settings. Instruction Mode: Lecture Grading Option: Letter

COMM 509x Classical Rhetorical Theory
Units: 4 Theories of rhetoric from the fifth century B.C. through the fifth century A.D.; emphasis on the Sophists, Plato, Aristotle, Cicero, Quintilian, and St. Augustine. Instruction Mode: Lecture Grading Option: Letter

COMM 511x Contemporary Rhetorical Theory
Units: 4 Theories of rhetoric from the 18th century to the present; emphasis on Perelman, Burke, Habermas, Grassi, and Booth. Instruction Mode: Lecture Grading Option: Letter

COMM 512x Rhetorical Criticism
Units: 4 Theories and methods of assessing popular persuasive art forms such as contemporary drama, music, poetry, and journalism as well as traditional forms of public address. Instruction Mode: Lecture Grading Option: Letter

COMM 513x Neoclassical Rhetorical Theory
Units: 4 Theories of rhetoric from the fifth century A.D. through the 18th century; emphasis on dictamin, praedicandi, poetriae, Alquin, Ramus, Port-Royalists, Bacon, Campbell, Blair, and Whately. Instruction Mode: Lecture Grading Option: Letter

COMM 514x Social Movements as Rhetorical Form
Units: 4 Study of the rhetoric of social change; methodologies for analysis and appraisal; investigation of specific collective protest and reform movements. Instruction Mode: Lecture Grading Option: Letter

COMM 515x Postmodern Rhetorical Theory
Units: 4 Implications of postmodernity for rhetorical theory and criticism; issues of textuality, agency, and subjectivity in communication; study of selected postmodern figures. Instruction Mode: Lecture Grading Option: Letter

COMM 516x Feminist Theory and Communication
Units: 4 Implications of feminist theory for communication; topics include epistemology, critique of science/technology, women and language, feminist approaches to media and film, women and the workplace. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-516

COMM 517x Rhetorical Theory and Culture
Units: 4 Issues of culture in recent rhetorical theory; in-depth examination of representative idealist, pragmatist, structuralist, critical, and post-modern accounts of the symbolic construction of cultural forms. Instruction Mode: Lecture Grading Option: Letter

COMM 518x American Public Address
Units: 4 History and criticism of major American speakers and speeches with reference to the social, political, and intellectual background of their times. Instruction Mode: Lecture Grading Option: Letter

COMM 519x Cultural Studies in Communication
Units: 4 Theoretical foundations, history, and development of cultural studies in communication; implications of issues of nationalism, colonialism, technologies, popular culture, and politics of bodies for communication. Instruction Mode: Lecture Grading Option: Letter

COMM 520 The Rhetoric of the Presidential Campaign Trail
Units: 4 Students follow the ongoing presidential campaign and consider topics such as gender, race, new media, polling, religion, and advertising on election outcomes. Instruction Mode: Lecture Grading Option: Letter

COMM 521x Argumentation
Units: 4 Foundation of critical deliberation; the nature of informal reasoning; logical and ethical problems; analysis and appraisal of naturalistic argument. Instruction Mode: Lecture Grading Option: Letter

COMM 522x Kenneth Burke's Dramatistic Theory
Units: 4 Studies the contributions of Kenneth Burke, among the most significant figures in the development of contemporary rhetorical theory and criticism. Instruction Mode: Lecture Grading Option: Letter

COMM 524x Small Group Process
Units: 4 Contemporary theoretical models; problems in determination and measurement of variables in small group communication environments; assessment of recent research. Instruction Mode: Lecture Grading Option: Letter

COMM 525x Humanistic and Social Scientific Approaches to Human Communication I
Units: 4 Overview of the humanistic and social scientific approaches to the study of communication; emphasis on rhetorical/critical and macro social scientific perspectives. Instruction Mode: Lecture Grading Option: Letter

COMM 526x Humanistic and Social Scientific Approaches to Human Communication II
Units: 4 Overview of the humanistic and

social scientific approaches to the study of communication; emphasis on macro and micro social scientific, symbolic and structural perspectives. Instruction Mode: Lecture Grading Option: Letter

COMM 546 The Political Economy of Innovation
Units: 4 How does innovation occur and spread? How has innovation changed over time? Instruction Mode: Lecture Grading Option: Letter

COMM 550 Quantitative Research Methods in Communication
Units: 4 Epistemological assumptions, design, and beginning methods of quantitative analysis in communication research. Instruction Mode: Lecture Grading Option: Letter

COMM 552 Qualitative Research Methods in Communication
Units: 4 Developing expertise in qualitative methods, including participant-observation, ethnography, discourse analysis and historiography in communication research. Instruction Mode: Lecture Grading Option: Letter

COMM 553 Global Internet Governance
Units: 4 Terms Offered: FaSp Explores cybersecurity, privacy, network neutrality and other critical issues in internet governance through the lenses of international political economy and media theories. Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR 553

COMM 554 Regression and Multivariate Communication Research
Units: 4 Advanced analysis of variance, regression models, path analysis, MANOVA, and discriminant analysis. Instruction Mode: Lecture Grading Option: Letter

COMM 556 Advanced Methods in Communication Research
Units: 4 Structural Equation Modeling, LISREL, log linear and other advanced statistical methods used in contemporary communication research. Instruction Mode: Lecture Grading Option: Letter

COMM 557 Data Science for Communication and Social Networks
Units: 4 Terms Offered: FaSp Learn to harness the power of data science and computational techniques to study social and communication networks and extract value, knowledge and insights from big data. *Recommended Preparation:* DSCI 552 Instruction Mode: Lecture Grading Option: Letter

COMM 559 Globalization, Communication and Society
Units: 4 Comparative analysis of social, cultural and political impacts of communication technology and media; emphasis given to communication's influence in the social dimensions of globalization. Instruction Mode: Lecture Grading Option: Letter

COMM 560 Global Media and Communication in China and Asia
Units: 4 The characteristics of global communication in global capitalism and the political economic processes within which policies, interests, and implications of global communication are embedded. Instruction Mode: Lecture Grading Option: Letter

COMM 561 Leading and Communicating Change in Global Organizations
Units: 4 Communication perspectives on the process and outcomes of globalization; role of large media organizations in the global flow of information; and leadership and multiculturalism. Instruction Mode: Lecture Grading Option: Letter

COMM 563 Black Popular Culture: Theory and Central Debates
Units: 4 Examines black popular cultures as indexes for historical struggles over race, gender, nationalism, identity, subjectivity, aesthetics, institutional resources, political/cultural autonomy, and ideology. Instruction Mode: Lecture Grading Option: Letter

COMM 564 Communication, Culture and Capitalism
Units: 4 A survey of scholarship about the relationship between money and culture, with emphasis on poststructural accounts of neoliberalism. Instruction Mode: Lecture Grading Option: Letter

COMM 566 Using Theory to Craft Policies to Affect Change
Units: 4 Review path-breaking ideas from Nobel-winning economists; examine specific cases, trying to understand the process by which markets and institutions transform ideas into results. Instruction Mode: Lecture Grading Option: Letter

COMM 567 The Political Economy of Privacy and Cybersecurity
Units: 4 Considers the challenges of maintaining and protecting privacy while improving cybersecurity in the United States and globally. Instruction Mode: Lecture Grading Option: Letter

COMM 570 Economics of the Communication Industries
Units: 4 The economic forces that determine the structure and outputs of communication and media industries, including newspapers, broadcasting, cable, and telecommunications. Instruction Mode: Lecture Grading Option: Letter

COMM 572 Theories of Computer-Mediated Communication
Units: 4 Selected topics in the study of new technologies for human communication: adoption of CMC technologies; social networking; self-presentation and impression formation in CMC; online friendships. Instruction Mode: Lecture Grading Option: Letter

COMM 573 Networked Publics: Theories and Encounters
Units: 4 Examines models of a democratic public sphere, with special focus on design and use of networked information infrastructures supporting free speech. Instruction Mode: Lecture Grading Option: Letter

COMM 574 Science and Technology Studies for Communication and Media
Units: 4 Introduction to the field of Science and Technology Studies; examines sociotechnical models of knowledge, power and society as related to communication and media. Instruction Mode: Lecture Grading Option: Letter

COMM 575 Advocacy and Social Change in Entertainment and the Media
Units: 4 Examines how diverse groups (i.e., governmental agencies, advertisers, health organizations, advocacy groups, actors, social scientists) attempt to influence audiences through entertainment and traditional media channels. Instruction Mode: Lecture Grading Option: Letter

COMM 576 Civic Media and Participatory Politics
Units: 4 Examines tools and practices enabling activists to exert voice and influence public policies; ways citizens are working to meet the information needs of their communities. Instruction Mode: Lecture Grading Option: Letter

COMM 577 Fandom, Participatory Culture and Web 2.0
Units: 4 Emerging models of audience engagement and participation in a networked culture with a strong focus on grassroots communities and their relationships with cult media content. Instruction Mode: Lecture Grading Option: Letter

COMM 578 New Media Literacies
Units: 4 Examines intersection of education and participatory culture, literacy and media change, the participation gap, informal learning and knowledge communities, emerging social skills and cultural competencies. Instruction Mode: Lecture Grading Option: Letter

COMM 579 Entrepreneurship in the New Media
Units: 4 Examination of how the digital revolution is creating news media entrepreneurs, and changing the way news is disseminated by journalists and heard by consumers. Instruction Mode: Lecture Grading Option: Letter

COMM 580 Media and Politics
Units: 4 Mass media in American political life, including political reporting, election campaigns, non-electoral politics, and the media as a political issue. Instruction Mode: Lecture Grading Option: Letter

COMM 582 Information and Communication Technology for Development
Units: 4 Roles of media institutions and communications behavior in national development, including political, economic, and social spheres; Western and non-Western conceptions of development processes. Instruction Mode: Lecture Grading Option: Letter

COMM 585x Organizational Communication
Units: 4 Theory and research; field experience in analyzing and solving communication problems in organizations. Instruction Mode: Lecture Grading Option: Letter

COMM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the school. Duplicates Credit in former COMM 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

COMM 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 598 Practicum in Global Communication Research
Units: 4 Terms Offered: Sp Development and assessment of research into global communication; selection of appropriate research methodologies; production of scholarly research; and completion of an internship/practicum. Registration Restriction: Open only to Global Communication master students Instruction Mode: Lecture Grading Option: Letter

COMM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

COMM 602 Seminar in Persuasion
Units: 4 Classical and contemporary theories of persuasion, attitude formation and change; impact of cognition, affect and emotions; cultural and group influences; message strategies and framing. Instruction Mode: Lecture Grading Option: Letter

COMM 605 Advanced Macro Theories of Communication
Units: 4 Advanced macro theories of communication and culture creation/change; emphasis on structural-functionalism, neo-Marxism, critical theory, symbolic interactionism, phenomenology, post-structuralism, deconstruction. Instruction Mode: Lecture Grading Option: Letter

COMM 610 Studies in Rhetorical Theory
Units: 4 Max Units: 12.0 Problems in rhetorical theory and criticism; advanced, specialized interest areas of individual faculty on the frontiers of knowledge. Instruction Mode: Lecture Grading Option: Letter

COMM 611 Communication Technology and Healthcare
Units: 4 Impact on healthcare and patient empowerment of new communication technologies including social media and mobile communications, online interventions, syndromic surveillance, user-generated reviews, electronic health records. Instruction Mode: Lecture Grading Option: Letter

COMM 612 Designing Health Communication Interventions
Units: 4 Effectively changing health outcomes for target population using games, mobile and online interventions; formative and summative evaluation; virtual environments for fMRI studies. Instruction Mode: Lecture Grading Option: Letter

COMM 613 Grant Writing in Communication
Units: 4 Finding the right grant; how to develop theory, optimize funding, write critical components of grants, form collaborations with experts; how review panels work. Instruction Mode: Lecture Grading Option: Letter

COMM 614 Computational Approaches in Health Communication
Units: 4 Statistical and computational approaches to health communication data; better understanding, using simulations, of how theory might better guide empirical research. Instruction Mode: Lecture Grading Option: Letter

COMM 615 Health Communication
Units: 4 Evaluation of research about communication in patient care, health campaigns for diverse publics, tools for disease management, and outreach to producers in mass media. Instruction Mode: Lecture Grading Option: Letter

COMM 616 Health Communication for Prevention
Units: 4 Examination of health communication efforts for the prevention of diseases or other adverse physical or mental health outcomes by the promotion of behavior change. Instruction Mode: Lecture Grading Option: Letter

COMM 618 Mass Media Effects
Units: 4 Theoretical and research questions about mass communication effects; criticism and interpretation of current research and theory, and formulation of new theory. Instruction Mode: Lecture Grading Option: Letter

COMM 620 Studies in Communication Theory
Units: 4 Max Units: 12.0 Current problems in communication theory and research: advanced, specialized interest areas of individual faculty on the frontiers of knowledge. Instruction Mode: Lecture Grading Option: Letter

COMM 629 Global Culture
Units: 4 Examines the relationship of culture to globalization, ranging from nationalism and colonialism to global cultural products, multinational cultural production, diasporic cultures, global media, and cosmopolitanism. Instruction Mode: Lecture Grading Option: Letter

COMM 630 Communication Technology and Social Change
Units: 4 Impact of technological advances on human communication practices and theories; trends, forecasts, implications. Instruction Mode: Lecture Grading Option: Letter

COMM 635 Economics of Information
Units: 4 Applications of macro and microeconomic principles: economic role of the information sector; production, distribution, and pricing of information products; information in the functioning of markets. Instruction Mode: Lecture Grading Option: Letter

COMM 636 Interpretive and Cultural Approaches in Organizational Communication
Units: 4 Interpretive, critical and cultural research in organizational communication; emphasis on narrative approaches to ethnographic studies, critical essays, and quantitative intercultural research in organizational communication. Instruction Mode: Lecture Grading Option: Letter

COMM 637 Current Readings in Organizational Communication
Units: 4 Recent developments in organizational communication theory and research; emerging issues and methodologies; future directions. Instruction Mode: Lecture Grading Option: Letter

COMM 638 Global, International and Intercultural Communication in Organizations
Units: 4 Communication processes in global organizational transformation; influences of information technology, intercultural variables, and globalization on decision-making, operations and practices of international and transnational organizations. Instruction Mode: Lecture Grading Option: Letter

COMM 640 Communication and Organizational Change
Units: 4 Analysis of communication and information networks in organizations and their relationships with communication technologies, organizational behavior, and management. Instruction Mode: Lecture Grading Option: Letter

COMM 641 Organizations and Communication Technologies
Units: 4 Communication technology impacts on organizations; organizational influence on technology development and deployment; methods for organizational communication technology studies; critiques and implications for theory and research. Instruction Mode: Lecture Grading Option: Letter

COMM 645 Communication Networks
Units: 4 Conceptual and analytic issues in network perspectives; emphasis on communication patterns, processes, content, influences and impacts. Instruction Mode: Lecture Grading Option: Letter

COMM 647x Network Society
Units: 4 Advanced research seminar examining the interaction between communication technology, society, economy, politics and culture from interdisciplinary and cross-cultural perspectives. Instruction Mode: Lecture Grading Option: Letter

COMM 648 Online Communities and Networks
Units: 4 Examination of academic research on the social, cultural, political, and economic effects of online communities; policy implications of this research; mobile technology's role in community building. Instruction Mode: Lecture Grading Option: Letter

COMM 649 Methodologies in Cultural Studies
Units: 4 Terms Offered: FaSp An exploration of theoretical, technical, and political implications of cross-disciplinary scholarship rooted in cultural studies. Instruction Mode: Lecture Grading Option: Letter

COMM 650 Survey Construction and Validation
Units: 4 Principles of survey construction and validation; format selection, sampling, question wording, adaptation for international audiences, response option formats, order, and avoiding acquiescence bias and breakoffs. Instruction Mode: Lecture Grading Option: Letter

COMM 651 Experimental and Quasi-Experimental Designs
Units: 4 Advantages and drawbacks to experimental designs and quasi experimental designs for social research and theory building. Emphasis on how to design and report experiments. Instruction Mode: Lecture Grading Option: Letter

COMM 652 Ethnographic Field Research in Communication
Units: 4 Terms Offered: FaSp Explores ethnography as research mode including theory and practice of ethnographic

research; epistemological and political underpinnings of ethnographic research. Instruction Mode: Lecture Grading Option: Letter

COMM 653 Research, Practice and Social Change
Units: 4 Examination of theoretical models and best practices of academic research and advocacy relationships; students conduct a community-based research project using a model of community-based participatory research. Instruction Mode: Lecture Grading Option: Letter

COMM 654 Art, Artists and Society
Units: 4 Cultural and temporal differences in defining arts, artists and audiences; transmitting cultural beliefs through art; understanding aesthetic responses; experiences of alienation and incomprehension with art. Instruction Mode: Lecture Grading Option: Letter

COMM 655 Studies in Sound, Music and Communication
Units: 4 An introduction to listening as a methodology of critical practice. Key topics in the study and interpretation of sound and music as forms of communication. Instruction Mode: Lecture Grading Option: Letter

COMM 656 Theorizing Race, Culture, Cross-Cultural Exchange
Units: 4 Intersection of communication and culture; focus on race, ethnicity, interracial and intraracial relations in shaping political, social dynamics of U.S. in late 20th and early 21st centuries. Instruction Mode: Lecture Grading Option: Letter

COMM 657 Critical Theories of Race and Culture
Units: 4 Terms Offered: FaSp Examines the historical emergence of ideas about race, modernity and colonialism and the role of culture in shaping how we understand race today. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 657, SOCI 659

COMM 660 Entertainment and Games
Units: 4 Contemporary meaning of "entertainment," historical and cultural developments of entertainment; entertainment as psychological process of responding to/interacting with various media. Instruction Mode: Lecture Grading Option: Letter

COMM 662 Video Games Research
Units: 4 History and content, motivation and selection, reception and reaction processes, and effects of video games; students conduct original research into video game usage and effects. Instruction Mode: Lecture Grading Option: Letter

COMM 670 Economic Cultures
Units: 4 Explores and analyzes the interaction between culture and economy by observing different types of economic practices. Instruction Mode: Lecture Grading Option: Letter

COMM 672 Experiments in Critical Writing
Units: 4 Seminar and workshop dedicated to the practice of critical non-fiction writing, and the role of the creative impulse in scholarly criticism and print journalism. Instruction Mode: Lecture Grading Option: Letter

COMM 673 Public Intellectuals
Units: 4 Terms Offered: FaSp Explores alternative genres of public-facing writing (blog posts, interviews, op-eds, policy statements, multimedia publishing); considers exemplars of academics engaging with the public. Instruction Mode: Lecture Grading Option: Letter

COMM 675 Independent Study
Units: 1, 2, 3, 4 A supervised course tailored to specific student interests. The professor and student develop a syllabus that permits exploration of advanced or specialized topics. Instruction Mode: Lecture Grading Option: Credit/No Credit

COMM 694 Preliminary Research Paper
Units: 2 Independent research designed to demonstrate the student's ability to conceptualize, conduct, and present scholarly research. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as Parallel to COMM 794a COMM 794b COMM 794c COMM 794d COMM 794z .

COMM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the school. Instruction Mode: Lecture Grading Option: Credit/No Credit

COMM 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Thematic Option

CORE 101g Symbols and Conceptual Systems: Thematic Option Honors Program
Units: 4 Terms Offered: FaSp Study of the structures through which we shape our experience in religion, philosophy, literature, music, and the visual arts, and of competing theories of interpretation. Satisfies New General Education in B Humanistic Inquiry Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CORE 102gp Culture and Values: Thematic Option Honors Program
Units: 4 Terms Offered: Fa Systematic reasoning about values and ways of living; close reading of major texts within the Western tradition; Biblical and classical through contemporary sources. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CORE 103g The Process of Change in Science: Thematic Option Honors Program
Units: 4 Terms Offered: FaSp Critical problems in the development of scientific thought, studied as vehicles for understanding the content and structure of the sciences. Specific subject matter in selected scientific disciplines will be presented. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CORE 104gw Change and the Future: Thematic Option Honors Program
Units: 4 Terms Offered: FaSp Analysis of historical change; social and political theory and revolutionary thought; introduction to competing images of future states of affairs; the continuing process of change. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CORE 111 Writing Seminar I: Thematic Option Honors Program
Units: 4 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Letter

CORE 112 Writing Seminar II: Thematic Option Honors Program
Units: 4 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter

CORE 195 Summer Seminar
Units: 3 Terms Offered: Sm An honors course for high school students in summer; each section focuses on a topic in the arts or humanities, social or natural sciences. Instruction Mode: Lecture Grading Option: Letter

CORE 200 Liberal Arts Reading Salon
Units: 2 Terms Offered: FaSp Critical readings of a series of texts in the liberal arts designed to promote discussion of important themes, theoretical approaches, research directions, and interdisciplinary connections. Instruction Mode: Lecture Grading Option: Credit/No Credit

CORE 301 Modes of Inquiry
Units: 4 Terms Offered: FaSp Modern tools of cultural and discursive analysis which seek to demystify "the natural," as it appears in the formation of cultures, their institutions, and individuals. Instruction Mode: Lecture Grading Option: Letter

CORE 400 Capstone
Units: 2 Guided study of select works of classical literature in relation to contemporary issues and concerns. Capstone for minor in Classical Perspectives. *Recommended Preparation:* completion of at least 10 units towards the Classical Perspectives minor, including CORE 200 Registration Restriction: registration requires departmental approval (D-clearance) Instruction Mode: Lecture Grading Option: Letter

CORE 401x Ethics and Leadership
Units: 4 Terms Offered: FaSpSm Debates concerning moral and cultural ethics in a

globalizing world; paradigms of leadership, ethical conduct, moral courage, and humanitarianism. Instruction Mode: Lecture Grading Option: Credit/No Credit

CORE 450 Los Angeles: A Polymathic Inquiry
Units: 2, 4 Max Units: 4 Terms Offered: FaSp A guided polymathic inquiry into Los Angeles as fact and imaginative creation, featuring in-depth student research and projects. Instruction Mode: Lecture Grading Option: Letter

CORE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Intensive interdisciplinary exploration of a selected theme, problem process, or period. Instruction Mode: Lecture Grading Option: Letter

CORE 601 Teaching Analytical Writing Through Readings in the Humanities
Units: 1 Max Units: 4.0 Terms Offered: Fa Theories and practices in the university-level teaching of close-reading and analytical writing, using texts central to Western tradition. Graduate student professionalism through topical workshops and discussions. Instruction Mode: Lecture Grading Option: Credit/No Credit

School of Art and Design (Critical Studies)

CRIT 150gp Histories of Art, Design and Visual Culture
Units: 4 Terms Offered: FaSp A loosely chronological, thematic survey of art, visual culture, design, and critical theory from the early modern period through modernism (1500 – 1950). Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Duplicates Credit in former FACS 150 Instruction Mode: Lecture, Discussion Grading Option: Letter

CRIT 160g Critical Theory in Art, Design and Visual Culture
Units: 4 Terms Offered: FaSp An issues-based introduction to critical theory in the twentieth and twenty-first centuries, especially as it relates to philosophy, art, design, and visual culture. *Recommended Preparation:* CRIT 150 Satisfies New General Education in Category B: Humanistic Inquiry Registration Restriction: Open only to Roski Art majors and minors Instruction Mode: Lecture, Discussion Grading Option: Letter

CRIT 350gw Global Art, Design and Visual Culture since 1960
Units: 4 Terms Offered: FaSp A critical history of art, design, visual culture, and visual theory since 1960, addressing through a postcolonial/decolonial lens the concepts and practices of "global" art. *Recommended Preparation:* CRIT 150gp and CRIT 160g Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Registration Restriction: Open only to Roski Art majors and minors Duplicates Credit in former FA 350 Instruction Mode: Lecture, Discussion Grading Option: Letter

CRIT 371 Art in the Public Realm: Contemporary Issues
Units: 4 Terms Offered: FaSpSm Critical frameworks and theoretical perspectives of contemporary public art issues explored through case studies and discussions with artists, architects, and designers engaging the public realm. Duplicates Credit in former PAS 371. Instruction Mode: Lecture Grading Option: Letter

CRIT 410 Theory and Design: Deconstruction
Units: 4 Terms Offered: FaSp Addresses overlapping issues in contemporary design and art relating to activism, audience and technologies of making and dissemination. *Recommended Preparation:* CRIT 150gp, CRIT 160g and CRIT 350gw, or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 415 Performance: Event, Action, Situation
Units: 4 Terms Offered: FaSpSm Focused exploration of the role of the body in performance, action and the question of the "event" in contemporary art and design. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 420 The Artist: As Contemporary Subject in Popular Culture
Units: 4 Terms Offered: FaSp Addresses relationships among contemporary art, design and popular culture, with a focus on specific visual media and their histories. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 425 Identity and Visual Representation
Units: 4 A critical study of the relationship between identity or coalitional politics and specific practices, meanings, and sitings of contemporary art and design. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 430 Undergrounds and Avant-Gardes: Experimental Art, Design and Film
Units: 4 Terms Offered: FaSpSm Study of theories of critique or resistance in art and cultural studies, particularly in relation to developments in contemporary art, design and popular culture. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 435 Alternative Spaces: Art, Design and Visual Culture
Units: 4 Terms Offered: FaSpSm Histories of art and design from alternative points of view, exposing the limits of conventional histories of art and design. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 440 Curatorial Issues: from the Art Gallery to Social Media
Units: 4 Terms Offered: FaSpSm History and theory of curating, exhibitions, and museums, critically examining the historical structures and current politics informing contemporary practices and institutions. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 445 Art and Design in the Public Realm
Units: 4 Terms Offered: FaSpSm Focuses on contemporary artistic and design practices in relation to questions of the public sphere and audience, addressing topics from public art to social practice. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 450 Visualizing the City: Los Angeles
Units: 4 Terms Offered: FaSpSm Explores the relationships among art, design, visual culture, urban spaces and institutions, through urban, social and visual theory. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 455 Digital Media, Art and Theory
Units: 4 Terms Offered: FaSpSm An investigation into the non-indexical or non-photographic moving image and the expanded field of digital media in the 21st century starting with animation. *Recommended Preparation:* Basic understanding of 20th century art history and some experience reading and discussing critical theory Instruction Mode: Lecture Grading Option: Letter

CRIT 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Comprehensive exploration of particular aspects of public art. Duplicates Credit in former PAS 499. Instruction Mode: Lecture Grading Option: Letter

CRIT 500 Theory and History of Performance Studies
Units: 4 Terms Offered: FaSp Exploration of the various theories and methodologies associated with performance and visual studies as interrelated with the histories of practice in these fields. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

CRIT 510 History and Theory of Art and Exhibitions
Units: 4 Terms Offered: Fa Gives broad and deep overview of history of "art" as a conceptual and practical category, emphasizing development of exhibitionary sites and engagement with public sphere. Instruction Mode: Lecture Grading Option: Letter

CRIT 512 Art and Curatorial Visits
Units: 2 Terms Offered: Fa Site visits relating to art and curatorial practices, from art museums and artists' studios to public art offices and performance venues, and meet professionals. Instruction Mode: Lecture Grading Option: Letter

CRIT 515 Visiting Artist and Scholar Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp (Enroll in ART 515)

CRIT 520 Performing Identity
Units: 4 Terms Offered: FaSpSm The history and theory of identity politics in relation to performance and performativity, with a focus on post-1950 Euro-American

culture. Instruction Mode: Lecture Grading Option: Letter

CRIT 525 Making and Curating Art: Pedagogy and Praxis
Units: 4 Terms Offered: Sp Provides students with a foundation in the history and theory of studio art and curatorial education and develops their teaching skills in these areas. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ART-525

CRIT 530 Art and Globalization
Units: 4 Terms Offered: SpSm (Enroll in ART 530)

CRIT 540 Contemporary Asian Art
Units: 4 Terms Offered: FaSpSm Explores contemporary Asian art and visual culture in global contexts. Instruction Mode: Lecture Grading Option: Letter

CRIT 550 Contemporary Art and its Publics
Units: 4 Terms Offered: FaSpSm Contemporary art practices and issues of display, exhibition, dissemination, community and audience, in relation to art and politics. Instruction Mode: Lecture Grading Option: Letter

CRIT 555 Methods of Curating: Introduction to Curatorial Practicum
Units: 4 Terms Offered: Sp First in a sequence of three courses on history/theory of curatorial methods, with practical experience necessary to mounting exhibitions and devising interfaces with the public. Duplicates Credit in PAS 555a. Instruction Mode: Lecture Grading Option: Letter

CRIT 556 Curatorial Practicum: Individual/Group Projects
Units: 4 Terms Offered: Fa Second in a sequence of three courses on history/theory of curatorial methods, with practical experience necessary to mounting exhibitions and devising interfaces with the public. *Prerequisite:* CRIT 555. Duplicates Credit in PAS 555b. Instruction Mode: Lecture Grading Option: Letter

CRIT 557 Curatorial Practicum: Group Project Summation
Units: 4 Terms Offered: Sp Third in a sequence of three courses on history/theory of curatorial methods, with practical experience necessary to mounting exhibitions and devising interfaces with the public. *Prerequisite:* CRIT 556. Duplicates Credit in PAS 555c. Instruction Mode: Lecture Grading Option: Letter

CRIT 560 Visual Theory/Performance Theory
Units: 4 Terms Offered: FaSp Exploration of interrelated themes that examine how the time-based art of theatre intersects with other art forms and surpasses its preexisting boundaries. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

CRIT 570 Performance Theory and Praxis
Units: 4 Terms Offered: FaSp Social Practice as a transitional platform for intersectional themes between visual art, media culture, political advocacy, policy making and public space. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

CRIT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former PAS 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

CRIT 591 Field Internship Experience
Units: 1 Max Units: 2.0 Terms Offered: FaSpSm Supervised internship in an art institution or an art agency, or with an independent curator or artist, on projects and research specific to public space. *Recommended Preparation:* Completion of first year of courses. Duplicates Credit in former PAS 591. Instruction Mode: Lecture Grading Option: Credit/No Credit

CRIT 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. *Recommended Preparation:* 28 units of coursework. Duplicates Credit in former PAS 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CRIT 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. *Recommended Preparation:* 28 units of coursework. Duplicates Credit in former PAS 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CRIT 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. *Recommended Preparation:* 28 units of coursework. Duplicates Credit in former PAS 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CRIT 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in various specialty areas of public art. Duplicates Credit in former PAS 599. Instruction Mode: Lecture Grading Option: Letter

Computer Science

CSCI 100xg Explorations in Computing
Units: 4 A behind-the-scenes overview of the computational/algorithmic principles that form the basis of today's digital society. Exploration areas include social media, web search, videogames and location-based services. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Grading Option: Letter

CSCI 101L Fundamentals of Computer Programming
Units: 3 Terms Offered: FaSp Introduction to the design of solutions to computer solvable problems. Algorithm design, solution implementation using a high-level programming language, program correctness and verification. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 102L Fundamentals of Computation
Units: 2 Fundamental concepts of algorithmic thinking as a primer to programming. Introduction to C++. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CSCI 103L Introduction to Programming
Units: 4 Terms Offered: FaSp Basic datatypes, assignments, control statements (if, switch, for, while), input/output (printf, scanf, cin, cout), functions, arrays, structures, recursion, dynamic memory, file handling. Programming in C/C++. *Prerequisite:* CSCI 102L Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CSCI 104L Data Structures and Object Oriented Design
Units: 4 Terms Offered: FaSp Introduces the student to standard data structures (linear structures such as linked lists, (balanced) trees, priority queues, and hashtables), using the C++ programming language. *Prerequisite:* CSCI 103L and CSCI 170 Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CSCI 109 Introduction to Computer Science
Units: 2 Terms Offered: FaSp An introduction to, and overview of, Computer Science; both as a discipline and a body of knowledge. Instruction Mode: Lecture Grading Option: Letter

CSCI 110 Introduction to Digital Logic
Units: 3 (Enroll in EE 101)

CSCI 170 Discrete Methods in Computer Science
Units: 4 Terms Offered: FaSp Sets, functions, series. Big-O notation and algorithm analysis. Propositional and first-order logic. Counting and discrete probability. Graphs and basic graph algorithms. Basic number theory. *Prerequisite:* CSCI 102L Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

CSCI 201L Principles of Software Development
Units: 4 Terms Offered: FaSp Object-oriented paradigm for programming in-the-large in Java; writing sophisticated concurrent applications with animation and graphic user interfaces; using professional tools on team project. *Prerequisite:* CSCI 104L.

CSCI 270 Introduction to Algorithms and Theory of Computing
Units: 4 Terms Offered: FaSpSm Algorithm analysis. Greedy algorithms, divide and conquer, dynamic programming, graph algorithms. NP-completeness and basic recursion theory and undecidability. Sorting lower bounds. Number-theory based cryptography. *Prerequisite:* CSCI 104L and CSCI 170 Duplicates Credit in former CSCI 303 Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

CSCI 280 Video Game Production
Units: 4 Terms Offered: FaSpSm (Enroll in ITP 280)

CSCI 281 Pipelines for Games and Interactives
Units: 4 Terms Offered: FaSp Explores the aesthetic development/technical implementation necessary to achieve unique, compelling, intuitive visual design in games. Students will develop group visual game design portfolios. Instruction Mode: Lecture Grading Option: Letter

CSCI 310 Software Engineering
Units: 4 Terms Offered: Sp Introduction to the software engineering process

and software lifecycle. Covers project management, requirements, architecture, design, implementation, testing, and maintenance phase activities in team based projects. *Prerequisite:* CSCI 201L Duplicates Credit in former CSCI 377 Instruction Mode: Lecture Grading Option: Letter

CSCI 350 Introduction to Operating Systems
Units: 4 Basic issues in concurrency, deadlock control, synchronization scheduling, memory management, protection and access control, inter-process communication, and structured design. Laboratory experiences with Unix-like operating system. Duplicates credit in CSCI 402. *Prerequisite:* CSCI 201L and (CSCI 356 or EE 354L) Duplicates Credit in CSCI 402 Instruction Mode: Lecture, Quiz Grading Option: Letter

CSCI 352L Computer Organization and Architecture
Units: 3 Terms Offered: Sp (Enroll in EE 352L)

CSCI 353 Introduction to Internetworking
Units: 4 Global Internet: design principles, layering, protocol design/analysis. Networked applications, Internet structure/ architecture, Protocols for transport/ congestion control, network layer/ routing, link layer/MAC. Network security. *Prerequisite:* CSCI 201; *Recommended Preparation:* Familiarity with C and C++. Duplicates Credit in EE 450. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 356 Introduction to Computer Systems
Units: 4 Computer organization; entity abstraction and representation; program execution; code optimization; memory usage; exception handling; processing control; computer performance; hands-on work done in C and assembly. *Prerequisite:* CSCI 104L *Recommended Preparation:* Familiarity with memory management and parameter passing used in the C++ programming language Duplicates Credit in EE 352L Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 360 Introduction to Artificial Intelligence
Units: 4 Concepts and algorithms underlying the understanding and construction of intelligent systems. Agents, problem solving, search, representation, reasoning, planning, machine learning. *Prerequisite:* CSCI 104L and CSCI 170 Duplicates Credit in former CSCI 460 Instruction Mode: Lecture Grading Option: Letter

CSCI 368 Programming Graphical User Interfaces
Units: 4 Terms Offered: FaSp (Enroll in ITP 368)

CSCI 380 Video Game Programming
Units: 4 Terms Offered: FaSpSm (Enroll in ITP 380)

CSCI 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CSCI 401 Capstone: Design and Construction of Large Software Systems
Units: 4 Max Units: max 8 Terms Offered: FaSp Group project with an outside stakeholder to develop real-world software solutions to large-scale problems. Topics include software engineering, professional preparation, and recent computer science research. *Prerequisite:* CSCI 270 and CSCI 310 Duplicates Credit in the former CSCI 477a and CSCI 477b Instruction Mode: Lecture Grading Option: Letter

CSCI 402 Operating Systems
Units: 4 Terms Offered: FaSpSm Concurrency, deadlock control, synchronization, process and thread scheduling, memory management, file systems, security and access control, communication and networking, distributed file systems, data management. *Recommended Preparation:* CSCI 201L or CSCI 455x; CSCI 356 or EE 352L Duplicates Credit in CSCI 350 Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 404 Capstone: Creating Your High-Tech Startup
Units: 4 Capstone class in which students create their own technology startup, leveraging comprehensive CS knowledge and best industry practices. *Prerequisite:* CSCI 201 and CSCI 270 and ITP 466 Instruction Mode: Lecture Grading Option: Letter

CSCI 410x Translation of Programming Languages
Units: 3 Concepts of assemblers, compilers, interpreters and their design; macro assemblers, Polish notation and translation techniques; operator precedence parsing, push down automata, code generation. *Prerequisite:* CSCI 201L Credit Restriction: Not available for graduate credit to computer science majors Instruction Mode: Lecture Grading Option: Letter

CSCI 420 Computer Graphics
Units: 4 Terms Offered: FaSp Computer graphics, OpenGL, 2D and 3D transformations, Bézier splines, computer animation, rendering including ray tracing, shading and lighting, artistic rendering, virtual reality, visualization. *Prerequisite:* CSCI 104L and (MATH 225 or (EE 141L and (MATH 126 or MATH 127 or MATH 129))) Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 423 Native Console Multiplayer Game Development
Units: 4 Implementation of AAA style multiplayer game running on consoles and DX11. Console development in native C++, console SDKs, engine components, gameplay, networking, data prediction/ replication. *Prerequisite:* CSCI 522 or ITP 380; *Recommended Preparation:* ITP 485. Instruction Mode: Lecture Grading Option: Letter

CSCI 426 Game Prototyping
Units: 4 Developing games or technology based on current and relevant special topics. Instruction Mode: Lecture Grading Option: Letter

CSCI 430 Introduction to Computer and Network Security
Units: 4 Terms Offered: Sp A broad overview of security threats and defenses, security systems and functionalities, as well as current security practices. Includes homeworks and in-class exercises to provide practical experience working with such systems. *Prerequisite:* CSCI 201. Instruction Mode: Lecture Grading Option: Letter

CSCI 435 Professional C++
Units: 4 Terms Offered: FaSp (Enroll in ITP 435)

CSCI 439 Compiler Development
Units: 4 Terms Offered: Sp (Enroll in ITP 439)

CSCI 445L Introduction to Robotics
Units: 4 Terms Offered: FaSpSm Designing, building and programming mobile robots; sensors, effectors, basic control theory, control architectures, some advanced topics, illustrations of state-of-theart. Teamwork; final project tested in a robot contest. *Prerequisite:* CSCI 103. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as EE-445

CSCI 450 Introduction to Computer Networks
Units: 4 Terms Offered: FaSpSm (Enroll in EE 450)

CSCI 452 Parallel and Distributed Computation
Units: 4 (Enroll in EE 451)

CSCI 454L Introduction to System-on-Chip
Units: 4 Terms Offered: Fa (Enroll in EE 454L)

CSCI 455x Introduction to Programming Systems Design
Units: 4 Terms Offered: FaSp Intensive introduction to programming principles, discrete mathematics for computing, software design and software engineering concepts. *Prerequisite:* departmental approval. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as EE-455

CSCI 457 Computer Systems Organization
Units: 3 (Enroll in EE 457)

CSCI 458 Numerical Methods
Units: 4 (Enroll in MATH 458)

CSCI 459 Computer Systems and Applications Modeling Fundamentals
Units: 3 Terms Offered: Sp Techniques and tools needed to construct/evaluate models of computer systems and applications. Analytical and simulation methods, capacity planning, performance/reliability evaluation, and decision-making. *Prerequisite:* MATH 225, CSCI 201. Instruction Mode: Lecture Grading Option: Letter

CSCI 461 Artificial Intelligence for Sustainable Development
Units: 4 Terms Offered: FaSp Hands-on AI: data mining, machine learning, optimization and fairness in the context of applications with environmental and societal benefit. *Prerequisite:* CSCI 270 and (CSCI 360 or CSCI 467) *Recommended Preparation:* Python programming skills> Courses that use Python (depending on instructor) include: CSCI 353, CSCI 360, CSCI 445L, EE 250L, EE 364, ITP 115, and ITP 116 . Instruction Mode: Lecture Grading Option: Letter

CSCI 467 Introduction to Machine Learning
Units: 4 Methods for building intelligent and

adaptive systems from statistical analyses; theoretical understanding of such methods and the computational implications. *Prerequisite:* (CSCI 270 and MATH 225) and (EE 364 or MATH 407) *Recommended Preparation:* CSCI 360, comfortable with mathematical derivations, such as those in MATH 225; comfortable with manipulating vectors and matrices Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 475 Theory of Computation
Units: 4 Terms Offered: Fa History of the theory of computing, foundational theorems and theoretical frameworks of computer science, solvable and unsolvable problems. *Prerequisite:* CSCI 270 Instruction Mode: Lecture Grading Option: Letter

CSCI 476 Cryptography: Secure Communication and Computation
Units: 4 Introduction to modern Cryptography; mathematical / algorithmic studies of methods for protecting information in computer and communication systems: Public-Key Cryptosystems, zero-knowledge proofs, data privacy. *Prerequisite:* CSCI 270. Instruction Mode: Lecture Grading Option: Letter

CSCI 477 Concepts of Programming Languages
Units: 4 Terms Offered: FaSp The history and means of describing programming languages, means of control in modern languages and alternate programming language paradigms. *Prerequisite:* CSCI 201L Instruction Mode: Lecture Grading Option: Letter

CSCI 485 File and Database Management
Units: 4 Terms Offered: FaSp File input/output techniques, basic methods for file organization, file managers, principles of databases, conceptual data models, and query languages. *Prerequisite:* CSCI 201 Instruction Mode: Lecture Grading Option: Letter

CSCI 487 Programming Game Engines
Units: 4 Terms Offered: FaSp (Enroll in ITP 485)

CSCI 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CSCI 491aL Final Game Project
Units: 4 Terms Offered: FaSpSm Design, iterative prototyping, and development of a 1st playable level. Registration Restriction: Open only to seniors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 491bL Final Game Project
Units: 2 Terms Offered: FaSpSm Design, iterative stage 2 prototyping and development of a refined game. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 495 Senior Project
Units: 3 (Enroll in PHYS 495)

CSCI 499 Special Topics
Units: 2, 3, 4 Max Units: 08 Selected topics in computer science. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 501 Numerical Analysis and Computation
Units: 3 (Enroll in MATH 501)

CSCI 502a Numerical Analysis
Units: 3 (Enroll in MATH 502a)

CSCI 502b Numerical Analysis
Units: 3 (Enroll in MATH 502b)

CSCI 504a Numerical Solutions of Ordinary and Partial Differential Equations
Units: 3 (Enroll in MATH 504a)

CSCI 504b Numerical Solutions of Ordinary and Partial Differential Equations
Units: 3 (Enroll in MATH 504b)

CSCI 505a Applied Probability
Units: 3 (Enroll in MATH 505a)

CSCI 505b Applied Probability
Units: 3 (Enroll in MATH 505b)

CSCI 510 Software Management and Economics
Units: 4 Theories of management and their application to software projects. Economic analysis of software products and processes. Software cost and schedule estimation, planning and control. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 512

CSCI 511 Personal Software Process (PSP) and Project
Units: 3 Terms Offered: Sp Individual analysis, planning, development and maintenance of a software product or development artifact, using the principles and practices of PSP. Analysis of project's lessons learned. Instruction Mode: Lecture Grading Option: Letter

CSCI 512 Testing and Analysis of Software Systems
Units: 4 Introduces students to the topic of automated testing and analysis of large-scale modern software systems. *Recommended Preparation:* CSCI 571; Java programming skills; Linux system administration. Instruction Mode: Lecture Grading Option: Letter

CSCI 513 Autonomous Cyber-Physical Systems
Units: 4 Terms Offered: FaSp Components, software and applications of cyber-physical systems; autonomy; control techniques; development and testing; artificial intelligence and machine learning algorithms. *Recommended Preparation:* Fundamentals of control and automata theory; familiarity with Matlab, Simulink, and R Instruction Mode: Lecture Grading Option: Letter

CSCI 520 Computer Animation and Simulation
Units: 4 Fundamental techniques of computer animation and simulation, knowledge and/or experience in the design, scripting, production and post-production stages of computer animation. *Prerequisite:* CSCI 420 or CSCI 580 *Recommended Preparation:* Familiarity with calculus, linear algebra, and numerical computation; C/C++ programming skills Instruction Mode: Lecture Grading Option: Letter

CSCI 521 Optimization: Theory and Algorithms
Units: 3 Terms Offered: Fa (Enroll in ISE 520)

CSCI 522 Game Engine Development
Units: 4 Terms Offered: Fa The principles of developing game engines targeted at modern PC and game console hardware. Instruction Mode: Lecture Grading Option: Letter

CSCI 523L Networked Games
Units: 4 Terms Offered: FaSpSm Design and implementation of networked games, from the origins of the supporting technologies in distributed systems, visual simulations, networked virtual environments, and shipped games. *Recommended Preparation:* CSCI 420 or CSCI 580 or an equivalent course in graphics. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 524 Networked Artificial Intelligence
Units: 4 Networked game communication architectures, protocol development, architecting networked game AI clients/services. Character following, knowledge representation and reasoning, dynamic play strategies, search, learning, and planning. *Recommended Preparation:* CSCI 420 or CSCI 580 or an equivalent course in graphics Instruction Mode: Lecture, Lab Grading Option: Letter

CSCI 526 Advanced Mobile Devices and Game Consoles
Units: 4 Terms Offered: FaSpSm Explore the complex engineering process required to design and build a real-time graphics engine to support physical realism on mobile devices. *Recommended Preparation:* CSCI 420 or CSCI 580 or an equivalent course in graphics Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 527 Applied Machine Learning for Games
Units: 4 Terms Offered: FaSp Application of machine learning for AI-bot creation, gameplay analysis, and real-time game player understanding. Duplicates credit in CSCI 566 Deep Learning and Its Applications. *Prerequisite:* CSCI 561 or CSCI 567 Duplicates Credit in CSCI 566 Instruction Mode: Lecture Grading Option: Letter

CSCI 529a Advanced Game Projects
Units: 4 Terms Offered: FaSp Team projects intended to address the multifaceted technical and creative challenges that are inherent to comprehensive game development. *Recommended Preparation:* CSCI 522 or CTIN 488. Instruction Mode: Lecture Grading Option: Letter

CSCI 529b Advanced Game Projects
Units: 2 Terms Offered: FaSpSm Provides students in various areas of game specialization the practice of design, iterative stage 2 prototyping and development of a refined game. *Prerequisite:* CSCI 529a Instruction Mode: Lecture, Lab Grading Option: Letter

CSCI 530 Security Systems
Units: 4 Terms Offered: FaSp Protecting computer networks and systems using cryptography, authentication, authorization, intrusion detection and response. Includes lab to provide practical experience working with such systems. *Prerequisite:* CSCI 402. Instruction Mode: Lecture Grading Option: Letter

CSCI 531 Applied Cryptography
Units: 4 Intensive overview of cryptography for practitioners, historical perspective on early systems, number theoretic foundations of modern day cryptosystems

and basic cryptanalysis. *Recommended Preparation:* Programming in C/C++ (CSCI 103), Data structures (CSCI 104) Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 532 Innovation for Defense Applications
Units: 4 Terms Offered: FaSp Development of problem statements and innovative software prototypes for defense, intelligence and homeland security applications; team projects; hands-on experience. *Recommended Preparation:* An introductory programming class such as CSCI 103L and the ability to write short programs or scripts to manipulate data. Instruction Mode: Lecture Grading Option: Letter

CSCI 533 Algebraic Combinatorics
Units: 3 Terms Offered: Irregular (Enroll in MATH 533)

CSCI 534 Affective Computing
Units: 4 Terms Offered: Sp Overview of the theory of human emotion, techniques for recognizing and synthesizing emotional behavior, and design application. *Recommended Preparation:* CSCI 561 Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC 532

CSCI 535 Multimodal Probabilistic Learning of Human Communication
Units: 4 Principles and techniques to understand, build, and utilize multimodal machine learning algorithms through automatically understanding, recognizing, and analyzing phenomena of human communication. *Recommended Preparation:* CSCI 542 or CSCI 567 or CSCI 573 or equivalent Instruction Mode: Lecture Grading Option: Letter

CSCI 536 Linear Programming and Extensions
Units: 3 Terms Offered: Fa (Enroll in ISE 536)

CSCI 538 Augmented, Virtual and Mixed Reality
Units: 4 Terms Offered: FaSp Technical design and implementation of immersive environments; visual simulations, interactive 3D graphics and games. *Recommended Preparation:* CSCI 420 or CSCI 580 Instruction Mode: Lecture, Lab Grading Option: Letter

CSCI 540 Self-Organization
Units: 4 Massively distributed systems whose global behavior emerges from local interactions of components. Global to local compilation; robot swarms; formation of shapes/spatial patterns; self-assembly; programmable matter. Registration Restriction: Graduate standing in science or engineering Instruction Mode: Lecture Grading Option: Letter

CSCI 542 Neural Computation with Artificial Neural Networks
Units: 3 Terms Offered: Sp Computation and adaptation in networks of interconnected distributed processing units; classical and statistical approaches to neural nets; state of-the-art neural network research. *Recommended Preparation:* basic statistics, linear algebra. Instruction Mode: Lecture Grading Option: Letter

CSCI 544 Applied Natural Language Processing
Units: 4 Introduction to key components of human language technologies, including: information extraction, sentiment analysis, question answering, machine translation. *Recommended Preparation:* proficiency in programming, algorithms and data structures, basic knowledge of linear algebra. Instruction Mode: Lecture Grading Option: Letter

CSCI 545 Robotics
Units: 4 Terms Offered: FaSpSm Fundamental skills for modeling and controlling of dynamic systems for robotic applications and graphics animations; control theory; kinematics; dynamics; sensor processing; real-time operating systems; robot labs. *Recommended Preparation:* Basic knowledge in linear algebra (matrices and vectors), calculus, programming in C/C++ or any another language or permission of the instructor Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as EE-545

CSCI 548 Information Integration on the Web
Units: 4 Terms Offered: FaSpSm Foundations and techniques in information integration as it applies to the Web, including view integration, wrapper learning, record linkage, and streaming dataflow execution. *Prerequisite:* CSCI 561 *Recommended Preparation:* CSCI 585 and some programming experience Instruction Mode: Lecture Grading Option: Letter

CSCI 549 Nanorobotics
Units: 3 Terms Offered: Sp Introduction to nanotechnology. Nanorobotic systems: sensing; actuation and propulsion; control; communication; power; programming and coordination of robot swarms. Nanomanipulation and nanoassembly with atomic force microscopes. Instruction Mode: Lecture Grading Option: Letter

CSCI 550 Advanced Data Stores
Units: 4 Selected topics on highly available, elastic data stores. Topics include non-relational data models, simple interfaces and query languages, weak consistency and benchmarking techniques. *Prerequisite:* CSCI 485 or CSCI 585 Instruction Mode: Lecture Grading Option: Letter

CSCI 551 Computer Networking
Units: 4 Protocol design for computer communication networks, network routing, transport protocols, internetworking. *Prerequisite:* CSCI 350 (CSCI 353 or EE 450) and (CSCI 350 or CSCI 402) *Recommended Preparation:* C-language programming Instruction Mode: Lecture, Quiz Grading Option: Letter

CSCI 552 Asynchronous VLSI Design
Units: 3 (Enroll in EE 552)

CSCI 553 Computational Solution of Optimization Problems
Units: 3 Terms Offered: Sp (Enroll in EE 553)

CSCI 554 Cyber-Physical Systems: A Computing Perspective
Units: 4 Terms Offered: Sp (Enroll in EE 554)

CSCI 555L Advanced Operating Systems
Units: 4 Advanced topics in operating system research: new OS structures, novel memory management, communication, file system, process management, reliability and security techniques. *Prerequisite:* CSCI 350 or CSCI 402 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 556 Introduction to Cryptography
Units: 4 Modern secret codes. Public key cryptosystems of Rivest- Shamir-Adleman, Diffie-Hellman and others. The underlying number theory and computational complexity theory. *Prerequisite:* CSCI 570 or CSCI 581 Instruction Mode: Lecture Grading Option: Letter

CSCI 557 Computer Systems Architecture
Units: 4 Terms Offered: FaSp (Enroll in EE 557)

CSCI 558L Internetworking and Distributed Systems Laboratory
Units: 3 Terms Offered: FaSp Students complete laboratory exercises in operating system and network management, distributed systems, TCP/IP, SNMP, NFS, DNS, etc. Term project required. *Prerequisite:* CSCI 402 and EE 450/CSCI 450; *Recommended Preparation:* CSCI 551 and CSCI 555. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 559 Machine Learning I: Supervised Methods
Units: 4 Terms Offered: Sp (Enroll in EE 559)

CSCI 561 Foundations of Artificial Intelligence
Units: 4 Terms Offered: FaSpSm Foundations of symbolic intelligent systems, search, logic, knowledge representation, planning, learning. *Recommended Preparation:* good programming and algorithm analysis skills Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter Crosslisted as EE 561

CSCI 563 Building Knowledge Graphs
Units: 4 Terms Offered: FaSp (Enroll in DSCI 558)

CSCI 564 Brain Theory and Artificial Intelligence
Units: 3 Terms Offered: Fa Introduces neural modeling, distributed artificial intelligence and robotics approaches to vision, motor control and memory. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR-535

CSCI 565 Compiler Design
Units: 4 Terms Offered: Sp Formal grammar; parsing methods and lexical analysis; code generation; local and global code optimization; and dynamic allocation. *Prerequisite:* CSCI 455x. Instruction Mode: Lecture Grading Option: Letter

CSCI 566 Deep Learning and Its Applications
Units: 4 Terms Offered: Fa Deep learning research in computer vision, natural language processing and robotics; neural networks; deep learning algorithms, tools and software. *Recommended Preparation:* CSCI 567, Python programming, calculus, linear algebra, probability and statistics, knowledge of machine learning Duplicates Credit in CSCI 527 Instruction Mode: Lecture Grading Option: Letter

CSCI 567 Machine Learning
Units: 4 Terms Offered: Fa Statistical methods for building intelligent and adaptive systems that improve performance from experiences; focus on theoretical understanding of these methods and their

computational implications. *Recommended Preparation:* Undergraduate level training or course work in linear algebra, multivariate calculus, basic probability and statistics; an undergraduate level course in Artificial Intelligence may be helpful but is not required. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ISE-568

CSCI 568 Requirements Engineering
Units: 4 Techniques for successful requirements analysis and requirements engineering (RE) of software-intensive systems. Systematic process of developing requirements through cooperative problem analysis, representation, and validation. *Prerequisite:* CSCI 577a Instruction Mode: Lecture Grading Option: Letter

CSCI 569 Social Media Analytics
Units: 4 Introduction to quantitative analysis of social data. Topics include social network analysis, text analysis, machine learning and statistical methods and they are used to study influence, information diffusion, sentiment analysis and prediction of individual and social behavior online. *Recommended Preparation:* statistics, AI and/or machine learning, knowledge of at least one programming language (Java, C++, Python) Instruction Mode: Lecture Grading Option: Letter

CSCI 570 Analysis of Algorithms
Units: 4 Terms Offered: FaSpSm Explores fundamental techniques such as recursion, Fourier transform ordering, dynamic programming for efficient algorithm construction. Examples include arithmetic, algebraic, graph, pattern matching, sorting, searching algorithms. Instruction Mode: Lecture Grading Option: Letter

CSCI 571 Web Technologies
Units: 4 Terms Offered: FaSpSm Advanced study of programming languages with application to the Web. Languages for client-side and server-side processing. Examples taken from: HTML, Java, JavaScript, Perl, XML and others. *Recommended Preparation:* knowledge of at least two programming languages. Instruction Mode: Lecture Grading Option: Letter

CSCI 572 Information Retrieval and Web Search Engines
Units: 4 Terms Offered: FaSpSm Examines key aspects of information retrieval as they apply to search engines; web crawling, indexing, querying and quality of results are studied. *Recommended Preparation:* Familiarity in programming in multiple languages, C, C++, and/or Java and experience with a database Instruction Mode: Lecture Grading Option: Letter

CSCI 573 Probabilistic Reasoning
Units: 3 Terms Offered: Fa Reasoning under uncertainty, statistical directed and undirected graphical models, temporal modeling, inference in graphical models, parameter learning, decisions under uncertainty. *Recommended Preparation:* An undergraduate level course in probability theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-574

CSCI 574 Computer Vision
Units: 3 Terms Offered: Fa Description and recognition of objects, shape analysis, edge and region segmentation, texture, knowledge based systems, image understanding. *Prerequisite:* CSCI 455x. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-574

CSCI 576 Multimedia Systems Design
Units: 4 End-to-end multimedia systems-content creation, compression, distribution using modern standards, DRM solutions, Digital-Cinema pipeline, multimedia classification, virtual-augmented reality, natural-language multimedia queries, multimodal media analysis, stereoscopic-holographic technologies. *Recommended Preparation:* familiarity with C or C++ Instruction Mode: Lecture Grading Option: Letter

CSCI 577a Software Engineering
Units: 4 Terms Offered: FaSp Software life cycle processes; planning considerations for product definition, development, test, implementation, maintenance. Software requirements elicitation and architecture synthesis. Team project. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter

CSCI 577b Software Engineering
Units: 4 Terms Offered: FaSp Software development, test, implementation, and maintenance methods. CASE tools and software environments. Software product engineering, configuration management, quality engineering, documentation. Application via projects. *Prerequisite:* CSCI 577a. Instruction Mode: Lecture Grading Option: Letter

CSCI 578 Software Architectures
Units: 4 Study of concepts, principles and scope of software system architectures, including architectural styles, languages, connectors, middleware, dynamism, analysis, testing and domain-specific approaches. Instruction Mode: Lecture Grading Option: Letter

CSCI 580 3-D Graphics and Rendering
Units: 4 Course outlines the process of creating images from 3D models. Includes transformations, shading, lighting, rastorization, texturing, and other topics. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 581 Logic and its Applications
Units: 3 Formal systems, first order logic, truth, completeness, compactness, Godel incompleteness, recursive functions, undecidability. Selected applications, e.g., theorem proving, artificial intelligence, program verification, databases, computational complexity. *Prerequisite:* CSCI 430 and MATH 470. Instruction Mode: Lecture Grading Option: Letter

CSCI 582 Geometric Modeling
Units: 3 Terms Offered: Sp Mathematical models and computer representations for three-dimensional solids; underlying topics from set theory, geometry, and topology. Fundamental algorithms; applications to CAD/CAM and robotics. *Recommended Preparation:* Linear algebra and data structures. Instruction Mode: Lecture Grading Option: Letter

CSCI 583 Machine Learning Theory
Units: 4 Developing the core concepts and techniques, inherent abilities, and limitations of learning algorithms in well-defined learning models. *Recommended Preparation:* CSCI 270, CSCI 567 Instruction Mode: Lecture Grading Option: Letter

CSCI 585 Database Systems
Units: 4 Terms Offered: FaSpSm Database system architecture; conceptual database models; semantic, object-oriented, logic-based, and relational databases; user and program interfaces; database system implementation; integrity, security, concurrency and recovery. *Recommended Preparation:* Knowledge of relational databases, SQL, relational algebra and physical database design is required Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

CSCI 586 Database Systems Interoperability
Units: 4 Federated and multi-database systems, database networking, conceptual and schematic diversity, information sharing and exchange, knowledge discovery, performance issues. *Prerequisite:* CSCI 585 Instruction Mode: Lecture Grading Option: Letter

CSCI 587 Geospatial Information Management
Units: 4 Techniques to efficiently store, manipulate, index and query geospatial information in support of real-world geographical and decision-making applications. *Prerequisite:* CSCI 485 or CSCI 585 or SSCI 582 *Recommended Preparation:* Familiarity with conceptual data modeling tools such as Entity-Relationship (ER) data model, logical data models such as the relational and object-relational data model, SQL3 as a commercial query language, normal forms and logical data design. Familiarity with the physical design of a database using persistent data structures such as B+-tree and Hash indexes Instruction Mode: Lecture Grading Option: Letter

CSCI 589 Software Engineering for Embedded Systems
Units: 4 Terms Offered: FaSpSm Software engineering methods and techniques for embedded, resource constrained, and mobile environments. Applications to real-time operating systems and wireless networking systems. Class project. Instruction Mode: Lecture Grading Option: Letter

CSCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 591 Computer Science Research Colloquium
Units: 1 Max Units: 2 Exploration and critical assessment of research activities in computer science. Course will serve as a forum for current research presentations from academia and industry Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 593 Mathematical Foundations for System Design: Modeling, Analysis, and Synthesis
Units: 3 (Enroll in EE 581)

CSCI 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode:

Lecture Grading Option: In-progress to Credit/No Credit

CSCI 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 596 Scientific Computing and Visualization
Units: 4 Hands-on training on the basics of parallel computing and scientific visualization in the context of computer simulations in science and engineering. *Recommended Preparation:* CSCI 455x and MATH 458. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 598 Professional Writing and Communication for Computer Scientists
Units: 1 Instruction in discipline-specific workplace writing and communication skills for computer science graduate students. Registration Restriction: Open only to graduate students in Computer Science Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content to be selected each semester from recent developments in computer science. Instruction Mode: Lecture Grading Option: Letter

CSCI 610 Advanced Program Analysis and Verification
Units: 4 Advanced techniques for analyzing and verifying software systems; topics include program analysis, automated verification, and software testing. *Recommended Preparation:* CSCI 512, Java Programming Skills Instruction Mode: Lecture Grading Option: Letter

CSCI 620 Computer Animation and Simulation
Units: 4 Animation and Simulation techniques for computer games, virtual reality, and film visual effects. Research methods, SIGGRAPH papers. Deformable objects, fluids, sound, collision detection, haptics, rigid bodies, GPUs. *Prerequisite:* CSCI 420 or CSCI 520 or CSCI 580 *Recommended Preparation:* Familiarity with calculus, linear algebra, and numerical computation and C++ programming skills Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

CSCI 621 Digital Geometry Processing
Units: 4 Digital geometry processing (subfield of computer graphics), that covers the full pipeline from 3D scanning, processing, to 3D printing. *Recommended Preparation:* Solid background in linear algebra, numerical optimization, and C/C++ programming. CSCI 420 Computer Graphics is recommended. Open only to Computer Science doctoral students. Registration Restriction: Open only to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Letter

CSCI 625 Program Synthesis and Computer-Aided Verification
Units: 4 Terms Offered: FaSp Introduction to the principles and practices of software verification and program synthesis. *Recommended Preparation:* Knowledge of discrete math and algorithm design. Background in systems and software engineering. Instruction Mode: Lecture Grading Option: Letter

CSCI 631 Privacy in the World of Big Data
Units: 4 Privacy challenges that arise in the world driven by data. An overview of algorithmic and technical approaches to addressing them. *Recommended Preparation:* thorough understanding of algorithms, proof-based mathematics, and basic probability Instruction Mode: Lecture Grading Option: Letter

CSCI 644 Natural Language Dialogue Systems
Units: 4 Computational models of natural language dialogue; conversational interfaces to artificial systems; dialogue system architectures and applications; Reinforcement learning of dialogue policies. *Recommended Preparation:* CSCI 544 or CSCI 561 or CSCI 662 or EE 619; Java, C++ or Python Instruction Mode: Lecture Grading Option: Letter

CSCI 646 Coordinated Mobile Robotics
Units: 4 State-of-the-art techniques for coordinating robot teams. Distributed approaches; task allocation; control and stability; network topology; coverage and monitoring; caging; bio-inspired approaches; persistence; probabilistic methods. *Recommended Preparation:* Solid background in linear algebra, programming and algorithm analysis skills. Registration Restriction: Open only to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Letter

CSCI 648 Advanced Information Integration
Units: 4 Focus on foundations and techniques for information integration. Topics include Semantic Web, linked data, data integration, entity linkage, source modeling, and information extraction. *Prerequisite:* CSCI 561; *Recommended Preparation:* CSCI 585 and programming experience. Registration Restriction: Open only to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Letter

CSCI 651 Advanced Computer Networking
Units: 4 Computer communication protocols and systems, including classic and contemporary literature. The emphasis is on conceptual issues in the design and implementation of computer internetworks. *Prerequisite:* EE 450 (CSCI 353 or CSCI 350) and (CSCI 350 or CSCI 402) Registration Restriction: Open to PhD students in Computer Science Instruction Mode: Lecture Grading Option: Letter

CSCI 652 Internet Measurement
Units: 4 The investigation of problems, techniques, results, and challenges that arise in measuring the Internet, including what measurements tell us about the Internet and how to improve Internet services. *Prerequisite:* CSCI 551 Instruction Mode: Lecture Grading Option: Letter

CSCI 653 High Performance Computing and Simulations
Units: 4 Terms Offered: FaSpSm Advanced high-performance computer simulation techniques; multiscale deterministic and stochastic simulation algorithms on parallel and distributed computing platforms; immersive and interactive visualization of simulation data. *Prerequisite:* CSCI 596 Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 655 Advanced Topics in Operating Systems
Units: 4 Terms Offered: Fa Advanced OS architectures; methods in design and evaluation of process management and concurrency; reliable distributed file systems; memory management, for cloud and virtualized environments. *Prerequisite:* CSCI 350 or CSCI 402 Instruction Mode: Lecture Grading Option: Letter

CSCI 656 Networked Systems in Cloud Computing
Units: 4 Systems and network design and protocols in cloud computing and data centers networks. *Prerequisite:* CSCI 551 or CSCI 651 Instruction Mode: Lecture Grading Option: Letter

CSCI 657 Advanced Distributed Systems
Units: 4 The foundations and modern applications of distributed systems. Topics include: logical time, fault tolerance, group communication, consensus, consistency, transactions, and peer-to-peer. *Recommended Preparation:* Proficiency in a high-level language, ideally C++, and familiarity with Git. Registration Restriction: Open only to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Letter

CSCI 658 Diagnosis and Design of Reliable Digital Systems
Units: 3 (Enroll in EE 658)

CSCI 659 Introduction to Online Optimization
Units: 4 Foundation and advances of the theory of online learning/online convex optimization/sequential decision making. *Recommended Preparation:* Familiarity with probability, convex analysis, calculus, and analysis of algorithms Instruction Mode: Lecture Grading Option: Letter

CSCI 662 Advanced Natural Language Processing
Units: 4 Computational models of natural language. Formalisms for describing structures of human language, and algorithms for learning language structures from data. *Recommended Preparation:* proficiency in programming, algorithms and data structures, discrete math, probability theory, and calculus. Registration Restriction: Open only to doctoral students Duplicates Credit in former CSCI 562. Instruction Mode: Lecture Grading Option: Letter

CSCI 663 Artificial Intelligence for Social Good
Units: 4 Terms Offered: Fa Deployment of artificial intelligence tools in various social good contexts such as health, environmental sustainability, public safety and public welfare. *Recommended Preparation:* Familiarity with: linear programming and optimization; Excel, CPLEX, R or other optimization software or statistical analysis techniques; and Amazon

Mechanical Turk Instruction Mode: Lecture Grading Option: Letter

CSCI 668 Search and Planning
Units: 4 Foundations of the design and implementation of search and planning techniques from artificial intelligence, including their theory and applications. *Prerequisite:* CSCI 561 *Recommended Preparation:* undergraduate introduction to algorithms and data structures undergraduate or graduate introduction to artificial intelligence ability to program in C/C++ Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

CSCI 670x Advanced Analysis of Algorithms
Units: 4 Terms Offered: FaSpSm Fundamental techniques for design and analysis of algorithms. Dynamic programming; network flows; theory of NP-completeness; linear programming; approximation, randomized, and online algorithms; basic cryptography. *Prerequisite:* CSCI 570; *Recommended Preparation:* familiarity with algorithms and discrete mathematics. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-670

CSCI 671 Randomized Algorithms
Units: 4 Standard techniques in the design and analysis of randomized algorithms and random structures. Topics include tail bounds, Markov Chains, VC-dimension, probabilistic method. *Prerequisite:* CSCI 570 or CSCI 670 *Recommended Preparation:* Basic background in probability and linear algebra Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-671

CSCI 672 Approximation Algorithms
Units: 4 Algorithmic techniques include combinatorial algorithms and rounding of linear and semi-definite programs. Applications include network design, graph cuts, covering problems, and approximation hardness. *Prerequisite:* CSCI 570 or CSCI 670 *Recommended Preparation:* basic background in probability and linear algebra. Instruction Mode: Lecture Grading Option: Letter

CSCI 673 Structure and Dynamics of Networked Information
Units: 4 Algorithms for analyzing network data and spreading information over networks. Focuses on broadly applicable mathematical tools and techniques, including spectral techniques, approximation algorithms and randomization. *Prerequisite:* CSCI 570 or CSCI 670 *Recommended Preparation:* basic background in probabilities, linear algebra. Instruction Mode: Lecture Grading Option: Letter

CSCI 674a Advanced Topics in Computer Vision
Units: 3 Selected topics from current active research areas including image segmentation, shape analysis and object recognition, inference of 3-D shape, motion analysis, knowledge-based system, neural nets. *Prerequisite:* CSCI 574. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-674A

CSCI 674b Advanced Topics in Computer Vision
Units: 3 Selected topics from current active research areas including image segmentation, shape analysis and object recognition, inference of 3-D shape, motion analysis, knowledge-based system, neural nets. *Prerequisite:* CSCI 574. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-674B

CSCI 675 Convex and Combinatorial Optimization
Units: 4 Topics include: Convex sets and functions; convex optimization problems; geometric and Lagrangian duality; simplex algorithm; ellipsoid algorithm and its implications; matroid theory; submodular optimization. *Prerequisite:* CSCI 570 or CSCI 670 *Recommended Preparation:* Mathematical maturity and a solid grounding in linear algebra Instruction Mode: Lecture Grading Option: Letter

CSCI 677 Advanced Computer Vision
Units: 4 Fundamental issues in computer vision: theory, algorithms and applications. Image formation, image segmentation, inference and measurement of 3-D, motion analysis, object and activity recognition. *Recommended Preparation:* Calculus, analytical geometry, linear algebra and probability theory. Programming in C or C++, data structures, algorithms. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 676

CSCI 678 Theoretical Machine Learning
Units: 4 Terms Offered: Fa The mathematical foundation of machine learning with a focus on algorithm design for sequential prediction problems. *Recommended Preparation:* MATH 208x, MATH 225, MATH 125g, CSCI 570 and CSCI 567 Instruction Mode: Lecture Grading Option: Letter

CSCI 685 Advanced Topics in Database Systems
Units: 4 Advanced techniques in database management. Topics include optimization, cache management, data mining and knowledge discovery, decision support, spatial indexes, parallel and distributed systems, extendible storage. *Prerequisite:* CSCI 485 or CSCI 585 Instruction Mode: Lecture Grading Option: Letter

CSCI 686 Advanced Big Data Analytics
Units: 4 Advanced statistical inference and data mining techniques for data analytics, including: topic modeling, structure learning, time-series analysis, learning with less supervision, and massive-scale data analytics. *Prerequisite:* CSCI 567 Instruction Mode: Lecture Grading Option: Letter

CSCI 697 Seminar in Computer Science Research
Units: 1 Max Units: 2.0 Terms Offered: FaSp Introduction of Ph.D. students to the broad range of computer science research. Two semesters registration required. Duplicates Credit in former CSCI 597. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 698 Practicum in Teaching Computer Science
Units: 1 Max Units: 2.0 Terms Offered: FaSp Practical principles for the longterm development of effective teaching in Computer Science. Intended for teaching assistants for classes offered by the Computer Science department. Registration Restriction: Only open to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 699 Special Topics
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Course content to be selected each semester from recent developments in computer science. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

CSCI 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Comparative Studies in Literature and Culture

CSLC 501 Introduction to Comparative Media Studies
Units: 4 Ways of thinking about the differences and relations among different cultural media: literature, film, video, manga/comics, "new media," and so forth. Instruction Mode: Lecture Grading Option: Letter

CSLC 502 Introduction to Literary Theory
Units: 4 Major developments in 20th century literary criticism, with special attention to theoretical work of the past three decades. Duplicates Credit in former COLT 502. Instruction Mode: Lecture Grading Option: Letter

CSLC 503 Introduction to Comparative Studies in Culture
Units: 4 Examines culture as an instrument of discursive practice that shapes social formations in Asia, Europe, North and Latin America. Instruction Mode: Lecture Grading Option: Letter

CSLC 510 Introduction to Translation Studies
Units: 4 Terms Offered: FaSp (Enroll in COLT 510)

CSLC 511 Translating Race
Units: 4 Max Units: 8 Terms Offered: FaSp (Enroll in COLT 511)

CSLC 512 Literary and Cinematic Translingualism and Translation
Units: 4 Max Units: 8 Terms Offered: FaSp (Enroll in COLT 512)

CSLC 519 Translation in Theory and Practice
Units: 4 Terms Offered: FaSp (Enroll in COLT 519)

CSLC 525 Studies in Literary and Cultural History
Units: 4 Max Units: max 8 (Enroll in COLT 525)

CSLC 545 Studies in Literature and the Other Arts
Units: 4 Max Units: max 8 (Enroll in COLT 545)

CSLC 555 Studies in Literatures of the Americas
Units: 4 Max Units: max 8 (Enroll in COLT 555)

CSLC 565 Studies in Literatures of Asia
Units: 4 Max Units: max 8 (Enroll in COLT 565)

CSLC 575 Studies in Sound: An Introduction to Sound Studies
Units: 4 Introduction to foundational texts in sound studies. Topics include conceptions of noise, silence, vibration, voice, listening/hearing, rhythm, sound technologies and histories of the senses. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

CSLC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Duplicates Credit in former COLT 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least on semester of enrollment in the graduate program. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSpSm Special topics in comparative studies in literature and culture Instruction Mode: Lecture Grading Option: Letter

CSLC 600 Professional Development I: Publication
Units: 2 Terms Offered: Sp Preparation of book and article manuscripts for publication and placement in presses and journals; revising dissertations for publication; preparing papers for conferences. Students produce an article manuscript ready for submission to a journal. Registration Restriction: Open only to doctoral students. Duplicates Credit in former COLT 603. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 601 Seminar in Comparative Media Studies
Units: 4 Max Units: 12 Intensive comparative study of visual and literary media. Instruction Mode: Lecture Grading Option: Letter

CSLC 602 Seminar in Literary Theory
Units: 4 Max Units: max 12 (Enroll in COLT 602)

CSLC 603 Seminar in Comparative Studies in Culture
Units: 4 Max Units: 12 Intensive study of intellectual and cultural history, with a focus on key literary and theoretical texts. Instruction Mode: Lecture Grading Option: Letter

CSLC 620 Seminar in Literature, Culture, and Thought
Units: 4 Max Units: max 12 (Enroll in COLT 620)

CSLC 640 Seminar in Film and Visual Studies
Units: 4 Max Units: 12 Intensive study of various types of discourse (film, photography, literature) and their intersection with wider social, political, and theoretical issues. Instruction Mode: Lecture Grading Option: Letter

CSLC 650 Seminar in Sound Studies of the Global South
Units: 4 Advanced seminar in sound studies focused on comparativism and the Global South, including South America, South Asia, Africa and the African diaspora. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

CSLC 700 Professional Development II: Writing the Prospectus
Units: 2 Terms Offered: Fa Methodology of writing a dissertation prospectus; a structured workshop environment for completing a prospectus. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 701 Professional Development III: Writing the Doctoral Dissertation
Units: 2 Terms Offered: FaSp A formal occasion to critically interrogate the organization of doctoral dissertation and experiment with academic writing as a creative process. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 702x Professional Development IV: Applying for Academic Positions
Units: 2 Terms Offered: Fa Designed to familiarize students in the Comparative Studies in Literature and Culture doctoral program with the process of seeking an academic position. Credit Restriction: Not available for degree credit for any major Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 790 Research
Units: 1 Max Units: 12.0 Research leading to the doctorate. Maximum units that may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSLC 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSLC 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSLC 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSLC 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Animation

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTAN 101L Introduction to the Art of Animation
Units: 2 Terms Offered: Fa Theory and practice of animation across organic and digital media with an emphasis on self-exploration. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 102L Introduction to the Art of Movement
Units: 2 Terms Offered: Sp Theory and practice of animation with a focus on movement, gesture, timing and performance. *Prerequisite:* CTAN 101. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 110 Design Fundamentals for Animation I
Units: 2 Terms Offered: FaSp Developing skills in design, composition, shape language, image-making, and visual thinking to create more sophisticated style frames and imagery for animation practice. Registration Restriction: Open only to Animation and Digital Arts majors Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 200g The Rise of Digital Hollywood
Units: 4 Terms Offered: Sp An overview of the evolution of computer graphics in modern media. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

CTAN 201L Intermediate Animation Production
Units: 3 Terms Offered: Fa Tools, skills and procedures used in animation production with a focus on professional execution of independent and collaborative productions. *Prerequisite:* CTAN 102. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 202L Introduction to 3-D Character Animation
Units: 3 Terms Offered: Sp 3-D animation performance utilizing preset rigs and virtual characters. Emphasis on timing, gesture, and performance. Registration Restriction: Open only to sophomores in Animation and Digital Arts Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 210 Design Fundamentals for Animation II
Units: 2 Terms Offered: FaSp Applying design principles in image-making and motion with software skills in After Effects to produce creative content and expand animation practice. *Prerequisite:* CTAN 110 Registration Restriction: Open only to Animation and Digital Arts majors Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 220 Introduction to Storyboarding
Units: 2 Terms Offered: FaSp A practical introductory course that emphasizes the fundamentals of digital storyboarding to include storyboarding basics, proper composition, staging for clarity, pitching and critique. *Recommended Preparation:* Basic drawing skills Registration Restriction: Open only to Animation and Digital Arts majors Instruction Mode: Lecture Grading Option: Letter

CTAN 280 Intermediate Character Animation for Games
Units: 4 Terms Offered: Fa An applied introduction to the techniques used for animating 3-D bipedal human character content for the movement and interactive experience within 3-D video games. *Prerequisite:* CTAN 452 or ITP 215L Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 301L 3-D Character Performance Animation
Units: 3 Terms Offered: Fa Advanced 3-D character animation with an emphasis on performance, lip-syncing, timing and execution. *Prerequisite:* CTAN 202L. Registration Restriction: Open only to juniors in Animation and Digital Arts. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 302L Expanded Concepts in 2-D/3-D Animation
Units: 3 Terms Offered: Sp Integration of advanced concepts to create and produce a short 2-D/3-D animated work with original sound and content. *Prerequisite:* CTAN 301L. Registration Restriction: Open only to juniors in Animation and Digital Arts. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 305 Professionalism of Animation
Units: 2 Terms Offered: FaSp Understanding the business of the animation industry. Developing presentation skills for interviewing and pitching, preparing personal marketing tools, researching employment opportunities, and practicing networking techniques. Instruction Mode: Lecture Grading Option: Letter

CTAN 320 Cinematography for Animators
Units: 2 Terms Offered: FaSp The basic cinematic principles for animation, and how to shoot storyboards for the best composition to serve the story. *Prerequisite:* CTAN 452 Registration Restriction: Open only to Animation and Digital Arts majors Instruction Mode: Lecture Grading Option: Letter

CTAN 330 Animation Fundamentals
Units: 2 Terms Offered: Sp An introduction to the fundamentals of animation, covering such topics as timing, anticipation, reaction, overlapping action, and metamorphosis. Instruction Mode: Lecture Grading Option: Letter

CTAN 336 Ideation and Pre-Production
Units: 2 Terms Offered: Sp Emphasis on lateral thinking working across boundaries to find underlying principles in terms of ideation: the act of becoming an agent of ideas. *Prerequisite:* CTAN 301L Registration Restriction: Open only to juniors in the School of Cinematic Arts Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 401a Senior Project
Units: 4 Terms Offered: Fa Understanding the requirements and relationships between theory and practice regarding the complexity of an animated film in idea and execution. *Prerequisite:* CTAN 336 Registration Restriction: Open only to seniors in the School of Cinematic Arts Instruction Mode: Lecture Grading Option: Letter

CTAN 401b Senior Project
Units: 4 Terms Offered: FaSp Completion and exhibition of the short animated film to demonstrate understanding and further examination of the possibilities of animation time based graphic media. *Prerequisite:* CTAN 401a Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 410 Audio Design for Animation and Immersive Media
Units: 2 Terms Offered: FaSp Experimental and traditional audio design practices for animation, culminating in an immersive audio project utilizing acoustic design, surround sound, and professional recording and editing tools. Instruction Mode: Lecture Grading Option: Letter

CTAN 420 Concept Design for Animation
Units: 2 Terms Offered: FaSp Creating characters and environments for animation, live action, and video games. Instruction Mode: Lecture Grading Option: Letter

CTAN 423L Principles of Digital Animation: Visualizing Science
Units: 2 Terms Offered: FaSp Principles of 2-D and 3-D digital animation applied to scientific themes and research topics. Duplicates Credit in former CTAN 523. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 425 Studio Careers: Story to Screen
Units: 2 Terms Offered: FaSp Seminar featuring guest speakers from major animation studios to provide an overview of a feature animation pipeline from development to pre-production, production and post-production. Instruction Mode: Lecture Grading Option: Letter

CTAN 432 The World of Visual Effects
Units: 2 Terms Offered: FaSpSm Introduction to the expanding field of visual effects; topics include integration for cinematic storytelling and the study of digital productions employing the latest visual effects. Instruction Mode: Lecture Grading Option: Letter

CTAN 435 Story Art Development
Units: 2 Terms Offered: FaSp Using basic storyboarding techniques to develop a sense of character, plot, and continuity. Technical aspects of developing ideas into films. Instruction Mode: Lecture Grading Option: Letter

CTAN 436 Writing for Animation
Units: 2 Terms Offered: Fa Workshop exploring concept and structure of long and short form animated films through practical writing exercises. Instruction Mode: Lecture Grading Option: Letter

CTAN 443L Character Development for 3-D Animation and Games
Units: 2 Terms Offered: FaSpSm Development, modeling, and animation with an emphasis on character setup features: rigging, skeletons, deformers and scripting. Applying principles of traditional animation to 3-D character rig/puppet. *Prerequisite:* CTAN 452 or ITP 215L Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 448 Introduction to Film Graphics — Animation
Units: 4 Terms Offered: FaSp An introduction to methods for creating analog animation through experimentation with imagery, concepts and materials. Emphasis on basic timing principles and hands-on techniques. Instruction Mode: Lecture Grading Option: Letter

CTAN 450a Animation Theory and Techniques
Units: 2 Terms Offered: FaSp Methods for creating animation blending traditional techniques with contemporary technologies. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 450b Animation Theory and Techniques
Units: 2 Terms Offered: FaSp Instruction in methods for planning and executing a short animated film. Topics covered include storyboarding, visual development and production planning. Instruction Mode: Lecture Grading Option: Letter

CTAN 450c Animation Theory and Techniques
Units: 2 Terms Offered: FaSp Practical completion of a short animated film. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 451 History of Animation
Units: 2 Terms Offered: Fa In-depth survey of historical developments, styles, techniques, theory and criticism of animation as an art form. Instruction Mode: Lecture Grading Option: Letter

CTAN 452 Introduction to 3-D Computer Animation
Units: 2 Max Units: 4.0 Terms Offered: FaSp Lecture and laboratory in computer animation: geometric modeling, motion specification, lighting, texture mapping, rendering, compositing, production techniques, systems for computer-synthesized animation. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 453 3-D Animation for Motion Graphics
Units: 2 Terms Offered: FaSp Principles and skills for using Cinema 4D software to animate, model and render animation projects. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 455L Organic Modeling for Animation
Units: 2 Terms Offered: FaSp The art of digital sculpting for animated characters, with visual effects integration. *Recommended Preparation:* CTAN 452 or

CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 460 Character Design Workshop
Units: 2 Terms Offered: Sp The basics of character design for animation: anatomy, poses, facial expressions, silhouettes, and anthropomorphism. Development of a portfolio. Instruction Mode: Lecture Grading Option: Letter

CTAN 462 Visual Effects
Units: 2 Terms Offered: FaSp Survey of contemporary concepts and approaches to production in the current state of film and video effects work. Digital and traditional methodologies will be covered, with a concentration on digital exercises illustrating modern techniques. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 463L Creative Workflow in Visual Effects
Units: 2 Terms Offered: FaSp Spherical panoramic photography, 3-D digital environment techniques and a range of visual effects work while providing the stage for the student's storytelling. *Prerequisite:* CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 464L Digital Lighting and Rendering
Units: 2 Terms Offered: FaSp Concepts, tools and techniques used to create cinematic lighting and rendering in computer-generated imagery (CGI). *Prerequisite:* CTAN 452 or CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 465L Digital Effects Animation
Units: 2 Terms Offered: FaSp All aspects of digital effects animation, including particles, dynamics, and fluids. Creating water, fire, explosions, and destruction in film. *Prerequisite:* CTAN 452 or CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 466 Projection Mapping Design and Production
Units: 2 Terms Offered: FaSp An exploration of projection mapping with hands-on learning and projects providing professional skills and workflows for helping students create their own content. *Recommended Preparation:* Familiarity with any 3-D application Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 470 Documentary Animation Production
Units: 2 Terms Offered: FaSp Examination of the history, techniques, and methods of documentary animation production. Collaboration on a short film project. Instruction Mode: Lecture Grading Option: Letter

CTAN 480 Advanced Character Animation for Games
Units: 2 Terms Offered: Fa Advanced techniques for animating 3-D creature characters in games. An emphasis on unique non-human fantasy characters. *Prerequisite:* CTAN 280 Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 485L Pipeline and Character Modeling for Animation
Units: 2 Terms Offered: FaSp Modeling and pipeline integration for 3-D animation props, sets and characters. Prior knowledge in Maya preferred. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 495 Visual Music
Units: 2 Terms Offered: Fa Experimental animation providing the opportunity to produce individual or group projects. Focus is non-conventional techniques for image creation and collaboration between composer and visual artist. Instruction Mode: Lecture Grading Option: Letter

CTAN 496 Directed Studies
Units: 2 Max Units: 4 Terms Offered: FaSp Individual research under faculty guidance. Registration Restriction: Open only to Animation and Digital Arts majors Instruction Mode: Lecture Grading Option: Letter

CTAN 497L Procedural Animation
Units: 2 Terms Offered: FaSp Introduction to software packages and practices exploring current animation techniques that leverage simulation systems. Artificial intelligence as a tool for animation. *Prerequisite:* CTAN 452 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema and/or television; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTAN 501 Experiments in 2-D Digital Animation
Units: 2 Terms Offered: FaSp 2-D Digital animation exploring the art form as a fertile terrain for experimentation, exhibition and activism. *Recommended Preparation:* 2-D digital experience. Instruction Mode: Lecture Grading Option: Letter

CTAN 502L Experiments in Immersive Design
Units: 2 Terms Offered: FaSp An in-depth exploration of aesthetics and techniques involved in the conceptualization, design and creation of virtual reality and stereoscopic imaging. Duplicates Credit in former CTAN 502a Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 503 Storyboarding for Animation
Units: 2 Terms Offered: Sp Focus on film grammar, perspective, and layout, staging and acting as it relates to storyboarding for animation. Instruction Mode: Lecture Grading Option: Letter

CTAN 504L Creative Production in Virtual Reality
Units: 2 Terms Offered: FaSp A creative studio course in producing both a linear cinematic virtual reality short film and associated real-time immersive experience. *Prerequisite:* CTAN 502L Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 505 The Business of Animation
Units: 2 Terms Offered: Sp Professional knowledge and application of fundamental business skills associated with working in the animation industry, academia or the arts. Instruction Mode: Lecture Grading Option: Letter

CTAN 508L Live Action Integration with Visual Effects
Units: 2 Terms Offered: Sp Survey of the digital techniques required to successfully marry live action shooting with CGI elements and green screen footage. *Prerequisite:* CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 522 Animation Department Seminar
Units: 1 Max Units: 6.0 Terms Offered: FaSp A weekly seminar required of all MFA Animation students. This course includes guest speakers, faculty and student presentations followed by lively and critical discussion. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTAN 524 Contemporary Topics in Animation and Digital Arts
Units: 2 Terms Offered: FaSp Explores the relationship of science, philosophy and art to new forms of animation and digital media practice, with a focus on dreams and consciousness. Instruction Mode: Lecture Grading Option: Letter

CTAN 525 Gesture Movement for Animation
Units: 2 Terms Offered: FaSp The concepts of animation performance, body and facial gesture, and the emotional and psychological resonance through cinematic arts. Instruction Mode: Lecture Grading Option: Letter

CTAN 536 Storytelling for Animation
Units: 2 Terms Offered: Sp Storytelling workshop for animators; application of dramatic techniques to visual concepts to derive three-dimensional stories which can serve as bases for finished films. Registration Restriction: Open only to cinematic arts students. Duplicates Credit in CTAN 436. Instruction Mode: Lecture Grading Option: Letter

CTAN 544 Introduction to the Art of Animation
Units: 3 Terms Offered: Fa Fundamentals of film, video and computer animation production. Orientation to assist students on determining future emphases and specialties. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 547 Animation Production I
Units: 3 Terms Offered: Sp Practicum in film, video and computer animation emphasizing the production process through individual projects. *Prerequisite:* CTAN 544. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 550 Stop Motion Puppet and Set Design
Units: 2 Terms Offered: Fa Puppet and set design for stop motion animation while providing guidance on armature rigs that allow the character to be animated effectively. Instruction Mode: Lecture Grading Option: Letter

CTAN 551 Stop Motion Performance
Units: 2 Terms Offered: Sp Incorporating classic stop motion techniques for puppet performance and animation. Emphasis on timing, performance, movement, animation

and gesture. *Prerequisite:* CTAN 550. Instruction Mode: Lecture Grading Option: Letter

CTAN 555 Animation Design and Production
Units: 4 Terms Offered: Fa Exploring creative strategies to designing form and content. Developing style and investigating multiple techniques, including live action and sound. Production of a 30–60 second work. *Prerequisite:* CTAN 547. Instruction Mode: Lecture Grading Option: Letter

CTAN 563 Advanced Character Animation Performance
Units: 2 Terms Offered: FaSp Advanced feature-quality techniques in 3-D character animation emphasizing acting, facial animation, lip-sync, body mechanics, blocking and polish with multiple characters over sequential shots. *Prerequisite:* CTAN 301L or CTAN 577b Instruction Mode: Lecture Grading Option: Letter

CTAN 564L Motion Capture Fundamentals
Units: 2 Terms Offered: Fa Fundamental principles of motion capture technology explored while working through a structured series of assignments based around performance, gesture and motion. *Prerequisite:* CTAN 452 or CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 565L Motion Capture Performance
Units: 2 Terms Offered: Sp The art of directing, acting, and creating story for motion capture will be explored while learning the technology behind bringing virtual actors to life. *Prerequisite:* CTAN 564. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 570 Motion Graphic Design
Units: 3 Terms Offered: FaSp Creating well-designed motion graphic animation work through effective visual communication, design strategies and software skill learning in a professional context. *Recommended Preparation:* Experience using Adobe After Effects, Photoshop and Illustrator software. Some experience with Maya or Cinema 4D 3-D animation software Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 575 Cinematic and Media-Based Installations
Units: 2 Terms Offered: Sp The history and practice of media-based installation art, from site-specific architectural projection mapping, to activist and public art, video sculptures and immersive, physical transformations. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 577a Fundamentals of Animation
Units: 2 Terms Offered: Fa The exploration of the techniques of the art of character animation with an emphasis on discipline, performance and personality observation, specializing in classical Hollywood animation. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture Grading Option: Letter

CTAN 577b Fundamentals of Animation
Units: 2 Terms Offered: Sp The exploration of the techniques of the art of character animation with an emphasis on discipline, performance and personality observation, specializing in classical Hollywood animation. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 579 Expanded Animation
Units: 2 Terms Offered: Sp Incorporation of traditional image making methods as well as digital and new media technologies to convey non-linear narratives over internal and external landscapes. Instruction Mode: Lecture Grading Option: Letter

CTAN 582 Basic Animation Production Technologies
Units: 2 Terms Offered: Fa Introduction for animation majors to the basic techniques and processes of film, video and computer systems, including cinematography, editing and sound. Registration Restriction: Open only to M.F.A. animation and digital arts students. Duplicates Credit in former CTAN 482. Instruction Mode: Lecture Grading Option: Letter

CTAN 591 Animation Pre-Thesis Seminar
Units: 2 Terms Offered: Sp A pre-production seminar, where students complete the research, development, script and storyboards for their thesis project to be executed in CTAN 594a, CTAN 594b, CTAN 594z. Instruction Mode: Lecture Grading Option: Letter

CTAN 592 Master Class
Units: 2, 3, 4, 5, 6 Max Units: 12.0 Terms Offered: Fa A special projects course in which students produce a major work through weekly meetings with a master artist/animator. Topics must be approved prior to enrollment. *Recommended Preparation:* previous advanced animation production experience. Instruction Mode: Lecture Grading Option: Letter

CTAN 593 Directed Studies in Animation
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Individual exploration in the areas of contemporary technology, animation techniques or experimental film through internships, residencies or directed studies. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture Grading Option: Letter

CTAN 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

CTAN 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

CTAN 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

CTAN 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Detailed investigation of new or emerging aspects of cinema; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Cinema and Media Studies

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTCS 150gw Visions of Diversity in the Cinematic Arts
Units: 4 Terms Offered: FaSp Representations of marginalized groups in digital media, and how they have shaped conversations, altered public discourse and policy, and impacted the lives of underrepresented people. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Registration Restriction: Open only to USC School of Cinematic Arts students Instruction Mode: Lecture, Discussion Grading Option: Letter

CTCS 190g Introduction to Cinema
Units: 4 Terms Offered: FaSp Gateway to majors and minors in cinematic arts. Technique, aesthetics, criticism, and social implications of cinema. Lectures accompanied by screenings of appropriate films. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

CTCS 191 Introduction to Television and Video
Units: 4 Terms Offered: FaSp Exploration of the economic, technological, aesthetic, and ideological characteristics of the television medium; study of historical development of television and video including analysis of key works; introduction to TV/video theory and criticism. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTCS 192gm Race, Class, and Gender in American Film
Units: 4 Terms Offered: FaSpSm Analyzes issues of race, class and gender in contemporary American culture as represented in the cinema. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

CTCS 200g History of the International Cinema I
Units: 4 Terms Offered: Fa The development of international cinema from its beginnings to World War II. Lectures, screenings, and discussions. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

CTCS 201 History of the International Cinema II
Units: 4 Terms Offered: Sp The development of international cinema from World War II to the present. Lectures, screenings and discussions. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTCS 303 Japanese Anime
Units: 2 Explores the visual, dramatic and social conventions of Japanese animation in film and television. Examines anime fan communities, manga and their impact. Instruction Mode: Lecture Grading Option: Letter

CTCS 306 Cinema and Media Theory and Practice
Units: 2 Max Units: max 10 Terms Offered: FaSpSm Theories and case studies of contemporary issues in film, television and digital media research. Students will be required to design their own undergraduate research projects. Instruction Mode: Lecture Grading Option: Letter

CTCS 367 Global Media
Units: 4 Terms Offered: FaSp Studies in the global configurations of television industries and cultures, including new technologies and the textual and sociological analysis

of global media events and programming. Instruction Mode: Lecture Grading Option: Letter

CTCS 373 Literature and Film
Units: 4 (Enroll in COLT 373)

CTCS 379 Nationalism and Postcolonialism in Southeast Asian Cinema
Units: 4 (Enroll in COLT 379)

CTCS 392 History of the American Film, 1925–1950
Units: 4 Terms Offered: Sp Screenings of American film classics and their relationship to society. Lectures and discussions. Instruction Mode: Lecture Grading Option: Letter

CTCS 393 Postwar Hollywood, 1946-1962
Units: 4 Terms Offered: Fa Cinematic and extra-cinematic determinants of Post-Classical and Modernist Hollywood studio and independent genres, styles, and the star-phenomenon and their relationship to American history and culture. Instruction Mode: Lecture Grading Option: Letter

CTCS 394 History of the American Film, 1977–present
Units: 4 Terms Offered: Sp Cinematic and extra-cinematic determinants of Postmodernist Hollywood studio and independent genres, styles, and the star-phenomenon and their relationship to American history and culture. Instruction Mode: Lecture Grading Option: Letter

CTCS 400 Non-Fiction Film and Television
Units: 4 Terms Offered: Fa An international survey of documentary, informational, and independent experimental film, video and television. Instruction Mode: Lecture Grading Option: Letter

CTCS 402 Practicum in Film/Television Criticism
Units: 4 Max Units: 8.0 Terms Offered: FaSp Exercise in writing film and television criticism using new and classic films and television programs. Instruction Mode: Lecture Grading Option: Letter

CTCS 403 Studies in National and Regional Media
Units: 4 Terms Offered: FaSp Detailed investigation of traditions, achievements, and trends of film and/or electronic media in a particular country or region. Instruction Mode: Lecture Grading Option: Letter

CTCS 404 Television Criticism and Theory
Units: 4 Terms Offered: Sp The evaluation of television programs and their reception from various theoretical perspectives which may include cultural studies, race and ethnic studies, psychoanalysis, gender and queer studies, and semiotics. Instruction Mode: Lecture Grading Option: Letter

CTCS 406 History of American Television
Units: 4 Terms Offered: Fa History of television as an entertainment, information, and art medium. Emphasis on programming and institutional history, including issues of regulation, censorship, aesthetics and activism. Instruction Mode: Lecture Grading Option: Letter

CTCS 407 African American Cinema
Units: 4 Terms Offered: Irregular Intensive survey of African American cinema; topics include history, criticism, politics, and cinema's relationship to other artifacts of African American culture. Instruction Mode: Lecture Grading Option: Letter

CTCS 408 Contemporary Political Film and Digital Media
Units: 4 Terms Offered: Irregular Examination of a variety of politically engaged films and digital media recently produced in the U.S. and abroad, with particular emphasis on aesthetic strategies. Instruction Mode: Lecture Grading Option: Letter

CTCS 409 Censorship in Cinema
Units: 4 Terms Offered: Fa An inquiry into the practice and patterns of censorship in cinema. Instruction Mode: Lecture Grading Option: Letter

CTCS 411 Film, Television and Cultural Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Detailed examination of film/television from the perspectives and insights of Cultural Studies; focus on the production and reception of cultural texts, practices, and communities. Instruction Mode: Lecture Grading Option: Letter

CTCS 412 Gender, Sexuality and Media
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Examines how gender and sexuality are figured in cinema and television with an emphasis on the development of feminist media theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-412

CTCS 414 Latina/o Screen Cultures
Units: 4 Terms Offered: FaSpSm Examination of Latino/a moving image production including film, video, and digital media in the context of the politics of race, class, gender, sexuality, and international relations. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-414

CTCS 417 African American Television
Units: 4 Terms Offered: Irregular Intensive survey of the history of African American images on American television. Topics include history, criticism, politics, and television's relationship to African American culture. Instruction Mode: Lecture Grading Option: Letter

CTCS 462 Critical Theory and Analysis of Games
Units: 4 Terms Offered: FaSp (Enroll in CTIN 462)

CTCS 464 Film and/or Television Genres
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Rigorous examination of film and/or television genres: history, aesthetics, cultural context, social significance, and critical methodologies. Instruction Mode: Lecture Grading Option: Letter

CTCS 466 Theatrical Film Symposium
Units: 4 Max Units: 8.0 Terms Offered: FaSp Lectures and readings on creative problems in the motion picture industry; current films; interviews with visiting producers, directors, writers, performers. Instruction Mode: Lecture Grading Option: Letter

CTCS 467 Television Symposium
Units: 4 Max Units: 8.0 Lectures and readings on creative problems in the television industry; study of current and historical trends, interviews with producers, directors, writers and performers. Instruction Mode: Lecture Grading Option: Letter

CTCS 469 Film and/or Television Style Analysis
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Intensive study of the style of an auteur, studio, film or television making mode in terms of thematic and formal properties and their influences upon the art of film. Instruction Mode: Lecture Grading Option: Letter

CTCS 473 Film and Media Theory
Units: 4 Terms Offered: FaSp Influential ideas and theoretical approaches that have shaped the making and study of film. Students are encouraged to take this course in their junior year. *Prerequisite:* CTCS 190 Instruction Mode: Lecture Grading Option: Letter

CTCS 478 Culture, Technology and Communications
Units: 4 Terms Offered: FaSp Cultural study of communications technology and its relationship to society. Evaluation of the social and cultural impact of technologies from the telegraph to the Internet. Instruction Mode: Lecture Grading Option: Letter

CTCS 482 Transmedia Entertainment
Units: 4 Terms Offered: FaSp An examination of transmedia, or cross-platform, entertainment: commercial and grassroots texts, theoretical framework, historical context, and commercial projects. Developing transmedia strategies for existing media properties. Instruction Mode: Lecture Grading Option: Letter

CTCS 494 Advanced Cinema and Media Studies Seminar
Units: 4 Max Units: 08 Terms Offered: FaSp Rotating topics involving detailed study of the historical, cultural and aesthetic analysis of film, television, and new media technologies. Registration Restriction: Not open to Freshmen Instruction Mode: Lecture Grading Option: Letter

CTCS 495 Honors Seminar
Units: 4 Terms Offered: FaSpSm Advanced work in the historical, cultural and aesthetic analysis of film, television, and new media technologies. *Corequisite:* CTCS 473. Registration Restriction: Open only to students in CTCS Honors program. Instruction Mode: Lecture Grading Option: Letter

CTCS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema and/or television; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTCS 500 Seminar in Film Theory
Units: 4 Terms Offered: Fa Introduction to classical and contemporary film theory; exploration of their relationship to filmic experimentation. Instruction Mode: Lecture Grading Option: Letter

CTCS 501 World Cinema Before 1945
Units: 2 Terms Offered: FaSp Historical survey of global cinema from its beginnings until 1945. Instruction Mode: Lecture Grading Option: Letter

CTCS 502 World Cinema After 1945
Units: 2 Terms Offered: Fa Historical survey

of film from a global perspective from 1945 until the present. Instruction Mode: Lecture Grading Option: Letter

CTCS 503 Survey History of the United States Sound Film
Units: 2 Terms Offered: Sp Survey history of the United States film from 1927 to the present, with emphasis upon film as art form, economic institution, technology, and cultural product. Instruction Mode: Lecture Grading Option: Letter

CTCS 504 Survey of Television History
Units: 2 Terms Offered: Sp An exploration of the historical, cultural, business, creative, and technological aspects of television. Instruction Mode: Lecture Grading Option: Letter

CTCS 505 Survey of Interactive Media
Units: 2 Terms Offered: Fa A survey course exploring the historical, cultural, business, creative and technological aspects of the new interactive media. Instruction Mode: Lecture Grading Option: Letter

CTCS 506 Critical Studies Colloquium/ Professional Seminar
Units: 2 Terms Offered: FaSpSm Provides orientation to the profession, opportunities for academic and professional growth and development. Recommended for entering students. Instruction Mode: Lecture Grading Option: Letter

CTCS 510 Case Studies in National Media and/or Regional Media
Units: 4 Max Units: 12.0 Terms Offered: FaSp Seminar on media's impact in defining nation and/or region in specific cultural contexts. Also addresses issues of exile, diaspora, transnationalism and globalism. Instruction Mode: Lecture Grading Option: Letter

CTCS 511 Seminar: Non-Fiction Film/Video
Units: 4 Terms Offered: Sp Aesthetic, rhetorical, and ideological issues in nonfiction film and video. Instruction Mode: Lecture Grading Option: Letter

CTCS 517 Introductory Concepts in Cultural Studies
Units: 4 Terms Offered: Fa Introduction to central concepts, key theories, and/ or leading figures in cultural studies, particularly as they relate to issues of popular culture and visual media. Instruction Mode: Lecture Grading Option: Letter

CTCS 518 Seminar: Avant-Garde Film/Video
Units: 4 Terms Offered: Irregular Aesthetic, historical and ideological issues in avant-garde film and video. Instruction Mode: Lecture Grading Option: Letter

CTCS 520 Film History Through the Archives and Special Collections
Units: 4 Terms Offered: Fa A historical exploration of film and television through the artifacts, images and writings used in their creation. Instruction Mode: Lecture Grading Option: Letter

CTCS 521 Media Archiving: History and Practice
Units: 4 Terms Offered: Sp An introduction to the field of moving image archive and the complexities of preserving and managing moving image collections. Instruction Mode: Lecture Grading Option: Letter

CTCS 564 Seminar in Film and Television Genres
Units: 4 Max Units: 8 Terms Offered: FaSp Advanced study of a selected genre of film and/or television — its relationship to history, society, and culture, as well as to genre theory. Instruction Mode: Lecture Grading Option: Letter

CTCS 567 Seminar in Film/Television and a Related Art
Units: 4 Max Units: 8 Terms Offered: Irregular Historical, critical, aesthetic, and theoretical issues raised by a comparison of cinema and television and other allied art forms. Instruction Mode: Lecture Grading Option: Letter

CTCS 569 Seminar in Film and Television Authors
Units: 4 Max Units: 8 Seminar in the style of an auteur, studio, filmmaking, or televisual mode in terms of thematic and formal properties and their influences upon the art of film and/or television. Instruction Mode: Lecture Grading Option: Letter

CTCS 585 Seminar in Film/Television Critical Theory and Production
Units: 4 Terms Offered: Irregular A conjoint theory/production seminar, in which the study of media texts will be combined with media production informed by the theoretical study. Specific themes and area of focus may vary. Instruction Mode: Lecture Grading Option: Letter

CTCS 587 Seminar in Television Theory
Units: 4 Max Units: 8.0 Terms Offered: Sp Detailed investigation and discussion of various aspects of television, including genre, textual analysis, production and distribution systems and audience studies. Instruction Mode: Lecture Grading Option: Letter

CTCS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Detailed investigation of new or emerging aspects of cinema; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTCS 673 Topics in Theory
Units: 4 Max Units: 8.0 Terms Offered: FaSp Contemporary theoretical frameworks and their relationship to film and television studies. Topics differ from semester to semester. Instruction Mode: Lecture Grading Option: Letter

CTCS 677 Cultural Theory
Units: 4 Terms Offered: FaSp Seminar in theoretical approaches to cultural studies; focus on interdisciplinary research of media and audiences, covering a range of methods and theoretical frameworks; concentration varies. Instruction Mode: Lecture Grading Option: Letter

CTCS 678 Seminar in Film Theory and Medium Specificity
Units: 4 Max Units: 8.0 Terms Offered: Irregular Explores the way film has been theorized in relationship to traditional media that preceded it and electronic media that followed. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-678

CTCS 679 Seminar in Genre and/or Narrative Theory
Units: 4 Terms Offered: Irregular Seminar in theoretical issues concerning genre and/or narrative as they pertain to media, literature or cultural forms. Areas of focus vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-679

CTCS 688 Moving Image Histories: Methods and Approaches
Units: 4 Terms Offered: FaSpSm Research seminar in methods and approaches to moving image history including film, television, and digital media. Focus on archival research and issues in writing history. Instruction Mode: Lecture Grading Option: Letter

CTCS 690 Special Problems
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Field production; organization and administration of local film-producing units; experimental aspects of film communication; advanced work in film history and criticism; teaching cinema. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTCS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTCS 791 Historical and Critical Research Methods
Units: 2 Max Units: 4.0 Terms Offered: FaSp Methods and procedures for historical and critical research in the visual media. Required tutorial with Ph.D. student's dissertation committee chair, designed to assist initial work on dissertation. Instruction Mode: Lecture, Lab Grading Option: Letter

CTCS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTCS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTCS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTCS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTCS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Interactive Media

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTIN 101 Fundamentals of Procedural Media
Units: 2 Terms Offered: FaSp Introduction to the procedural nature of interactive media and games, though the coding language Processing. Students will develop proficiency in reading and creating computational media. Duplicates Credit in

former CTIN 400 Instruction Mode: Lecture Grading Option: Letter

CTIN 110 Statistical Analysis for Games: Storytelling with Numbers
Units: 4 Terms Offered: Sp An introductory course on using statistical analysis for user research and assessment of interactive projects. Instruction Mode: Lecture Grading Option: Letter

CTIN 190 Introduction to Interactive Entertainment
Units: 4 Terms Offered: FaSp Critical vocabulary and historical perspectives on interactive entertainment; students articulate their own ideas, while wrestling with the larger conceptual issues at play within the field. Duplicates Credit in former CTIN 309 Instruction Mode: Lecture Grading Option: Letter

CTIN 191 Survey of Themed Entertainment
Units: 4 Terms Offered: FaSp Introduction to the field of themed entertainment and education design, covering its history, and, especially, current practice. Instruction Mode: Lecture Grading Option: Letter

CTIN 200L The New Games Industry
Units: 2 Terms Offered: Sm An overview of what it means to be a professional game developer in the modern and rapidly changing economic environment. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 202 Foundations of Game Development
Units: 2 Terms Offered: Sm Foundational concepts for game designers, including playcentric design and flexible skills and knowledge for collaboratively creating and discussing playable systems. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 290 Digital Media Workshop
Units: 4 Terms Offered: FaSp Exploration of a variety of moving image aesthetics and methodologies in order to highlight how the language of cinema shapes contemporary digital and interactive media practices. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 291 Advanced Games Crew
Units: 2 Max Units: 04 Terms Offered: FaSp Hands-on creating experiences for students who want to work as crew on an advanced game project. Instruction Mode: Lecture Grading Option: Letter

CTIN 332 Games for Animation
Units: 2 Terms Offered: Sp Contemporary examples and theories of the crossover between animation and video game practices. Instruction Mode: Lecture Grading Option: Letter

CTIN 401L Interface Design for Games
Units: 2 Terms Offered: Fa Introduction to the aesthetics, terminology and common trends of interface design for games. Topics include 2-D and 3-D spaces and user/camera perspectives. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 403L Advanced Visual Design for Games
Units: 2 Terms Offered: Sp The scope of visual game design, including the role of characters, architecture, indoor and outdoor spaces, and environmental effects and sounds. *Prerequisite:* CTIN 401L; *Recommended Preparation:* CTAN 443L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 404L User Research for Games
Units: 2 Terms Offered: Sp Concepts and methods of usability assessment. The emphasis will be on understanding the issues surrounding game interfaces, and utilizing usability assessment methods. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 405L Design and Technology for Mobile Experiences
Units: 2 Terms Offered: Sp Critical and pragmatic insights into designing mobile experiences and technology. Design groups will develop a mobile project using principles from readings and class discussions. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 406L Sound Design for Games
Units: 2 Terms Offered: Sp Introduction to the techniques, terminology, and implementation of sounds in games, including establishing a sense of place and concepts of realistic sound. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 409 Producing Interactive Projects
Units: 2 Terms Offered: Fa An in-depth exploration of the development and production concepts woven into the USC Games curriculum and utilized in the professional games industry. Instruction Mode: Lecture Grading Option: Letter

CTIN 411 Tabletop Game Mechanics Seminar
Units: 2 Terms Offered: FaSp Seminar on the design patterns and mechanics of successful tabletop games. Includes guest speakers on the latest trends in gaming content, tools, business and culture. Duplicates Credit in former CTIN 511 Instruction Mode: Lecture Grading Option: Credit/No Credit

CTIN 420 Tabletop Roleplaying Games
Units: 2 Terms Offered: Sp An overview of tabletop roleplaying games and the design space around roleplaying. *Recommended Preparation:* CTIN 488 or CTIN 541 Instruction Mode: Lecture Grading Option: Letter

CTIN 426 Video Games, Identity, and Diversity
Units: 2 Terms Offered: FaSp Thinking about video games in relation to many personal and cultural factors, including race, disability, class, gender, sexuality, and body type. Instruction Mode: Lecture Grading Option: Letter

CTIN 432 Polishing and Publishing Interactive Media
Units: 2 Terms Offered: Fa Mentorship, guidance, and key skills related to pitching, presenting, and releasing games or other creative work. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 444 Audio Expression
Units: 2 Terms Offered: Sp Foundational aesthetic principles and creative technologies for game audio. Processing, mixing, and controlling sound for games for expressive effect. *Recommended Preparation:* CTIN 406L. Instruction Mode: Lecture Grading Option: Letter

CTIN 452L Themed Entertainment Design
Units: 4 Terms Offered: Fa The fundamentals of design, technology, operations and process for the creation of themed entertainment experiences and story-centric place-making. *Prerequisite:* (CTIN 191 and CTIN 488) or CTIN 541 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 456 Game Design for Business
Units: 2 Terms Offered: Sp Designed to provide the business professional with effective communication skills in working with the designers of games and game related venues. Instruction Mode: Lecture Grading Option: Letter

CTIN 458 Business and Management of Games
Units: 2 Terms Offered: FaSp Overview of current business models in games and interactive media, methods for pitching and getting products funded; copyright and intellectual property. Instruction Mode: Lecture Grading Option: Letter

CTIN 459L Game Industry Workshop
Units: 4 Terms Offered: Fa Exploration of industry-related game play research questions. Student teams will develop concepts and materials to solve a research problem posed by an industry partner. *Prerequisite:* CTIN 488; *Recommended Preparation:* CTIN 489. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 462 Critical Theory and Analysis of Games
Units: 4 Terms Offered: Sp Formal, aesthetic, and cultural aspects of digital games, critical discourse around gameplay, and the relationship of digital games to other media. *Recommended Preparation:* CTIN 488. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CTCS-462

CTIN 463 Anatomy of a Game
Units: 4 Terms Offered: Fa Examine two game products from concept to delivery; introduce students to each of the professional disciplines involved in making digital games. *Recommended Preparation:* CTIN 488. Instruction Mode: Lecture Grading Option: Letter

CTIN 464 Game Studies Seminar
Units: 2 Max Units: 4.0 Terms Offered: Fa Rigorous examination of interactive entertainment: genres, history, aesthetics, cultural context, and social significance. Topics vary by semester. Instruction Mode: Lecture Grading Option: Letter

CTIN 478 Level Design Workshop
Units: 2 Terms Offered: FaSp
A workshop on focused design tasks, creating many levels on paper and in game engines. *Prerequisite:* CTIN 488 or CTIN 541 *Recommended Preparation:* CTIN 483 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 479 Documentary and Activist Games
Units: 2 Terms Offered: Sp How interaction design and games document reality. The unique abilities of interactive media in the realms of non-fiction, documentary, and activism. *Recommended Preparation:* CTIN

190, CTIN 488 or CTIN 541. Instruction Mode: Lecture Grading Option: Letter

CTIN 480 Directing for Games and Interactive Media
Units: 2 Terms Offered: Sp An introduction to the skills of directorial perspective, scene breakdown, thematic intent, project planning, team building, communication, situational decision-making and response to change. *Prerequisite:* CTIN 489 or CTIN 532L Instruction Mode: Lecture Grading Option: Letter

CTIN 481 Augmenting Reality: Worldbuilding for Games and Spaces
Units: 2 Terms Offered: FaSp Creative narrative design approaches to augmented reality for use in games, physical spaces and community events. Instruction Mode: Lecture Grading Option: Letter

CTIN 482 Designing Social Games
Units: 2 Max Units: 04 Terms Offered: FaSp Leading industry techniques and networking fundamentals; designing an original social game. Duplicates Credit in former CNTV 482 Instruction Mode: Lecture Grading Option: Letter

CTIN 483 Introduction to Game Development
Units: 4 Terms Offered: FaSp Introduction to technical and creative aspects of game development, including the art of creating the digital game prototype and development of games; coding experience required. *Prerequisite:* CTIN 101 or ITP 115 or CSCI 103L *Recommended Preparation:* CTIN 290 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 484L Intermediate Game Development
Units: 2 Terms Offered: FaSpSm Advanced topics in game programming and implementation such as using game engines, creating digital prototypes, player controls and level design. *Prerequisite:* CTIN 483 or CSCI 104L or ITP 215L *Concurrent Enrollment:* CTIN 489 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 485 Advanced Game Development
Units: 2 Max Units: 06 Terms Offered: FaSp Advanced concepts in 3-D game development: story and character progression, emergent game-play, comprehensive game mechanics and artificial intelligence. *Prerequisite:* CTIN 484L or CTIN 541 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 486 Alternative Control Workshop
Units: 2 Terms Offered: Sp Design of game projects using immersive input devices. Development of play mechanics, feedback systems and game design for immersive environments. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 487 Streaming Explorations: Games and Entertainment for Community
Units: 2 Terms Offered: FaSp Best practices and strategies for streaming. Students build a personality and audience through the course, receiving advice and feedback from emerging leaders in the field. Instruction Mode: Lecture Grading Option: Letter

CTIN 488 Game Design Workshop
Units: 4 Terms Offered: FaSp An introduction to making games. Students will explore the principles of game design through the entirely analog creation of card, board and tabletop games. *Recommended Preparation:* CTIN 190 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 489 Intermediate Game Design Workshop
Units: 2 Terms Offered: FaSp A follow-up to the introductory game design class, this course will introduce more advanced concepts in game design and game theories, including ideation, digital prototyping and level design. *Prerequisite:* CTIN 483, CTIN 488 or CTIN 541; *Concurrent Enrollment:* concurrent enrollment: CTIN 484. Instruction Mode: Lecture Grading Option: Letter

CTIN 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CTIN 491L Advanced Game Project I
Units: 4 Max Units: 08 Terms Offered: Fa Students work in teams on pre-production and production of a functional digital game suitable for showcases, festivals, and further development. *Prerequisite:* CTIN 484L Duplicates Credit in former CTIN 491a Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 492L Experimental Game Topics
Units: 4 Max Units: 8.0 Terms Offered: FaSp Development of a game around a custom-made physical interface; various technologies and techniques involved in a software/hardware integration; peripheral design. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 493L Advanced Game Project II
Units: 2 Max Units: 4.0 Terms Offered: Sp Students work in teams to polish and finalize a functional digital game suitable for distribution via the web and/or submission into independent games festivals. Duplicates Credit in former CTIN 491b. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 497 Interactive Media Startup
Units: 1 Max Units: 3.0 Terms Offered: FaSp Pitching, production planning, forming a company and seeking funding for your creative media idea. Duplicates Credit in former CTIN 497ab. Instruction Mode: Lecture Grading Option: Letter

CTIN 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema, television, and/or interactive media; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTIN 501 Interactive Cinema
Units: 2 Terms Offered: FaSp Provide students with a vocabulary of conceptual and artistic means to create computer based interactive works. Instruction Mode: Lecture Grading Option: Letter

CTIN 503 Interactive Entertainment, Science, and Healthcare
Units: 2 Terms Offered: FaSpSm Overview of foundational concepts required for design, development and evaluation of interactive entertainment and transmedia-based interventions at the intersection of neuroscience, public health and medicine. *Recommended Preparation:* Proficiency in conducting literature reviews; social media use; using interactive media and playing games. Registration Restriction: Open only to seniors and graduate students. Instruction Mode: Lecture Grading Option: Letter

CTIN 506 Procedural Expression
Units: 2 Terms Offered: Fa Developing procedural literacy in the analysis and creation of computational media; an introduction to how we create meaningful experiences using rules and interaction. Duplicates Credit in former CTIN 400. Instruction Mode: Lecture Grading Option: Letter

CTIN 510 Research Methods for Innovation, Engagement and Assessment
Units: 2 Terms Offered: Sp Planning, designing, and analyzing a research study for a digital media project. Production of a written report and presentation. *Recommended Preparation:* CTIN 506, CTIN 541, and CTCS 505. Instruction Mode: Lecture Grading Option: Letter

CTIN 520 Experience and Design of Public Interactives
Units: 2 Terms Offered: Sp Introduction to the design of public interactives, the meaning of built space and environmental experiences, and the relationship between interactivity and social communication. Instruction Mode: Lecture Grading Option: Letter

CTIN 532L Interactive Design and Production I
Units: 4 Terms Offered: Fa The development of interactive experiences with an emphasis on prototyping and development. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 534L Experiments in Interactivity I
Units: 4 Terms Offered: Fa Experimental studio course to explore concepts of structure, aesthetics and content of interactive experience design. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 541 Design for Interactive Media
Units: 4 Terms Offered: Fa Practical exploration and practicum on the fundamental process and principles of interactive media design. Students develop design and prototyping skills while working in collaborative teams. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 542 Interactive Design and Production II
Units: 2 Terms Offered: Sp Rapid prototyping and forward iteration of thesis project ideas developed in CTIN 548. *Prerequisite:* CTIN 532L *Concurrent Enrollment:* CTIN 548 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 544 Experiments in Interactivity II
Units: 2 Terms Offered: Sp Experimental studio course in application of technology to interactive experience. *Prerequisite:* CTIN 534. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 548 Preparing the Interactive Project
Units: 2 Terms Offered: Sp An advanced production workshop in which students

design and prepare for the production of their advanced project. *Prerequisite:* CTIN 532. Instruction Mode: Lecture Grading Option: Letter

CTIN 558 Business of Interactive Media
Units: 2 Terms Offered: Fa In-depth investigation of publication, distribution, business and legal aspects of the interactive entertainment business. Instruction Mode: Lecture Grading Option: Letter

CTIN 575 Health and Interactive Entertainment Research Lab
Units: 2, 4 Max Units: 08 Terms Offered: FaSpSm Emerging transdisciplinary research methods for conducting formative or summative evaluation of interactive entertainment-based interventions. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

CTIN 583 Game Development for Designers
Units: 2 Terms Offered: Sp The fundamentals of 3-D real time game engines, scripting for interactivity, and building games with digital tools. *Recommended Preparation:* CTIN 506 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 584a Individual Interactive Workshop
Units: 4 Individual experimental projects involving the creative use of interactive media and film production skills. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTIN 584b Individual Interactive Workshop
Units: 2 Individual experimental projects involving the creative use of interactive media and film production skills. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTIN 584c Individual Interactive Workshop
Units: 2 Individual experimental projects involving the creative use of interactive media and film production skills. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTIN 584z Individual Interactive Workshop
Units: 0 Individual experimental projects involving the creative use of interactive media and film production skills. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTIN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research project leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTIN 591 Advanced Development Project
Units: 2 Max Units: 8.0 Terms Offered: FaSp Students from many disciplines work in large teams to create an innovative, large-scale interactive media or game project. *Recommended Preparation:* CTCS 505, CTIN 541. Instruction Mode: Lecture Grading Option: Letter

CTIN 593 Integrative Project: Media-based Interventions in Healthcare
Units: 2, 4 Max Units: 4 A project that showcases integrative mastery of prior and newly acquired knowledge, skills and interests. Permission of instructor required. *Prerequisite:* CTIN 503. *Corequisite:* IML 543. Registration Restriction: Open only to Media Arts, Games and Health majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTIN 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* CTIN 548. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CTIN 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* CTIN 548. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTIN 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* CTIN 548. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CTIN 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of interactive media; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Production

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTPR 240x Practicum in Production
Units: 2 or 4 Terms Offered: Sm Basic production techniques: introduction to the cinematic elements, production techniques, and equipment; film and/or videotape production. Instruction Mode: Lecture Grading Option: Letter

CTPR 241 Fundamentals of Cinema Technique
Units: 2 Terms Offered: FaSp Introduction to cinema production techniques and equipment including producing, directing, camera, lighting, and editing. Instruction Mode: Lecture Grading Option: Letter

CTPR 280 Structure of the Moving Image
Units: 2 Terms Offered: FaSp Basic theory and application of the concepts of time, space, composition, movement, light and color in motion picture production. Instruction Mode: Lecture Grading Option: Letter

CTPR 285 Lateral Thinking for Filmmaking Practice
Units: 2 Terms Offered: FaSp Introduces contemporary concepts of production, emphasizing the variety of contemporary media and significant related concepts. Projects created using laptops, phones and networks. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 288 Originating and Developing Ideas for Film
Units: 2 Terms Offered: FaSp Exercises in observation, imaginative association, visualization, etc., that deepen the creative process, leading to ideas, stories, characters and images for narrative, documentary and experimental films. Instruction Mode: Lecture Grading Option: Letter

CTPR 290 Cinematic Communication
Units: 4, 6 Terms Offered: FaSpSm Introduction to the interrelationship of visuals, sound, and editing in cinematic communication. Workshops in directing and producing. Individual and group projects. *Recommended Preparation:* CTPR 285. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 294 Directing in Documentary, Fiction and New Media
Units: 4 Terms Offered: FaSp Basic concepts of directing in new media, documentary and fictional narrative. Includes work with actors, documentary concepts, and creation of short new media projects. *Concurrent Enrollment:* CTPR 295L Instruction Mode: Lecture Grading Option: Letter

CTPR 295L Cinematic Arts Laboratory
Units: 4 Terms Offered: FaSp The aesthetics and tools of the major disciplines of cinematic arts: producing, cinematography, sound, and editing. *Concurrent Enrollment:* Concurrent enrollment: CTPR 294. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTPR 310 Intermediate Production
Units: 4, 6 Terms Offered: FaSpSm Principles of visual and aural communication; idea development and realization using image, movement, pace, the spoken word and other sounds; small crew projects. *Prerequisite:* CTPR 294, CTPR 295L. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 327 Motion Picture Cinematography
Units: 3 Terms Offered: FaSpSm Use of high definition motion picture equipment to explore the fundamentals of shot design, movement and lighting. In class group projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 335 Motion Picture Editing
Units: 3 Terms Offered: FaSp Theory, techniques, and practices in picture editing; use of standard editing equipment; individual projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 340 Creating the Motion Picture Sound Track
Units: 2 Terms Offered: FaSpSm Techniques and aesthetics for recording production sound, editing dialogue, sound effects, music, Foley and preparing for the mix. For film, television, and other media. Instruction Mode: Lecture Grading Option: Letter

CTPR 371 Directing for Television
Units: 4 Terms Offered: FaSp Preparation of director's preproduction blockout; study of direction for live, tape, and film production, for both dramatic and informational television. Instruction Mode: Lecture Grading Option: Letter

CTPR 375 Functions of a Director
Units: 4 Terms Offered: Sp Theoretical considerations of the director in relationship to the multiple facets of film production. Instruction Mode: Lecture Grading Option: Letter

CTPR 382 Advanced Multi-Camera Television Comedy Pilot
Units: 4 Terms Offered: FaSp A hands-on course which allows students to experience all aspects of multi-camera television production by creating a pilot episode of a situation comedy. *Recommended Preparation:* experience working at Trojanvision. Instruction Mode: Lecture Grading Option: Letter

CTPR 385 Colloquium: Motion Picture Production Techniques
Units: 4 Terms Offered: FaSpSm Basic procedures and techniques applicable to production of all types of films; demonstration by production of a short film from conception to completion. Instruction Mode: Lecture Grading Option: Letter

CTPR 386 Art and Industry of the Theatrical Film
Units: 4 Terms Offered: FaSp Detailed analysis of one theatrical film from conception through critical reception to develop an understanding of motion pictures as art, craft, and industry. Instruction Mode: Lecture Grading Option: Letter

CTPR 404 Practicum in Podcast Production
Units: 2 Terms Offered: FaSp The basics of podcast production, including creating an idea, researching and writing the script, hosting, casting, recording and promoting a podcast episode. Instruction Mode: Lecture Grading Option: Letter

CTPR 406 Visual Story and Communication
Units: 2 Terms Offered: FaSp How visuals communicate emotions and ideas in streaming media, advertising, digital games, business and legal presentations and documentary and scripted filmmaking. Instruction Mode: Lecture Grading Option: Letter

CTPR 409 Practicum in Television Production
Units: 1, 2, 4 Max Units: 08 Terms Offered: FaSp Television production laboratory course covers operating cameras, creating graphics, technical operations, controlling audio and floor-managing live productions. Students plan and produce actual Trojan Vision programs. Instruction Mode: Lecture Grading Option: Letter

CTPR 410 The Movie Business: From Story Concept to Exhibition
Units: 2 Terms Offered: FaSp Examination of the industry from story ideas through script development, production and exhibition; evaluation of roles played by writers, agents, studio executives, marketing and publicity. Instruction Mode: Lecture Grading Option: Letter

CTPR 421 Practicum in Editing
Units: 2 Terms Offered: FaSpSm Workshop in how editing can shape storytelling, using content from a variety of media and in various styles. Modern non-linear equipment and techniques. *Prerequisite:* CTPR 310 or CTPR 335. Instruction Mode: Lecture Grading Option: Letter

CTPR 422 Makeup for Motion Pictures
Units: 2 Terms Offered: FaSp Lecture-laboratory in makeup relating it to mood of the story and emulsion of the camera stock. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 423 Introduction to Special Effects in Cinema
Units: 2 Terms Offered: FaSp Introductory workshop in the aesthetics and practices of special effects, embracing both the classical and contemporary modes. Instruction Mode: Lecture Grading Option: Letter

CTPR 424 Practicum in Cinematography
Units: 2 Terms Offered: FaSp Camera and lighting workshop in color cinematography, beginning with digital still photography and moving into 16mm and advanced digital cameras. In-class exercises. *Prerequisite:* CTPR 310 or CTPR 327 Instruction Mode: Lecture Grading Option: Letter

CTPR 425 Production Planning
Units: 2 Terms Offered: FaSp Theory, discussion, and practical application of production planning during preproduction and production of a film. Instruction Mode: Lecture Grading Option: Letter

CTPR 426 The Production Experience
Units: 2 Terms Offered: FaSp To provide students with basic working knowledge of both the skills of the motion picture set and production operations through classroom lectures and hands-on experience. Instruction Mode: Lecture Grading Option: Letter

CTPR 427 Introduction to Color Grading
Units: 2 Terms Offered: FaSpSm Exploration of the various aspects of color grading and how it can enhance storytelling. *Prerequisite:* CTPR 310 or CTPR 508 Instruction Mode: Lecture Grading Option: Letter

CTPR 428 Summer Production Workshop
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Sm To investigate disciplines of Cinema-TV with emphasis on one of the following areas: writing, directing, editing, camera, sound, editing, producing, interactive, computer animation or digital. Instruction Mode: Lecture Grading Option: Letter

CTPR 431 Developing the Documentary Production
Units: 2 Terms Offered: FaSp The tools and skills necessary to turn an idea into a documentary story, using sample reels, pitches, and writing to develop a professional proposal. Instruction Mode: Lecture Grading Option: Letter

CTPR 438 Practicum in Producing
Units: 2 Terms Offered: FaSp A comprehensive overview of the role of the producer. How projects are conceived, developed, packaged, financed and marketed. *Prerequisite:* CTPR 310 or CTPR 425. Instruction Mode: Lecture Grading Option: Letter

CTPR 440 Practicum in Sound
Units: 2 Max Units: 4.0 Terms Offered: FaSp Aesthetic and technical skills of production and postproduction sound necessary to create a motion picture soundtrack. *Prerequisite:* CTPR 310 or CTPR 340. Instruction Mode: Lecture Grading Option: Letter

CTPR 441 Sound Design
Units: 2 Terms Offered: FaSp The historical, theoretical, and practical aspects of sound design for genre films. Exploration of the techniques and processes for creating sounds that do not exist. *Prerequisite:* CTPR 310 or CTPR 508 Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 447 Producing Visual Effects
Units: 2 Terms Offered: FaSp The complex creative, technical, financial, logistical and political challenges of incorporating visual effects into film projects from initial pre-production through final delivery. *Prerequisite:* CTPR 310 or CTPR 508 Instruction Mode: Lecture Grading Option: Letter

CTPR 448 World Building Design Studio
Units: 2 Terms Offered: FaSp Integrating visual and scenario design in the construction of worlds as containers for narrative in documentary, drama, fiction, fantasy, and immersive media. Instruction Mode: Lecture Grading Option: Letter

CTPR 450 The Production and Post-Production Assistant
Units: 2 Terms Offered: FaSp Detailed view of the process of making media. Introducing fundamental thinking typical of each craft. Weekend crew experience and responsibilities. *Prerequisite:* CTPR 310. Registration Restriction: Open only to Cinematic Arts Film and Television Production majors. Instruction Mode: Lecture Grading Option: Letter

CTPR 454 Acting for Film and Television
Units: 4 Terms Offered: FaSp Intensive examination of skills and techniques necessary for successful performances in film and television. Practical application through in-class exercises and assigned projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 455 Survey of Production Design
Units: 2 Terms Offered: FaSpSm How production designers in film and television use graphic tools to create thematic visuals based on a script. Lectures, guest speakers, individual projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 456 Introduction to Art Direction
Units: 2 Terms Offered: FaSp Introduction to drafting, set design, set decoration and creating models for students with diverse abilities. Guest lectures, group discussions and hands-on workshop. Instruction Mode: Lecture Grading Option: Letter

CTPR 457 Creating Poetic Cinema
Units: 2 Terms Offered: Fa An investigation of poetic cinema from four different perspectives: found poetry; applied poetry; poetry as image; and poetry in narrative fiction. Production of short films. Instruction Mode: Lecture Grading Option: Letter

CTPR 458 Organizing Creativity: Entertainment Industry Decision Making
Units: 2 Terms Offered: Sp Analysis of the unique structures in the entertainment industry for organizing and managing creativity. Students research and chart pathways to leadership. Registration Restriction: Open only to juniors, seniors, and graduate students. Instruction Mode: Lecture Grading Option: Letter

CTPR 459 Introduction to Media and Social Change
Units: 4 The history and theory of media and social change, including various disciplines and approaches: social marketing, communication campaign design, entertainment-education and specific media. Instruction Mode: Lecture Grading Option: Letter

CTPR 460 Film Business Procedures and Distribution
Units: 2 or 4 Max Units: 8.0 Terms Offered: FaSpSm Financing, budgeting, management as applied to films; problems of distribution, including merchandising, cataloging, evaluation, and film library management. Instruction Mode: Lecture Grading Option: Letter

CTPR 461 Managing Television Stations and Internet Media
Units: 2 Terms Offered: FaSpSm Managing electronic media, including radio and television stations, broadcast and cable networks, and the Internet. Instruction Mode: Lecture Grading Option: Letter

CTPR 462 Masters of Directorial Style
Units: 2 Max Units: 4 Terms Offered: FaSp The study of exceptional directors from different eras with contrasting stylistic approaches, and how these techniques can creatively inform the student's own work. Instruction Mode: Lecture Grading Option: Letter

CTPR 464 Directing the Television Sketch Comedy Show
Units: 2 Max Units: 4 Terms Offered: FaSp Concepts and skills in directing sketch comedy shows, using the techniques of live television. Hands-on experience on live weekly shows. *Recommended Preparation:* CTPR 371 or CTPR 476 or CTPR 484 or CTPR 523 or CTPR 532. Instruction Mode: Lecture Grading Option: Letter

CTPR 465 Practicum in Production Design
Units: 2 Terms Offered: FaSp Practical instruction in script breakdown, location surveys, traditional and computer-aided working drawings, model making, set decoration, construction and scenic departments. *Prerequisite:* CTPR 310 or CTPR 456 Instruction Mode: Lecture Grading Option: Letter

CTPR 466 The Art of the Pitch
Units: 2 Terms Offered: FaSpSm Presenting ideas for feature and television projects to buyers: shaping ideas for pitching, assessing and targeting the marketplace, in-class pitching of projects. *Prerequisite:* CTPR 310. Instruction Mode: Lecture Grading Option: Letter

CTPR 469 Creating Webisodes
Units: 2 Max Units: 4 Terms Offered: FaSp Production of a fully realized pilot episode, series bible and sizzle reel for a web series. *Prerequisite:* CTPR 310 or CTPR 508 Instruction Mode: Lecture Grading Option: Letter

CTPR 470 Practicum in On-screen Direction of Actors
Units: 4 Terms Offered: FaSp Concentration on the basic skills in working with actors from a director's point of view. Instruction Mode: Lecture Grading Option: Letter

CTPR 473 Spotting Music for Cinema
Units: 2 Terms Offered: FaSp A real world approach to spotting music for film: why film music exists and the many ways it is used in storytelling. For filmmakers as well as composers. Instruction Mode: Lecture Grading Option: Letter

CTPR 474 Documentary Production
Units: 4 Terms Offered: FaSpSm Pairs produce, direct, shoot, and edit a short documentary on a subject of their choice. Finished projects will be suitable for broadcast/festivals. Instruction Mode: Lecture Grading Option: Letter

CTPR 476 Directing The Comedic Scene
Units: 2 Terms Offered: FaSpSm Directing comedy: casting, rehearsing, directing actors, scene analysis, staging, shooting, and editing, leading to the filming of a two-person comic scene. Instruction Mode: Lecture Grading Option: Letter

CTPR 477 Collaborative Directing for Film and Television
Units: 2, 4 Terms Offered: FaSp Directing individual episodes of a composite feature-length film, in collaboration with other student directors. *Prerequisite:* CTPR 476 or CTPR 478 or CTPR 532 Instruction Mode: Lecture Grading Option: Letter

CTPR 478 Practicum in Directing
Units: 2 Terms Offered: FaSp Concepts of directing for motion pictures, emphasizing the working relationship of actors and directors. Scenes will be staged in class and filmed for class presentation. *Prerequisite:* CTPR 310. Instruction Mode: Lecture Grading Option: Letter

CTPR 479 Straight to Series: Development of Episodic TV Drama
Units: 2 Terms Offered: Fa Collaborative writing, preproduction and shooting of a pilot act for an original episodic television drama, shot on stage sets built for the show. Instruction Mode: Lecture Grading Option: Letter

CTPR 480 Advanced Production Workshop
Units: 4 Terms Offered: FaSpSm Directors, producers, cinematographers, editors and sound designers collaborate to produce, shoot, edit and deliver fictional, documentary or experimental projects. *Prerequisite:* CTPR 450 *Recommended Preparation:* CTPR 478 required to direct Registration Restriction: Open only to Film and Television Production majors Instruction Mode: Lecture Grading Option: Letter

CTPR 481 Contemporary Directing Practice
Units: 4 Terms Offered: FaSp Directing seven short projects ranging from short exercises to a scripted and polished final project. Focus will be upon development as a director. *Prerequisite:* CTPR 478 Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: Letter

CTPR 484 Advanced Multi-Camera Television Workshop
Units: 4 Max Units: 08 Terms Offered: FaSp Exercises and practical application for writing and producing a multi-camera television project. Special attention to the development of the sitcom. *Recommended Preparation:* CTPR 371 required for undergraduate students who wish to direct a sitcom and CTPR 523 for graduate students who wish to direct. Instruction Mode: Lecture Grading Option: Letter

CTPR 486 Straight to Series: Production of Episodic TV Drama
Units: 4 Max Units: 08 Terms Offered: FaSpSm Collaborative production and postproduction of an original episodic drama, shot on original sets on stage and on location. *Prerequisite:* CTPR 450 or CTPR 504 or CTPR 508 Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 487 Recording for Film Scores
Units: 2 Terms Offered: FaSp Exploration of the role of the recording studio in professional film and video productions. Emphasis on technical and hardware considerations. Instruction Mode: Lecture Grading Option: Letter

CTPR 491 Internet Famous: How To Make Viral Comedy
Units: 2 Terms Offered: FaSp Translating traditional storytelling tools into short form comedy that stands out online. Writing, directing and producing creative projects designed for current online platforms. Instruction Mode: Lecture Grading Option: Letter

CTPR 496 The Film Industry: Career Challenges and Choices for Women
Units: 2 Terms Offered: FaSp This class discusses women's roles in the entertainment industry and career opportunities available for women in the business, corporate and creative sectors. Instruction Mode: Lecture Grading Option: Letter

CTPR 497 Music Video and Commercial Production
Units: 2 Terms Offered: FaSpSm Writing, budgeting, shooting, editing and directing a music video and commercial. Getting the job, dealing with the band, working with the record and advertising companies. *Prerequisite:* CTPR 310 or CTPR 508 Instruction Mode: Lecture Grading Option: Letter

CTPR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema and/or television; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTPR 502 Collaboration and Creativity
Units: 1 Terms Offered: FaSp Foundations for fruitful collaborative experiences via readings, presentations, in-class exercises and real-life challenges and advice from professionals. Instruction Mode: Lecture Grading Option: Letter

CTPR 504 Fundamentals of Production
Units: 4 Terms Offered: FaSpSm Each student writes/directs a group exercise; includes: collaboration, script breakdown, story beats, casting, directing, camera operation, expressive cinematography, scene structure, AVID, editing and sound design. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTPR 506 Visual Expression
Units: 2 Terms Offered: FaSp Exploring the relationship between story structure and visual structure, discussion of aesthetics and technical controls, in-class examples

and screenings, photographic assignments. *Prerequisite:* CTAN 547 or CTIN 534L or CTPR 504 or CTPR 507 Instruction Mode: Lecture Grading Option: Letter

CTPR 507 Production I
Units: 4 Terms Offered: FaSpSm The effective communication of ideas through the language of cinema; one directing exercise; two short HD projects; introductions to producing, directing, editing, cinematography, and sound. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 508 Production II
Units: 6 Terms Offered: FaSpSm Practicum in group production, emphasizing the collaborative process and the expressive use of sound and image. *Prerequisite:* CTPR 507 and CTWR 505 Registration Restriction: Open only to graduate students Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 510 Concepts of Cinematic Production
Units: 2 Terms Offered: FaSpSm Overview of the process of making media. Introduces fundamental thinking typical of each craft. Presents realities of careers and ethical issues in media. *Corequisite:* CTPR 507. Instruction Mode: Lecture Grading Option: Letter

CTPR 515 Global Exchange Workshop
Units: 2 Max Units: 04 Terms Offered: Sm An intense workshop in documentary filmmaking. Student teams from USC and a Chinese university make short documentaries on Los Angeles and Beijing as global cities. Instruction Mode: Lecture Grading Option: Letter

CTPR 522 Reality Television Survey
Units: 2 Terms Offered: FaSpSm A comprehensive overview of the world of reality television; each student will develop and pitch an original reality-based program. Instruction Mode: Lecture Grading Option: Letter

CTPR 523 Introduction to Multiple-Camera Production
Units: 2 Terms Offered: FaSp How to direct comedy or dramatic scenes, using multiple camera techniques. Students also serve as crew members, learning lighting, mixing, studio controls, and stage management. *Prerequisite:* CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 531 Planning the Documentary Production
Units: 2 Terms Offered: FaSpSm A preproduction workshop for the research and planning of a documentary project to be executed in CTPR 547 or an advanced production workshop class. *Prerequisite:* CTPR 508. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 532 Intermediate Directing
Units: 2 Terms Offered: FaSp Practical experience in staging dramatic narrative scenes, emphasizing directing actors, rehearsal techniques and camera blocking. *Prerequisite:* CTPR 508 Instruction Mode: Lecture Grading Option: Letter

CTPR 533 Directing Techniques
Units: 2 Terms Offered: FaSp Practicum in more complex directing issues concentrating both on performance and exploration of shaping scenes visually through blocking of action and placement of camera. *Prerequisite:* CTPR 532. Instruction Mode: Lecture Grading Option: Letter

CTPR 534 Intermediate Production Design
Units: 2 Terms Offered: Irregular Exercises concentrating on script analysis, blocking the scene, ground plans, elevations, visual research and concepts, departmental collaboration, and presentation of work. *Prerequisite:* CTPR 508 Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 535 Intermediate Editing
Units: 2 Terms Offered: FaSp Editorial construction of film sequences to analyze the interrelationships of the various film elements, both visual and aural. *Prerequisite:* CTPR 508 or CTAN 547. Instruction Mode: Lecture Grading Option: Letter

CTPR 536 Editing for Scriptwriters
Units: 2 Terms Offered: FaSp Principles, techniques, practices and theories of editorial construction of film and TV scenes and sequences. Duplicates Credit in former CTWR 536. Instruction Mode: Lecture Grading Option: Letter

CTPR 537 Intermediate Cinematography
Units: 2 Terms Offered: FaSp Close study through practical in class exercises of the technical and aesthetic principles of cinematography. Introduction to 16mm film and advanced digital cameras. *Prerequisite:* CTPR 508 or CTAN 547. Instruction Mode: Lecture Grading Option: Letter

CTPR 538 Intermediate Producing
Units: 2 Terms Offered: FaSp Definition, examination and practical experience in the role of the line producer as it relates to preproduction, production and post production. *Prerequisite:* CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 540 Intermediate Sound
Units: 2 Terms Offered: FaSp Practical and aesthetic considerations relating to recording, editing and sound design. *Prerequisite:* CTPR 507 or CTAN 547. Instruction Mode: Lecture Grading Option: Letter

CTPR 543 Editing the Advanced Project
Units: 2 Terms Offered: Irregular Utilitarian seminar focused on editing advanced projects. *Corequisite:* CTPR 481a, CTPR 581a or CTPR 587a. Instruction Mode: Lecture Grading Option: Letter

CTPR 546L Production III, Fiction
Units: 6 Max Units: 12.0 Terms Offered: FaSp An intensive workshop experience in which students, crewing in their area of specialization, complete the shooting and postproduction of projects up to thirty minutes in length. Qualifying courses: for directors, CTPR 532, and for cinematographers, CTPR 537; *Prerequisite:* CTPR 508. Instruction Mode: Lab Required, Lecture Grading Option: Letter

CTPR 547L Production III, Documentary
Units: 6 Max Units: 12 Terms Offered: FaSp Intensive workshop; students shoot and finish documentary projects up to about 25 minutes. Qualifying courses: for directors, CTPR 431 or CTPR 531; for cinematographers, CTPR 424 or CTPR 537. *Prerequisite:* CTPR 450 or CTPR 508 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTPR 551 Directing in a Virtual World
Units: 2 Terms Offered: FaSp Telling cinematic stories using visual effects and virtual backgrounds, environments, and characters. Hands-on exercises emphasizing directing. *Prerequisite:* CTAN 462; *Recommended Preparation:* CTAN 555 or CTPR 532 or CTPR 537. Registration Restriction: Open only to Cinematic Arts students. Instruction Mode: Lecture Grading Option: Letter

CTPR 552 Advanced Directing
Units: 2 Terms Offered: FaSp An advanced production class in directing. Encounters with experienced directors; and individual student production of a short. *Prerequisite:* CTPR 532 *Recommended Preparation:* CTPR 533 Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 554 Advanced Sound
Units: 2 Terms Offered: FaSpSm Study of the technical and aesthetic elements of sound design at the professional level. Intended for those contemplating a career in the field of audio. *Prerequisite:* CTPR 540 or one of the following in equivalent crew position: CTPR 546L or CTPR 547L. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 555 Advanced Production Design
Units: 2 The execution of a production designer's in-depth analysis and fully detailed breakdown of a feature-length script for story, character, sets, locations, set dressing, props, fabrics, color and texture. *Prerequisite:* CTPR 534 Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 556 Advanced Professional Editing Tools and Software
Units: 2 Terms Offered: FaSpSm Advanced editing tools for picture editors, picture editing assistants, DIT, post supervisors and VFX editors, including AVID, After Effects, Photoshop, Scriptsync, Davinci Resolve and more. *Prerequisite:* CTPR 421 or CTPR 535 or CTPR 480 or CTPR 484 or CTPR 486 or CTPR 546L or CTPR 547L Instruction Mode: Lecture Grading Option: Letter

CTPR 557 Advanced Cinematography
Units: 2 Terms Offered: FaSpSm Advanced camera and lighting techniques for those considering a professional career in cinematography. *Prerequisite:* CTPR 424 or CTPR 537 Instruction Mode: Lecture Grading Option: Letter

CTPR 558 Advanced Producing
Units: 2 Terms Offered: FaSpSm Defines and examines the role of the Executive/Feature Producer through the preproduction, production and post production phases. *Prerequisite:* CTPR 538 or one of the following in equivalent crew position: CTPR 486, CTPR 546, CTPR 547. Instruction Mode: Lecture Grading Option: Letter

CTPR 565 Making Media for Social Change
Units: 2 Terms Offered: FaSp Each student will produce and direct a film incorporating a social issue of his/her choice into the narrative of the film. *Prerequisite:* CTPR 310 or CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 566 The Pitch Class: Film and TV
Units: 2 Terms Offered: FaSp Developing, pitching and selling your feature motion picture and TV projects. Registration Restriction: Open only to seniors and master students in the USC School of Cinematic Arts Instruction Mode: Lecture Grading Option: Letter

CTPR 572 The World of Television: From Concept to Air and Everything in Between
Units: 2 Terms Offered: FaSp Takes projects from conception to sale, including development, production, post-production, and marketing. Students will develop original projects. *Prerequisite:* CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 573 Developing and Producing the Advanced Project
Units: 2 Terms Offered: FaSp An advanced preproduction workshop in which students complete the development and production planning of an advanced project to be executed in Individual Production Workshop or Advanced Production Seminar. *Prerequisite:* CTPR 508 *Recommended Preparation:* submission of script required Duplicates Credit in former CTPR 553 Instruction Mode: Lecture Grading Option: Letter

CTPR 581a Individual Production Workshop
Units: 4 Terms Offered: FaSpSm Individual experimental projects involving the creative use of visuals (live action or animated) and sound. Qualifying courses: CTPR 532 (for directors); CTPR 558 (for producers). Graded IP/Letter. *Prerequisite:* CTPR 573 and CTPR 484 or CTPR 486 or CTPR 546L or CTPR 547L Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 581b Individual Production Workshop
Units: 2 Terms Offered: FaSpSm Individual experimental projects involving the creative use of visuals (live action or animated) and sound. Graded IP/Letter. *Prerequisite:* CTPR 581a Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 581c Individual Production Workshop
Units: 2 Terms Offered: FaSpSm Individual experimental projects involving the creative use of visuals (live action or animated) and sound. Graded IP/Letter. *Prerequisite:* CTPR 581b Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 581z Individual Production Workshop
Units: 0 Terms Offered: FaSpSm Individual experimental projects involving the creative use of visuals (live action or animated) and sound. Graded IP/Letter. *Prerequisite:* CTPR 581c Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 582a Advanced Production Seminar
Units: 2 Terms Offered: FaSpSm Advanced individual film or video projects under the guidance of a faculty mentor, without benefit of university equipment or resources. Qualifying courses: CTPR 532 (for directors); CTPR 558 (for producers). Graded IP/Letter. *Prerequisite:* CTPR 573 and CTPR 484 or CTPR 486 or CTPR 546L or CTPR 547L Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 582b Advanced Production Seminar
Units: 2 Terms Offered: FaSpSm Advanced individual film or video projects under the guidance of a faculty mentor, without benefit of university equipment or resources. Graded IP/Letter. *Prerequisite:* CTPR 582a Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 582z Advanced Production Seminar
Units: 0 Terms Offered: FaSpSm Advanced individual film or video projects under the guidance of a faculty mentor, without benefit of university equipment or resources. Graded IP/Letter. *Prerequisite:* CTPR 582b Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 583 Graduate Television Production
Units: 6 Terms Offered: FaSp Advanced television group production workshop for students who want to produce an advanced multi-camera project. Qualifying courses: CTPR 532 (for directors); CTPR 538 (for producers). *Prerequisite:* CTPR 573 Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: Letter

CTPR 585a Advanced Producing Project
Units: 2 Terms Offered: FaSpSm Supervised, individual study leading to the creation of a producer's package. The package will include script, schedule, budget, finance and marketing plan. Graded IP/Letter. *Prerequisite:* CTPR 538 *Corequisite:* CTPR 558 or CTPR 572 Registration Restriction: Open only to Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress to Letter

CTPR 585b Advanced Producing Project
Units: 2 Terms Offered: FaSpSm Supervised, individual study leading to the creation of a producer's package. The package will include script, schedule, budget, finance and marketing plan. Graded IP/Letter. *Prerequisite:* CTPR 585a Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 585z Advanced Producing Project
Units: 0 Terms Offered: FaSpSm Supervised, individual study leading to the creation of a producer's package. The package will include script, schedule, budget, finance and marketing plan. Graded IP/Letter. *Prerequisite:* CTPR 585b Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 587a Group Production Workshop
Units: 4 Terms Offered: FaSpSm Advanced group project involving the creative use of visuals (live action or animated) and sound specifically designed for students who want to work in pairs. Qualifying courses: CTPR 532 (for directors); CTPR 558 (for producers). *Prerequisite:* CTPR 573 Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 587b Group Production Workshop
Units: 2 Terms Offered: FaSpSm Advanced group project involving the creative use of visuals (live action or animated) and sound specifically designed for students who want to work in pairs. *Prerequisite:* CTPR 587a Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 587c Group Production Workshop
Units: 2 Terms Offered: FaSpSm Advanced group project involving the creative use of visuals (live action or animated) and sound specifically designed for students who want to work in pairs. *Prerequisite:* CTPR 587b Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 587z Group Production Workshop
Units: 0 Terms Offered: FaSpSm Advanced group project involving the creative use of visuals (live action or animated) and sound specifically designed for students who want to work in pairs. *Prerequisite:* CTPR 587c Registration Restriction: Open only to Cinematic Arts, Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress and Letter

CTPR 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTPR 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTPR 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTPR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Detailed investigation of new or emerging aspects of cinema; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Curriculum, Teaching and Special Education

CTSE 593a Master's Seminar
Units: 2 Terms Offered: FaSpSm An examination and analysis of research and literature from the student's area of focus. Required of all master's candidates who do not enroll in the Master's Thesis (594abz). Instruction Mode: Lecture Grading Option: Credit/No Credit

CTSE 593b Master's Seminar
Units: 2 Terms Offered: FaSpSm An examination and analysis of research and literature from the student's area of focus. Required of all master's candidates who do not enroll in the Master's Thesis (594abz). Instruction Mode: Lecture Grading Option: Credit/No Credit

Writing

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTWR 100g Story: Character, Conflict, and Catharsis
Units: 4 Terms Offered: Fa Fundamentals course on the elements of scene writing, story structure, and character development. Registration Restriction: Open only to students in Writing for Screen and Television Instruction Mode: Lecture, Discussion Grading Option: Letter

CTWR 105 Nonverbal Thinking: Visual and Aural
Units: 2 Terms Offered: Sp An introduction to non-verbal elements of images and sounds which convey meaning, mood, and emotion. Instruction Mode: Lecture Grading Option: Letter

CTWR 106a Screenwriting Fundamentals
Units: 4 Terms Offered: FaSp Introduction to and overview of the elements of theme, plot, character, and dialogue in dramatic writing for film. Instruction Mode: Lecture Grading Option: Letter

CTWR 106b Screenwriting Fundamentals
Units: 4 Terms Offered: FaSp Exercises in dramatic writing: theme, plot, character, dialogue and images. Integration of these elements into scenes and sequences. Instruction Mode: Lecture Grading Option: Letter

CTWR 120 Genesis of the Screenplay
Units: 2 Terms Offered: Sp The evolution of the screenplay from its roots in myths, plays, and short stories. Writing original treatments for film and television inspired by literary masters. Instruction Mode: Lecture Grading Option: Letter

CTWR 206a Writing the Screenplay
Units: 4 Terms Offered: Fa Development of synopsis and treatment for a theatrical or documentary screenplay: theme, plot, character, mise-en-scene and utilization of cinematic elements. Instruction Mode: Lecture Grading Option: Letter

CTWR 206b Writing the Screenplay
Units: 4 Terms Offered: Sp Writing a feature-length screenplay based on treatment developed in CTWR 206a. Includes a first draft and a polish. Instruction Mode: Lecture Grading Option: Letter

CTWR 211g The Television Writer: An Agent of Change
Units: 4 Terms Offered: FaSp The television writer as an agent of change across current social issues including, but not limited to: race, gender, and class. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

CTWR 212 Fundamental Topics of Writing for Film and TV
Units: 2, 4 Max Units: max 8 Terms Offered: FaSpSm Introductory course focusing on varying topics of fundamentals for feature writing and television writing. Instruction Mode: Lecture Grading Option: Letter

CTWR 213 Content and Consciousness
Units: 2 Terms Offered: Fa Inquiry into the relationship between cognitive and affective knowledge as it relates to the art of screenwriting and the screenwriter. Instruction Mode: Lecture Grading Option: Letter

CTWR 215 Practicum in Writing Short Films
Units: 2 Terms Offered: Sp Developing stories less than feature length; writing screenplays from them; understanding what length each story demands; creating idiosyncratic forms and styles. Instruction Mode: Lecture Grading Option: Letter

CTWR 250 Breaking the Story
Units: 2 Terms Offered: SpSm Examination of the fundamental elements of a good story, and how to use those elements to develop new screenplay ideas. *Recommended Preparation:* CTWR 106b. Instruction Mode: Lecture Grading Option: Letter

CTWR 305 Advanced Screenwriting: The Relationship Screenplay
Units: 4 Terms Offered: FaSpSm An inquiry into the complex nature of human relationships by writing an original feature length screenplay that examines the multidimensional world of characters and the ties that bind them together. Registration Restriction: Open only to Writing for Screen and Television majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 306 Advanced Screenwriting: Alternative Narrative
Units: 4 Terms Offered: Sp Develop and write an original feature-length screenplay utilizing a non-linear narrative story structure that examines the creative use of time, perspective, and point of view to enhance both character and story. *Prerequisite:* CTWR 305. Instruction Mode: Lecture Grading Option: Letter

CTWR 314 Writing To Be Performed
Units: 2 Terms Offered: Fa Understanding the elements of screen performance to enhance the writing of complex characters and human relationships. *Prerequisite:* CTWR 100. Registration Restriction: Open only to Writing for Screen and Television majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 315x Filmwriting
Units: 3 Terms Offered: FaSpSm The basics of screenwriting: theme, story structure, characterization, format, dialogue, and scene description. A character profile, short treatment, and first 30 pages of the screenplay are written. Lectures, screenings, and in-class readings. Instruction Mode: Lecture Grading Option: Letter

CTWR 321 Introduction to Hour-Long Television Writing
Units: 2 Terms Offered: FaSp The fundamentals of writing for dramatic episodic television. Writing scenes from popular television shows and examination of television story structure. *Prerequisite:* CTWR 100g or CTWR 402 or CTWR 409 or CTWR 413 Instruction Mode: Lecture Grading Option: Letter

CTWR 324 Introduction to Half-Hour Television Writing
Units: 2 Terms Offered: FaSp The fundamentals of writing for comedic episodic television. Writing scenes from popular comedy series and examination of half-hour television comedy story structure. *Prerequisite:* CTWR 409 or CTWR 413 *Recommended Preparation:* CTWR 404 Instruction Mode: Lecture Grading Option: Letter

CTWR 401 Writing the First Draft Feature Screenplay
Units: 4 Max Units: 8.0 Terms Offered: Sm Writing an outline and the first draft of a feature-length screenplay. Emphasis on character interrelationships, conflict, and three-act structure. Instruction Mode: Lecture Grading Option: Letter

CTWR 402 Writing and Social Change
Units: 2 An introductory course in writing for the screen with an emphasis on social issues. Duplicates Credit in CTWR 412. Instruction Mode: Lecture Grading Option: Letter

CTWR 403 Writing the Narrative Podcast Series
Units: 2 Max Units: 04 Terms Offered: FaSp Development of an original narrative podcast. Emphasis on dramatic elements of auditory storytelling and character development. *Recommended Preparation:* CTWR 411 or CTWR 416 Instruction Mode: Lecture Grading Option: Letter

CTWR 404 Foundations of Comedy
Units: 2 Study of comedy theory and practical applications in film, television, and social media. Lectures and screenings of comedic forms tracing past, present and future. Instruction Mode: Lecture Grading Option: Letter

CTWR 405 Storytelling for Virtual and Augmented Reality
Units: 2 Terms Offered: FaSpSm Storytelling for the 360-degree visual arena. Focus on immersive worlds, challenges of virtual and augmented reality, and active audience engagement. *Prerequisite:* CTAN 436 or CTAN 536 or CTWR 100g or CTWR 412 or CTWR 413 or CTWR 505 or CTWR 513 or CTWR 518 Instruction Mode: Lecture Grading Option: Letter

CTWR 407 Creating the Comedic Character
Units: 2 Utilization of various techniques for character to emerge naturally in scene and stories. Creating multiple comedic characters to generate future stories. *Recommended Preparation:* CTWR 404. Instruction Mode: Lecture Grading Option: Letter

CTWR 409 Fundamentals of Screenwriting: Character, Conflict and Story
Units: 4 Terms Offered: FaSp Introduction to writing compelling scenes, creating authentic characters, three-act structure

and feature film outlining. Instruction Mode: Lecture Grading Option: Letter

CTWR 410L Character Development and Storytelling for Games
Units: 4 Terms Offered: Fa An exploration of characters and story worlds as they relate to gaming with an emphasis on emotionally rich environments in interactive entertainment. *Recommended Preparation:* CTIN 488. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTWR 411 Television Script Analysis
Units: 2 Terms Offered: Sp In-depth analysis of the craft of writing prime-time episodic television. Examination of situation comedies and dramas through weekly screenings and lectures. Instruction Mode: Lecture Grading Option: Letter

CTWR 412 Introduction to Screenwriting
Units: 2 Introduction to the formal elements of writing the short film. Instruction Mode: Lecture Grading Option: Letter

CTWR 413 Writing the Short Script I
Units: 2 Preparation of scripts for short films: form, structure, planning. Registration Restriction: Open only to Cinematic Arts Film and Television production majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 414 The Screenplay
Units: 2 Students study story structure and develop several story outlines, write a short script for possible production, a feature film outline and first act. *Prerequisite:* CTWR 413; *Recommended Preparation:* CTWR 416. Registration Restriction: Open only to Cinematic Arts Film and Television Production majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 415a Advanced Writing
Units: 2 Terms Offered: FaSp Principles of the feature film; creating theme, character and structure that combine into a feature-length story treatment. *Prerequisite:* CTWR 409 or CTWR 413 *Recommended Preparation:* CTWR 416 Instruction Mode: Lecture Grading Option: Letter

CTWR 415b Advanced Writing
Units: 2 Creation of script with extensive work-shopping of scenes in class leading to a first draft and revision as a final assignment. Instruction Mode: Lecture Grading Option: Letter

CTWR 416 Motion Picture Script Analysis
Units: 2 Critical analysis of story structure from classic films to contemporary works. Identification of key story concepts and elements of three-act structure. Instruction Mode: Lecture Grading Option: Letter

CTWR 417 Script Coverage and Story Analysis
Units: 2 Terms Offered: FaSp Evaluation of completed scripts prior to their production. Coverage and analysis of scripts as potential properties from the perspective of a production company. Instruction Mode: Lecture Grading Option: Letter

CTWR 418a Senior Thesis
Units: 4 Terms Offered: Fa Creation of feature-length treatment and first draft senior thesis screenplay, including "pitching" experiences. Instruction Mode: Lecture Grading Option: Letter

CTWR 418b Senior Thesis
Units: 4 Terms Offered: Sp Completion and revision of senior thesis project and introduction to motion picture industry procedures and practices through interaction with industry representatives. *Prerequisite:* CTWR 305. Instruction Mode: Lecture Grading Option: Letter

CTWR 419a Senior Thesis in Dramatic Television
Units: 4 Terms Offered: Fa Advanced workshop developing an original hour-long dramatic series including characters, world, and story lines for season one. Final assignment is completed hour-long pilot episode. *Prerequisite:* CTWR 305 and CTWR 421; *Recommended Preparation:* CTWR 411. Instruction Mode: Lecture Grading Option: Letter

CTWR 419b Senior Thesis in Dramatic Television
Units: 4 Terms Offered: Sp Revision of original pilot script, writing of mid-season episode, and completion of bible for original dramatic series developed in first semester. Instruction Mode: Lecture Grading Option: Letter

CTWR 420a Senior Thesis in Half-Hour Television Comedy
Units: 4 Intense study in developing an original half-hour television comedy pilot including special attention to development of multiple seasons and character evolution. *Prerequisite:* CTWR 437 or CTWR 439. *Recommended Preparation:* CTWR 404. Registration Restriction: Open only to Writing for Television and Screen majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 420b Senior Thesis in Half-Hour Television Comedy
Units: 4 Rewrite, casting, and stage performance of the comedy development process. A rewrite of the final draft and completion of the series bible with multiple seasons. *Prerequisite:* CTWR 420a. Registration Restriction: Open only to Writing for Television and Screen majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 421 Writing the Hour-Long Dramatic Series
Units: 2 Max Units: 04 Terms Offered: FaSp Writing an episode of an existing dramatic television series within the hour-long format with an emphasis on conception, pitching, characterization and structure. *Prerequisite:* CTWR 321 or CTWR 324 or CTWR 505 or CTWR 514a *Recommended Preparation:* CTWR 411 Instruction Mode: Lecture Grading Option: Letter

CTWR 422 Creating the Dramatic Television Series
Units: 2 Max Units: 4.0 Terms Offered: FaSm Examination and creation of the world, characters, and concept for an original hour-long dramatic series. Writing an outline for an original dramatic pilot. Instruction Mode: Lecture Grading Option: Letter

CTWR 430 Comedy Writers and Their Work
Units: 2 Max Units: 06 Terms Offered: FaSp Detailed investigation of specific comedy writers, comedy genres, and the works they've influenced. Lectures include screenings and visiting screenwriters. Instruction Mode: Lecture Grading Option: Letter

CTWR 431 Screenwriters and Their Work
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Detailed investigation of a specific screenwriter's style and the works they've influenced. Lectures include screenings and visiting screenwriters. Instruction Mode: Lecture Grading Option: Letter

CTWR 432 Television Writers and Their Work
Units: 2 Max Units: 06 Terms Offered: FaSp Detailed investigation of various television writers' styles, the worlds they have created, and the works they've influenced. Lectures include screenings and visiting television writers. Instruction Mode: Lecture Grading Option: Letter

CTWR 433 Adaptations: Transferring Existing Work to the Screen
Units: 2 Terms Offered: Fa An examination of motion picture adaptations; problems attendant upon translating a novel, play, or other creative forms into screenplays. *Prerequisite:* CTWR 206b or CTWR 414 or CTWR 514a or CTWR 529. Instruction Mode: Lecture Grading Option: Letter

CTWR 434 Writing the Half-Hour Comedy Series
Units: 2 Max Units: 06 Terms Offered: FaSp Writing an episode of an existing half-hour comedy series, with emphasis on the anatomy of a joke, comedic structure and character. *Prerequisite:* CTWR 321 or CTWR 324 or CTWR 505 *Recommended Preparation:* CTWR 404 Instruction Mode: Lecture Grading Option: Letter

CTWR 435 Writing for Film and Television Genres
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSp Preparation of proposals and scripts for different types of film or television programming: emphasis on conception, structure, characterization and format. *Prerequisite:* CTWR 206b or CTWR 415b *Recommended Preparation:* CTWR 416 Instruction Mode: Lecture Grading Option: Letter

CTWR 437 Writing the Original Situation Comedy Pilot
Units: 4 Max Units: 8 Advanced workshop for writing an original half-hour comedy series, including a pilot script, summary of characters, and story lines for first season. *Prerequisite:* CTWR 421 or CTWR 434 *Recommended Preparation:* CTWR 411 Instruction Mode: Lecture Grading Option: Letter

CTWR 438 Linked Narrative Storytelling for the Web
Units: 2, 4 Max Units: 08 Terms Offered: FaSp Create, develop, and execute episodic video content for the web. Focus on content and characters that are viable in the internet landscape. Instruction Mode: Lecture Grading Option: Letter

CTWR 439 Writing the Original Dramatic Series Pilot
Units: 4 Max Units: 8 Terms Offered: FaSp An advanced workshop in which students create an original dramatic series, including a first script and a summary of characters and storylines. *Prerequisite:* CTWR 421 or CTWR 434. Instruction Mode: Lecture Grading Option: Letter

CTWR 441 Writing Workshop in Creativity and Imagination
Units: 2 Terms Offered: FaSp Students will explore a variety of problem solving techniques to strengthen their creative work and apply these techniques to individual writing projects. Instruction Mode: Lecture Grading Option: Letter

CTWR 449 Rewriting the Original Dramatic Series Pilot
Units: 4 Max Units: 8.0 An advanced workshop in which an original hour-long television pilot will be rewritten with emphasis on character, world creation and future story lines. *Prerequisite:* CTWR 439; *Recommended Preparation:* CTWR 411. Instruction Mode: Lecture Grading Option: Letter

CTWR 453 Advanced Feature Rewriting
Units: 4 Max Units: max 8 Terms Offered: FaSpSm An advanced workshop in which a feature length screenplay will be rewritten using a specific methodology that focuses on a macro to micro approach to revision. *Prerequisite:* CTWR 305 or CTWR 415b Instruction Mode: Lecture Grading Option: Letter

CTWR 459a Entertainment Industry Seminar
Units: 2 Terms Offered: Fa Examination and analysis of various topics, issues and resources pertaining to creative, legal and business perspectives for writers in the entertainment industry. *Prerequisite:* CTWR 459a for CTWR 459b. Instruction Mode: Lecture Grading Option: Letter

CTWR 459b Entertainment Industry Seminar
Units: 2 Terms Offered: Sp Examination and analysis of various topics, issues and resources pertaining to creative, legal and business perspectives for writers in the entertainment industry. *Prerequisite:* CTWR 459a for CTWR 459b. Instruction Mode: Lecture Grading Option: Letter

CTWR 468 Screenwriting in Collaboration
Units: 4 Max Units: 08 Terms Offered: Sp Writing an original screenplay or pilot collaboratively with a partner, with special attention paid to the writing team dynamic and the 'third' writer's voice. *Prerequisite:* CTWR 305 or CTWR 415b or CTWR 514b or CTWR 523 *Recommended Preparation:* CTWR 416 or CTWR 516 Instruction Mode: Lecture Grading Option: Letter

CTWR 477 Staff Writing the Sketch Comedy Show
Units: 2 Max Units: 6.0 Terms Offered: Sp Staff writing a sketch comedy show with emphasis on creating comedic characters, political humor, monologue writing, and joke construction. A live show will be produced. *Prerequisite:* CTWR 404. Instruction Mode: Lecture Grading Option: Letter

CTWR 487 Staff Writing the Multi-Camera Television Series
Units: 4 Max Units: 8.0 Terms Offered: Fa Working on the writing staff of an original multi-camera television series, with emphasis on the writers' room experience and how to executive produce an episode. *Prerequisite:* CTWR 434. Instruction Mode: Lecture Grading Option: Letter

CTWR 489a Straight to Series: Writing and Producing the Episodic Drama
Units: 2, 4 Terms Offered: FaSp Staff writing and producing the original episodic drama, from development to post-production. *Prerequisite:* CTWR 321 or CTWR 413 or CTWR 505 or CTWR 513 *Recommended Preparation:* CTWR 411 Duplicates Credit in former CTWR 489 Instruction Mode: Lecture Grading Option: Letter

CTWR 489b Straight to Series: Writing and Producing the Episodic Drama
Units: 2, 4 Terms Offered: FaSp Staff writing and producing the original episodic drama, from development to post-production. *Prerequisite:* CTWR 489a *Recommended Preparation:* CTWR 411 Duplicates Credit in former CTWR 489 Instruction Mode: Lecture Grading Option: Letter

CTWR 497 Staff Writing the Single-Camera Half-Hour Series
Units: 4 Max Units: 8.0 Terms Offered: Fa Working on the writing staff for an original single-camera half-hour television series, with emphasis on the writers' room experience and challenges of single-camera half-hour television. *Prerequisite:* CTWR 434 or CTWR 534; *Recommended Preparation:* CTWR 404. Instruction Mode: Lecture Grading Option: Letter

CTWR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema and/or television; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTWR 502 Graduate Writing Symposium
Units: 1 Terms Offered: Sp A survey of the creative and professional range of the working screenwriter. *Recommended Preparation:* CNTV 501. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTWR 505 Creating the Short Film
Units: 2 Terms Offered: FaSp Strengthening and deepening the ability to conceive and develop ideas that will lead to compelling, authentic, and personally meaningful films. *Concurrent Enrollment:* Concurrent enrollment: CTPR 507, CTPR 510. Duplicates Credit in CTWR 528. Instruction Mode: Lecture Grading Option: Letter

CTWR 509 Understanding the Process of Film Making
Units: 2 Terms Offered: Sp An introduction for screenwriters to the process of creating a feature film, from script through release print, including pre-production, production and post-production. Instruction Mode: Lecture Grading Option: Letter

CTWR 510 Fundamentals of Storytelling for Animation
Units: 2 Terms Offered: FaSp Introduction to the fundamentals of storytelling with techniques and practices that work best for animated stories. Instruction Mode: Lecture Grading Option: Letter

CTWR 513 Writing the Short Script
Units: 2 Terms Offered: Fa Preparation of scripts for short films; dramatic, informational, experimental, and other forms. *Concurrent Enrollment:* Concurrent enrollment: CTWR 514a. Instruction Mode: Lecture Grading Option: Letter

CTWR 514a Basic Dramatic Screenwriting
Units: 2 Terms Offered: Fa Dramaturgy for the fiction and nonfiction work. Techniques for creating the original or adapted theatrical script. Open to graduate screenwriting majors (CTWR) and dramatic writing (Theatre) majors only. Emphasizes narrative development, through short scripts, sequences, and story outlines. *Concurrent Enrollment:* Concurrent enrollment: CTWR 513. Instruction Mode: Lecture Grading Option: Letter

CTWR 514b Basic Dramatic Screenwriting
Units: 2 Terms Offered: Sp Dramaturgy for the fiction and nonfiction work. Techniques for creating the original or adapted theatrical script. Open to graduate screenwriting majors (CTWR) and dramatic writing (Theatre) majors only. Development of an outline and feature length, original script. Instruction Mode: Lecture Grading Option: Letter

CTWR 515a Practicum in Screenwriting
Units: 4 Terms Offered: FaSp Creation of a feature screenplay from presentation through treatment, including some scene work. *Prerequisite:* CTWR 514a; CTWR 515a for CTWR 515b; CTWR 515b for CTWR 515c; CTWR 515c for CTWR 515d. Instruction Mode: Lecture Grading Option: Letter

CTWR 515b Practicum in Screenwriting
Units: 4 Terms Offered: FaSp Comprehensive rewriting of a second and third draft of a feature screenplay leading to a polished and professional piece. *Prerequisite:* CTWR 514a; CTWR 515a for CTWR 515b; CTWR 515b for CTWR 515c; CTWR 515c for CTWR 515d. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTWR 515c Practicum in Screenwriting
Units: 1 Terms Offered: FaSp Supervised rewrite of feature screenplay. *Prerequisite:* CTWR 514a; CTWR 515a for CTWR 515b; CTWR 515b for CTWR 515c; CTWR 515c for CTWR 515d. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTWR 515d Practicum in Screenwriting
Units: 1 Terms Offered: FaSp Supervised rewrite of feature screenplay. *Prerequisite:* CTWR 514a; CTWR 515a for CTWR 515b; CTWR 515b for CTWR 515c; CTWR 515c for CTWR 515d. Instruction Mode: Lecture Grading Option: Letter

CTWR 516 Advanced Motion Picture Script Analysis
Units: 2 Terms Offered: FaSp Critical analysis of the structure of films from the classics to current award winners. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts. Instruction Mode: Lecture Grading Option: Letter

CTWR 517a Thesis in Half-Hour Television Comedy
Units: 4 Terms Offered: Fa Developing an original half-hour comedy television series, including characters, world and storylines for season one. Completion of a first draft script, polish, and series bible. *Prerequisite:* CTWR 514b; *Corequisite:* CTWR 534. Registration Restriction: Open only to Writing for Screen and Television master students. Instruction Mode: Lecture Grading Option: Letter

CTWR 517b Thesis in Half-Hour Television Comedy
Units: 4 Terms Offered: Fa Developing

an original half-hour comedy television series, including characters, world and storylines for season one. Completion of a first draft script, polish, and series bible. The re-write, casting, and performance stages of television comedy development. The completion of a final draft of the pilot script and series bible. *Prerequisite:* CTWR 514b; *Corequisite:* CTWR 534. Registration Restriction: Open only to Writing for Screen and Televisions master students. Instruction Mode: Lecture Grading Option: Letter

CTWR 518 Introduction to Interactive Writing
Units: 2 Terms Offered: Sp A series of exercises written and discussed for interactive experiences. Instruction Mode: Lecture Grading Option: Letter

CTWR 519a Thesis in Television Drama
Units: 4 Terms Offered: FaSpSm Part A — writing the pilot — is an intensive workshop in which master's students develop an original television 1-hour series including characters, world and storylines for season one. Final assignment is the finished pilot episode of the series. *Prerequisite:* CTWR 514b. *Corequisite:* CTWR 521. Registration Restriction: Open only to Writing for Screen and Television master students. Instruction Mode: Lecture Grading Option: Letter

CTWR 519b Thesis in Television Drama
Units: 4 Part A — Writing the series bible and mid-season episode — is part two of the television thesis course. Students develop their original series further by writing the bible for the series and the mid-season episode which is reflective of storylines, characters and settings developed in part A of the course. Open to Writing for Screen and Television master students only. Instruction Mode: Lecture Grading Option: Letter

CTWR 520 Advanced Scene Writing Workshop
Units: 2 Terms Offered: FaSp Intensive workshop oriented specifically to writing and rewriting the most effective and telling dramatic scenes to heighten audience participation and greater story impact. *Prerequisite:* CTWR 514b or CTWR 523 Instruction Mode: Lecture Grading Option: Letter

CTWR 521 Advanced Hour-Long Television Drama
Units: 2 Max Units: 4.0 Terms Offered: Fa Writing the first draft and revision of an episode of an existing dramatic television series. *Corequisite:* CTWR 514a. Registration Restriction: Open only to master students in Theatre (Dramatic Writing) and in Writing for Screen and Television. Instruction Mode: Lecture Grading Option: Letter

CTWR 522 Advanced Hour-Long Television Development
Units: 2 Terms Offered: FaSp Investigation of development process for hour-long television, addressing issues of character, world, story and concept. Vetting of multiple series ideas for viability. *Prerequisite:* CTWR 514a or CTWR 523 Instruction Mode: Lecture Grading Option: Letter

CTWR 523 Introduction to the Screenplay
Units: 4 Introduction to formal elements of the screenplay through lectures and the workshopping of a complete first draft of a feature-length script. *Prerequisite:* CTAN 536 or CTWR 505 or CTWR 518; *Recommended Preparation:* CTWR 516. Instruction Mode: Lecture Grading Option: Letter

CTWR 526 Advanced Storytelling for Interactive Media
Units: 2 Advanced writing workshop addressing issues specific to interactive storytelling regarding construction of narrative and character as seen in games and other forms of interactive media. *Prerequisite:* CTWR 518. Instruction Mode: Lecture Grading Option: Letter

CTWR 528 Screenwriting Fundamentals
Units: 2 Terms Offered: FaSp Introduction to the principles of screenwriting with special emphasis on story, characterization and dramatization. Instruction Mode: Lecture Grading Option: Letter

CTWR 529 Intermediate Screenwriting
Units: 2 Terms Offered: FaSp Emphasizes structural elements crucial to the feature film. Techniques for creating an original and adapted theatrical-length script. *Prerequisite:* CTPR 507 and CTWR 505. Instruction Mode: Lecture Grading Option: Letter

CTWR 530 Advanced Animation Screenwriting
Units: 2 Terms Offered: FaSp Advanced storytelling for the animated narrative. Emphasis on long form, rewriting and character development. Instruction Mode: Lecture Grading Option: Letter

CTWR 533 Rewriting the Feature Screenplay
Units: 4 Max Units: 08 Terms Offered: FaSp Rewriting the feature-length screenplay. Focus on macro to micro approach to revision. *Prerequisite:* CTWR 523 *Recommended Preparation:* CTWR 516 Duplicates Credit in former CTWR 533ab Instruction Mode: Lecture Grading Option: Letter

CTWR 534 Advanced Half-Hour Television Comedy
Units: 2 Max Units: 4.0 Terms Offered: Fa Advanced workshop in writing the first draft and revision of an episode of an existing comedic television series. The comedy writing room will be emphasized. *Corequisite:* CTWR 514a. Registration Restriction: Open only to master students in Theatre (Dramatic Writing) and in Writing for Screen and Television. Instruction Mode: Lecture Grading Option: Letter

CTWR 537 Advanced Half-Hour Comedy Series Pilot
Units: 4 Max Units: 8.0 Development of an original half-hour comedy series; writing of the pilot episode and series bible. *Prerequisite:* CTWR 514a. Registration Restriction: Open only to master students in Theatre (Dramatic Writing) and Writing for Screen and Television. Instruction Mode: Lecture Grading Option: Letter

CTWR 539 Advanced Hour-Long Drama Series Pilot
Units: 4 Max Units: 8.0 Development of an original one hour drama series; writing of the pilot episode and series bible. *Prerequisite:* CTWR 514a. Registration Restriction: Open only to master students in Theatre (Dramatic Writing) and Writing for Screen and Television. Instruction Mode: Lecture Grading Option: Letter

CTWR 541 Dreams, the Brain, and Storytelling
Units: 2 Terms Offered: FaSpSm Examination of the links between the brain, creativity, neuroscience and storytelling. Through lectures, screenings, and readings, students will log dreams for use in creative exercises. Instruction Mode: Lecture Grading Option: Letter

CTWR 543 The Character-Driven Screenplay
Units: 4 Terms Offered: FaSp Advanced screenwriting wherein a first draft of a feature-length script will be developed and written with an emphasis on character as story engine. *Prerequisite:* CTWR 505 *Recommended Preparation:* CTWR 516 Registration Restriction: Open only to master students in Cinematic Arts Film and Television Production (CAPR) Instruction Mode: Lecture Grading Option: Letter

CTWR 549 Advanced Rewriting Workshop in Hour-Long Drama
Units: 4 Max Units: max 8 Advanced television writing, emphasizing the rewrite of a first draft pilot script and series bible for an hour-long television series. *Prerequisite:* CTWR 539 Instruction Mode: Lecture Grading Option: Letter

CTWR 550 Advanced Story Development
Units: 2 Terms Offered: FaSp Advanced development of the story creation process by examining the core elements of a good story. Compiling a portfolio of story ideas. *Prerequisite:* CTWR 514a or CTWR 523 Instruction Mode: Lecture Grading Option: Letter

CTWR 553 Advanced Rewriting Workshop
Units: 4 Max Units: max 8 Terms Offered: FaSp Advanced feature screenwriting, emphasizing the rewrite of a first draft script. *Prerequisite:* CTWR 514b or CTWR 533b Instruction Mode: Lecture Grading Option: Letter

CTWR 555 Pitching for Film and Television
Units: 2 Terms Offered: FaSp Development and pitching of ideas for motion pictures, episodic and television pilots. Reducing ideas to basic components enhancing verbal presentation skills. *Prerequisite:* CTWR 305 or CTWR 415b or CTWR 514b or CTWR 533b . Instruction Mode: Lecture Grading Option: Letter

CTWR 557 Seminar in the Business of Writing and Producing Television
Units: 2 Terms Offered: Sm Examination of the role of the television writer in production through lectures, readings, and practical experiences on set. *Prerequisite:* CTWR 537 or CTWR 539. Instruction Mode: Lecture Grading Option: Letter

CTWR 559 The Business of Writing for Screen and Television
Units: 2 Terms Offered: FaSp Examination and in-depth analysis of the studio system, the television development process, literary representation, new emerging markets, and the Writers Guild of America. *Prerequisite:* CTWR 514b. Instruction Mode: Lecture Grading Option: Letter

CTWR 560 Advanced Business Practices for Writers
Units: 2 Advanced seminar and analysis of the current state of the film and television markets as it relates to writers. Weekly

industry guests and current trends. *Prerequisite:* CTWR 559. Instruction Mode: Lecture Grading Option: Letter

CTWR 572 Practicum in Directing Actors for Film
Units: 2 or 4 Terms Offered: FaSp Seminar in directing actors for film; emphasis on demonstration and laboratory exercises, script analysis, and detailed study in character motivations. Instruction Mode: Lecture Grading Option: Letter

CTWR 574 Advanced Seminar in Directing Actors for Film
Units: 2 Terms Offered: FaSp Emphasis on detailed script analysis and character motivation. Individual projects. *Prerequisite:* CTWR 572, CTCS 673 or CTPR 532. Instruction Mode: Lecture Grading Option: Letter

CTWR 585 Advanced Genre Writing
Units: 2 or 4 Max Units: 8.0 Development and execution of writing in various genres of film, television, or new media scripts. *Prerequisite:* CTWR 514b. Instruction Mode: Lecture Grading Option: Letter

CTWR 587 Advanced Television Staff Writing
Units: 4 Max Units: max 8 An advanced workshop course in the development and writing of a television series as a writing staff including the production of episodes. *Prerequisite:* CTWR 521 or CTWR 534 *Recommended Preparation:* CTWR 537 or CTWR 539 Instruction Mode: Lecture Grading Option: Letter

CTWR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Detailed investigation of new or emerging aspects of cinema; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Clinical and Experimental Therapeutics

CXPT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CXPT 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Master's thesis. *Recommended Preparation:* Completion of all required course work for MS degree Instruction Mode: Lecture Grading Option: In Progress / Credit / No Credit

CXPT 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of master's thesis. *Prerequisite:* CXPT 594a Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of Masters thesis. *Prerequisite:* CXPT 594b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

CXPT 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Selected topics in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: Letter

CXPT 609 Preclinical Experimental Drug Therapeutic Development
Units: 4 Terms Offered: Sp Evolution of a chemical entity as it is transformed into a drug candidate. Open only to students in clinical and experimental therapeutics and management of drug development. Registration Restriction: Open only to students in Clinical and Experimental Therapeutics and Management of Drug Development. Instruction Mode: Lecture Grading Option: Letter

CXPT 610 Experimental and Clinical Drug Metabolism and Transport
Units: 4 Terms Offered: Fa Focus on the absorption, distribution, metabolism and elimination (ADME) of new chemical entities, with particular focus on biotransformation process. Instruction Mode: Lecture, Quiz Grading Option: Letter

CXPT 664 Clinical Problem Solving
Units: 3 Terms Offered: FaSp Experiential/ case base course for graduate students who are enrolled in the Clinical Experimental Therapeutics (CXPT) MS or PHTS-PhD programs. Duplicates Credit in former PHRD 664 Instruction Mode: Lecture, Discussion Grading Option: Letter

CXPT 790 Research
Units: 1 Max Units: 12 Terms Offered: FaSpSm Research-based course for students enrolled in the CXPT PhD program who are preparing for their written and oral qualifying examination. Instruction Mode: Lecture Grading Option: Credit/No Credit

CXPT 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. *Prerequisite:* CXPT 794a Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. *Prerequisite:* CXPT 794b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. *Prerequisite:* CXPT 794c Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. *Prerequisite:* CXPT 794d Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

Dance

DANC 101 Colloquium: What is the Medium of Dance Today?
Units: 1 Max Units: 2.0 Terms Offered: FaSpSm Topics related to dance techniques, repertory and varied art forms. Aimed at the interdisciplinary expansion of dance literacy and connections to allied art forms. Registration Restriction: Open only to dance majors. Instruction Mode: Lecture Grading Option: Letter

DANC 103 Conditioning for Dancers
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Designed for the specific needs of the dancer in preparation for professional training, combining somatic work with the foundation of scientific principles. Instruction Mode: Lecture Grading Option: Letter

DANC 105 Dance Science: Analysis of Dance Movement
Units: 4 Max Units: 08 Terms Offered: FaSpSm A broad overview of the scientific principles of exercise physiology, functional anatomy, kinesiology, and bio-mechanics with applications to dance. *Prerequisite:* DANC 103 Instruction Mode: Lecture Grading Option: Letter

DANC 107 World Perspective on Dance Performance
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm The practice and aesthetics of international dance styles through lecture and participant-driven interaction. Instruction Mode: Lecture Grading Option: Letter

DANC 110 Dance Technique I
Units: 3 Max Units: 12 Terms Offered: FaSpSm Fundamental technique studies in a studio setting. Concentration on classical ballet, hip hop and its derivatives, partnering and contemporary techniques essential to the dancers' development. Placement audition required. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 120L Repertory and Performance I
Units: 2 Max Units: 04 Terms Offered: FaSpSm Study and guided practice of choreographic repertory. Emphasis in choreographic intention, stylistic approaches and performance technique. Registration Restriction: Open only to Dance majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

DANC 130 Improvisation and Composition I: Introduction
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to improvisational and composition skills that start to prepare students for the creative processes of dancing, dancemaking and performance. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 131 Improvisation and Composition II: Introduction
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued investigation and introduction to improvisational and compositional skills in preparation for the creative processes of dancing, dance-making and performance. *Prerequisite:* DANC 130 Registration Restriction: Open only to dance majors. Instruction Mode: Lecture Grading Option: Letter

DANC 149 Kaufman Summer Bridge
Units: 0 Terms Offered: Sm Pre-professional technique, repertory and composition studies in a studio setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 150 Dance and New Media
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm An introduction to various genres within Dance and New Media, including simple hands-on work with existing and emerging technologies used in creating and delivering media-dance works. No previous dance experience is required. Duplicates Credit in former DANC 305 Instruction Mode: Lecture Grading Option: Letter

DANC 170 Choreography and Performance
Units: 2 Max Units: 08 Terms Offered: FaSpSm Compositional methods and approaches to developing choreographic ideas; integration of improvisational techniques as a means to generate movement ideas and expand movement vocabulary, edit choreographic material, and evaluate and execute choreography and performance. Duplicates Credit in former DANC 385 and former THTR 385 Instruction Mode: Lecture, Lab Grading Option: Letter

DANC 171 Commercial Dance: Professional Dance Preparation
Units: 1, 2 Max Units: 08 Terms Offered: FaSpSm Designed to explore the commercial dance industry in Los Angeles and provide specific tools in preparation for auditions, on-screen performances, and interactions with agents. *Recommended Preparation:* DANC 184b and DANC 184c Instruction Mode: Lecture Grading Option: Letter

DANC 172 Introduction to Commercial Dance
Units: 1, 2 Max Units: 08 Terms Offered: FaSpSm Designed to introduce students to the styles, norms and standards prevalent in the commercial dance industry. Exploration of technical approaches, practical skills and historical benchmarks. Instruction Mode: Lecture Grading Option: Letter

DANC 175 Choreography for the Screen
Units: 2 Max Units: 04 Terms Offered: FaSpSm Creative choreography of theatrical dance for the screen. Emphasis on rhythmic analysis, versatility, composition, notation techniques, and stylizing. Duplicates Credit in former DANC 482 and former THTR 482 Instruction Mode: Lecture Grading Option: Letter

DANC 177 Introduction to Dance Forms and Techniques
Units: 1, 2 Max Units: 16 Terms Offered: FaSpSm An embodied studio course introducing the foundational techniques, histories and contexts of a variety of dance forms and styles. Instruction Mode: Lecture Grading Option: Letter

DANC 180 African Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm African Dance technique at the beginning/intermediate level: knowing, understanding, experiencing culture, emphasizing cultural traditions, community outreach and diversity; works through artistic process, practice, performance, and related activities, using dance, theatre and music work rooted in the African tradition and contemporary African aesthetics; focus on West and Central African traditional dance and music. Instruction Mode: Lecture Grading Option: Letter

DANC 181a Contemporary Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to methods developed from modern and post-modern dance techniques, including the study of the rebellious, individualistic, and democratic nature of dance in the 20th and 21st centuries. Duplicates Credit in former THTR 181a Instruction Mode: Lecture Grading Option: Letter

DANC 181b Contemporary Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study in the fusion of modern, post-modern dance and classical ballet techniques encompassing the study of the democratic nature of dance and choreographic composition in the 20th and 21st centuries. *Prerequisite:* DANC 181a Duplicates Credit in former THTR 181b Instruction Mode: Lecture Grading Option: Letter

DANC 181c Contemporary Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An advanced exploration of modern, post-modern dance and classical ballet techniques encompassing the study of the democratic nature of dance, improvisation and choreographic composition in the 20th and 21st centuries. *Prerequisite:* DANC 181b Duplicates Credit in former DANC 182a Instruction Mode: Lecture Grading Option: Letter

DANC 183a Ballet
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to Classical Ballet technique with beginning-level barre and center work, focusing on correct body alignment and musicality. Development of a basic knowledge of ballet history and terminology. Duplicates Credit in former THTR 183a Instruction Mode: Lecture Grading Option: Letter

DANC 183b Ballet
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study of Classical Ballet technique with intermediate-level barre and center work, focusing on developing greater clarity, coordination, musicality, and knowledge of ballet history and terminology. *Prerequisite:* DANC 183a Duplicates Credit in former THTR 183b Instruction Mode: Lecture Grading Option: Letter

DANC 183c Ballet
Units: 2 Max Units: 04 Terms Offered: FaSpSm Advanced study of Classical Ballet technique with emphasis on clarity, precision, musicality, movement quality, and artistic expression. Introduction of beats, tours, advanced adagio and allegro combinations, and pointe work. *Prerequisite:* DANC 183b Duplicates Credit in former THTR 183c Instruction Mode: Lecture Grading Option: Letter

DANC 183d Ballet
Units: 2 Max Units: 04 Terms Offered: FaSpSm Elementary to intermediate-level pointe technique for women and men, including strengthening exercises, barre and center work, and variations from classical and contemporary ballets. *Prerequisite:* DANC 183c Duplicates Credit in former THTR 183d Instruction Mode: Lecture Grading Option: Letter

DANC 184a Jazz Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to Jazz Dance technique, focusing on African and Latin based diaspora dances with European influences, improvisation, and strength/stretching series. Duplicates Credit in former THTR 184a Instruction Mode: Lecture Grading Option: Letter

DANC 184b Jazz Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study of Jazz Dance technique at the intermediate level, focusing on African and Latin based diaspora dances with European influences, improvisation, center work, performance techniques, and strength/stretching series. *Prerequisite:* DANC 184a Duplicates Credit in former THTR 184b Instruction Mode: Lecture Grading Option: Letter

DANC 184c Jazz Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Advanced study of Jazz Dance technique, focusing on Broadway, commercial, and concert Jazz Dance, with a continued emphasis on improvisation, center work, and performance techniques. *Prerequisite:* DANC 184b Duplicates Credit in former THTR 184c Instruction Mode: Lecture Grading Option: Letter

DANC 184d Jazz Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Advanced practice in Jazz Dance technique, focusing on African and Latin-based diaspora dances with European influences, improvisation and strength / stretching series. Strong emphasis on commercial Jazz dance styles. *Prerequisite:* DANC 184c Instruction Mode: Lecture Grading Option: Letter

DANC 185a Hip Hop Dance
Units: 2 Max Units: 08 Terms Offered: FaSpSm An introduction to elements of Hip Hop Dance, including technique, movement, musical rhythm, tempo, and phrasing, as well as the historical context required to develop the skills needed to practice and perform this popular dance form. Duplicates Credit in former THTR 185 and former DANC 185 Instruction Mode: Lecture Grading Option: Letter

DANC 185b Hip Hop Dance
Units: 2 Max Units: 08 Terms Offered: FaSpSm Continued study of Hip Hop Dance elements on an intermediate level, augmenting the historical context, technique, fluidity, and musicality required to execute the form with greater movement acuity. *Prerequisite:* DANC 185a Instruction Mode: Lecture Grading Option: Letter

DANC 186 Afro Cuban Dance
Units: 2 Max Units: 4 Terms Offered: FaSpSm An introduction to Afro Cuban Dance techniques, basic drum rhythms, and musicality, with an understanding of cultural practices and vocalizations. Afro Cuban Dance examines the traditions related to specific ethnic groups in Latin Europe and West Africa, and the influences of Rumba and Salsa Dance on the form. Instruction Mode: Lecture Grading Option: Letter

DANC 187 Bollywood Dance
Units: 2 Max Units: 4 Terms Offered: FaSpSm An introduction to basic and intermediate Bollywood Dance, including technique, movement, musical rhythm, phrases, and choreography. Inspired by the high energy music from Indian films, Bollywood is a fusion form that combines traditional Indian folk and classical dances with Hip Hop, Jazz, Latin, and Middle-eastern dance. Instruction Mode: Lecture Grading Option: Letter

DANC 188a International Style Ballroom Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Introduction to International Standard, International Latin, and American Style ballroom dances. Designed to introduce students to the fundamentals of ballroom dance, emphasizing partner connection, communication, and creativity, with the practical application of dance within a social setting. Duplicates Credit in former THTR 188a Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 188b International Style Ballroom Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study in International Standard, International Latin, and American Style ballroom dances. Designed for advanced knowledge in ballroom styles, emphasizing rhythmic sequences, partnering techniques, complex patterns, and performance quality. *Prerequisite:* DANC 188a Duplicates Credit in former THTR 188b Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 189a Tap Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to basic Tap Dance technique, rhythms, syncopation, and musicality, developing into complex steps and elementary dances with progressive understanding of weight change, improvisation, and combinations of sound. Duplicates Credit in former THTR 189a Instruction Mode: Lecture Grading Option: Letter

DANC 189b Tap Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study of Tap Dance technique, focusing on more complex rhythmic patterns and combinations and introducing advanced steps and combinations, all with continued emphasis on improvisation and musicality. *Prerequisite:* DANC 189a Duplicates Credit in former THTR 189b Instruction Mode: Lecture Grading Option: Letter

DANC 189c Tap Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to advanced Tap Dance technique, rhythms, syncopation, and musicality, developing into complex phrases and advanced dances with progressive understanding of weight change, improvisation and combinations of sound. *Prerequisite:* DANC 189b Instruction Mode: Lecture Grading Option: Letter

DANC 190 Gaga: People
Units: 1, 2 Max Units: 08 Terms Offered: FaSpSm Explore the movement language, rooted in guided improvisation, developed by Ohad Naharin of Batsheva Dance Company. Open to all, regardless of dance or movement background. Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 191 Gaga: Dancers
Units: 1, 2 Max Units: 08 Terms Offered: FaSpSm Explore the movement language, rooted in guided improvisation, developed by Ohad Naharin of Batsheva Dance Company. Previous dance experience is required. Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 195 Kaufman in the Community
Units: 1, 2, 3, 4 Max Units: 12 Terms Offered: FaSpSm Practice-based community engagement through dance, pedagogy and program development. Instruction Mode: Lecture Grading Option: Letter

DANC 200L Dance Technique for Musical Theatre
Units: 2, 3 Max Units: 16 Terms Offered: FaSp Studio and classroom training for Musical Theatre performers. Foundational technique, culture and stylistic history of jazz, ballet, tap and social dance forms. Registration Restriction: Open only to musical theatre students in the School of Dramatic Arts Instruction Mode: Lecture, Lab Required Grading Option: Letter

DANC 201 Colloquium: History of Performance and Cultural Context
Units: 1 Max Units: 02 Terms Offered: FaSpSm Study of the historical and cultural context of selected dance techniques. Guest lectures and student presentations will inform class discussions. *Prerequisite:* DANC 101 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 210 Dance Technique II
Units: 3 Max Units: 12 Terms Offered: FaSpSm Intermediate technique studies in a studio setting. Concentration on classical ballet, hip hop and its derivatives, partnering and contemporary techniques essential to the dancers' development. *Prerequisite:* DANC 110 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 212g Dance in Popular Culture
Units: 4 Terms Offered: FaSpSm Examination of the role of dance in popular culture in a classroom setting. Studies of dance styles and their evolution in recreational and professional contexts through research, observation, and practice. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

DANC 218 Introduction to Dance for the Camera: New Media and Editing
Units: 2 Max Units: 04 Terms Offered: FaSpSm Effective navigation and utilization of ubiquitous, portable digital technologies in film to create an individualized archive and portfolio of their choreographic projects and performances. Instruction Mode: Lecture Grading Option: Letter

DANC 220L Repertory and Performance II
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued studies and guided practice of choreographic repertory. Investigation of choreographic vocabulary, intention, stylistic approaches, and performance technique for group work. *Prerequisite:* DANC 120L Registration Restriction: Open only to dance majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

DANC 230 Improvisation and Composition III: Intermediate
Units: 2 Max Units: 04 Terms Offered: FaSpSm Expansion of improvisation and composition skills for the creative processes of dancing, dance-making and performance. *Prerequisite:* DANC 131 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 231 Improvisation and Composition IV: Intermediate
Units: 2 Max Units: 04 Terms Offered: FaSpSm Further development of improvisation and composition skills for the creative processes of dancing, dance-making and performance. *Prerequisite:* DANC 230 Registration Restriction: Open only to dance majors. Instruction Mode: Lecture Grading Option: Letter

DANC 280g Introduction to Dance as an Art Form
Units: 4 Terms Offered: FaSpSm Gateway to the minor in dance. An interdisciplinary overview of dance relating to the aesthetic and art in various subjects. Applications of the elements of dance studies, art criticism, and viewing productions to explore topic such as architecture, photography, poetry, technology, cinematic arts, sports, medicine, and more. Satisfies New General Education in Category A: The Arts Duplicates Credit in former THTR 280 Instruction Mode: Lecture Grading Option: Letter

DANC 285 Elements of Dance Production
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Theoretical aspects of creativity, choreography, accompaniment, dance notation and production; application in individual and group composition. Duplicates Credit in former THTR 285 Instruction Mode: Lecture Grading Option: Letter

DANC 301 Colloquium: The Role of the Dance Artist in Society
Units: 1 Max Units: 02 Terms Offered: FaSpSm Examination of the role of the artist in society. Development of an individual understanding and guiding philosophy for professional development in the dance field. *Prerequisite:* DANC 201 Registration Restriction: Open only to

dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 302g Hip Hop Don't Stop: Black Social Dance Culture and Media
Units: 4 Terms Offered: FaSpSm Introduction to the history and practice of Urban Folk Dance including hip hop, freestyle, street dance and the relevant social dances of the 20th century. Satisfies New General Education in Category A: The Arts Duplicates Credit in former DANC 402 Instruction Mode: Lecture Grading Option: Letter

DANC 310 Dance Technique III
Units: 3 Max Units: 12 Terms Offered: FaSpSm Advanced technique studies in a studio setting. Concentration on classical ballet, hip hop and its derivatives, partnering and contemporary techniques essential to the dancers' development. *Prerequisite:* DANC 210 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 312gw African American Dance
Units: 4 Terms Offered: FaSpSm Exploration of the discursive foundations, political motivations, and aesthetic strategies of dance writers and artists whose works have enabled the category of "black dance." Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former DANC 412 Instruction Mode: Lecture Grading Option: Letter

DANC 320L Repertory and Performance III
Units: 2 Max Units: 04 Terms Offered: FaSpSm Study and guided practice of new works and developing roles. Emphasis on the dancer as collaborator in the creative process. *Prerequisite:* DANC 220L Registration Restriction: Open only to dance majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

DANC 333gw Origins of Jazz Dance
Units: 4 Terms Offered: FaSpSm Examining the role that vernacular dance and music play in the creation of Jazz Dance, taught in lecture format; practical studies in Jazz Dance, from recreational to professional settings. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

DANC 342gp International and Historical Perspectives on Dance
Units: 4 Terms Offered: FaSpSm Exploration of dance as an art form in its artistic, political, and socio-cultural climate. Studies of the continuum of dance within its historical context. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Duplicates Credit in former DANC 442a Instruction Mode: Lecture Grading Option: Letter

DANC 345 Artist in Residence
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Investigation and development of choreographic methods and practices through observation and active participation with the guest artist. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 347 Artist Collaborative
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Development of an artistic work of two or more media, working with colleagues and or faculty in allied disciplines. Registration Restriction: Open only to dance majors. Instruction Mode: Lecture Grading Option: Letter

DANC 349 Expert Series
Units: 1, 2 Max Units: 16 Terms Offered: FaSpSm An embodied encounter with prominent practitioners in the field. Students will experience an array of technical vocabularies, repertory and strategies for improvisation and composition. Instruction Mode: Lecture Grading Option: Letter

DANC 350 Advanced Composition
Units: 2 Max Units: 08 Terms Offered: FaSpSm Explore a variety of compositional forms and methods to develop a personalized choreographic approach. *Prerequisite:* DANC 231 Registration Restriction: Open only to dance majors Duplicates Credit in former DANC 330 and former DANC 430 Instruction Mode: Lecture Grading Option: Letter

DANC 352g Dancing with Words
Units: 4 Terms Offered: FaSpSm Development of descriptive and analytical skills involved in writing about dance in various contexts and mediums, including writing for the purposes of dance scholarship, criticism and pedagogy as well audience development, marketing, grant solicitation and social media. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

DANC 355 Performance Lab
Units: 1, 2, 3, 4 Max Units: 12 Terms Offered: FaSpSm Intermediate and advanced solo and partnering techniques in classical, contemporary, and street dance. Some sections are open only to dance majors. Instruction Mode: Lecture Grading Option: Letter

DANC 362 Pilates Mat Training
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Mat exercises designed to promote healthy movement practices, develop strength, balance, flexibility and coordination. Instruction Mode: Lecture Grading Option: Letter

DANC 363g Dancing on the Screen
Units: 4 Terms Offered: FaSpSm The study of dance in movies, television, internet, mobile devices and new media. Examining dance on screen, influenced by storytelling, camera technology and editing. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

DANC 370 Dance in Los Angeles
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Explore the multifaceted world of dance in Los Angeles, where history, socioeconomics, race, gender, sexuality, commerce and entertainment intersect to create genres that influence contemporary life. Instruction Mode: Lecture Grading Option: Letter

DANC 372 Intermediate / Advanced Commercial Dance
Units: 1, 2 Max Units: 08 Terms Offered: FaSpSm Designed to build higher level skills in preparation for success in the commercial dance industry. Development of an intermediate/advanced technical skill set in preparation for auditions, on-screen performances and interactions with agents. Duplicates Credit in DANC 171 Instruction Mode: Lecture Grading Option: Letter

DANC 388 Senior Seminar in Dance
Units: 4 Max Units: 08 Terms Offered: FaSpSm Synthesis of principles, philosophy, and history of dance, culminating in senior individual project. Duplicates Credit in former THTR 388 Instruction Mode: Lecture Grading Option: Letter

DANC 399 Maymester: Dance Capitals of the World
Units: 1, 2, 3, 4 Max Units: 16 Terms Offered: Sp Investigate various dance topics across major cities of artistic inspiration in a Maymester format. Courses may include lectures, site visits and practical studies and may be held at USC or off campus, including abroad. Instruction Mode: Lecture Grading Option: Letter

DANC 410 Dance Technique IV
Units: 3 Max Units: 12 Terms Offered: FaSpSm Pre-professional technique studies in a studio setting with concentration on classical ballet, hip hop and its derivatives, and contemporary techniques essential to the dancers' development. *Prerequisite:* DANC 310 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 420L Repertory and Performance IV
Units: 2 Max Units: 04 Terms Offered: FaSpSm Study and guided practice of significant roles in new and existing choreography. Emphasis on refinement of partnering, solo and group performance technique. *Prerequisite:* DANC 320L Registration Restriction: Open only to dance majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

DANC 432 Creativity, Culture, Commerce and Community
Units: 2 Max Units: 04 Terms Offered: FaSpSm Exploration of artistic entrepreneurial mechanisms to initiate innovative endeavors in the professional dance world which are relevant to today's culture, communities, customs and business landscape. Instruction Mode: Lecture Grading Option: Letter

DANC 442 International and Historical Perspectives on Dance II
Units: 4 Terms Offered: FaSpSm Exploration of dance as an art form in its artistic, political, and socio-cultural climate. Studies of the continuum of dance within its historical context. *Prerequisite:* DANC 342g Duplicates Credit in former DANC 442b Instruction Mode: Lecture Grading Option: Letter

DANC 470 Dance Leadership
Units: 2 Terms Offered: FaSpSm An examination of leadership in the dance world through concepts of capacity building, strategic planning and infrastructure to articulate a mission statement, understand models of entity structure, contracts, marketing, financial responsibilities, governance, engagement with community, grants and funding. Registration Restriction:

Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 480 Advanced Performance Studies: Senior Seminar
Units: 1 Max Units: 02 Terms Offered: FaSpSm Seminar and studio course in preparation of the senior project to be presented in spring semester, in performance, choreography, scholarship or entrepreneurship. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 483 Dance Performance
Units: 2 Max Units: 08 Terms Offered: FaSpSm Preparation, rehearsal, and performance of experimental choreography in main stage repertory. Duplicates Credit in former THTR 483 Instruction Mode: Lecture Grading Option: Letter

DANC 485 Advanced Performance Studies: Senior Project
Units: 1 Max Units: 02 Terms Offered: FaSpSm Development and presentation of senior project in performance, choreography, media, music, scholarship or entrepreneurial enterprise. Senior projects presented to faculty panel in open performance venue. *Prerequisite:* DANC 480 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. Registration Restriction: Open only to dance majors and minors Instruction Mode: Lecture Grading Option: Letter

DANC 495 Dance Internship
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 Max Units: 36 Terms Offered: FaSpSm Practical experience linked with information and learned skills. Providing supervised field application of dance theories and practices within an employment context in dance. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 499 Special Topics
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

DANC 549 Pre-Professional Dance Technique
Units: 0 Terms Offered: FaSp Pre-professional technique studies in a studio setting designed for the 2021 graduating class of the Kaufman School of Dance BFA program. Concentration on classical ballet, hip hop, contemporary, jazz and other techniques in a capstone training experience. *Prerequisite:* DANC 410 Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Seminars in selected areas of study. Instruction Mode: Lecture Grading Option: Letter

DANC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Dental Biochemistry

DBIO 310 Oral Biochemistry
Units: 2 Terms Offered: Fa Biochemical insight into oral tissues and saliva — emphasizing antimicrobial protection (systemic and therapeutic) against demineralization and connective tissue destruction. Instruction Mode: Lecture Grading Option: Letter

DBIO 501 Biochemistry and Molecular Biology
Units: 2 Biochemical properties of carbohydrates, lipids, amino acids, proteins, and nucleic acids — emphasizing molecular structure-function interrelatedness, integrated metabolism, and molecular biology of the cell. Instruction Mode: Lecture Grading Option: Letter

Dentistry

DENT 221 Introduction to Dentistry
Units: 1 History and current role of dental science in the health services field; review of research; overview of dental procedures with laboratory experience and practice observation. Instruction Mode: Lecture Grading Option: Letter

DENT 402 Formal Science-Writing
Units: 2 A scientist-taught, lecture-workshop-tutorial format for developing skills in formal science-writing (e.g., abstracts, journal articles, grants). Not open to students in the School of Dentistry. Instruction Mode: Lecture Grading Option: Letter

DENT 412 Fundamentals of Craniofacial and Dental Technology
Units: 3 Terms Offered: Sp Biomedical engineering and technology applied to oral health professions. Dental biomaterials, CAD-CAM, digital dental technology and tissue engineering applications to craniofacial diseases, disorders, and enhancements. Duplicates Credit in former BME 412. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BME-412

Dental Histology

DHIS 310 Basic Tissues and Histology and Embryology
Units: 2 Terms Offered: Fa Histology of basic tissues, oral histology, orofacial embryology, orofacial clefts and functional correlates. Instruction Mode: Lecture Grading Option: Letter

DHIS 701 Advanced Oral Histology
Units: 2 Microscopic anatomy, ultrastructure and histochemistry of developing and functional oral tissues; based on recent advanced in oral LM, TEM, and SEM histology. Instruction Mode: Lecture Grading Option: Letter

Dental Hygiene

DHYG 311a Fundamentals of Clinical Dental Hygiene Practice
Units: 3 Principles and techniques of clinical dental hygiene with emphasis on preventive dentistry; laboratory and preclinical experience in techniques of complete oral prophylaxis services; and clinical application thereof. Instruction Mode: Lecture Grading Option: Letter

DHYG 311b Fundamentals of Clinical Dental Hygiene Practice
Units: 3 Principles and techniques of clinical dental hygiene with emphasis on preventive dentistry; laboratory and preclinical experience in techniques of complete oral prophylaxis services; and clinical application thereof. Instruction Mode: Lecture Grading Option: Letter

DHYG 314L Dental Morphology Laboratory
Units: 1 Fundamentals of tooth morphology and characteristics of the deciduous and permanent dentition. Instruction Mode: Lab Required Grading Option: Letter

DHYG 316 Patient Education in Preventive Dental Care
Units: 1 Principles and methods for teaching and motivating patients to practice effective oral care. Instruction Mode: Lecture Grading Option: Letter

DHYG 318 Dental Specialties
Units: 2 Procedures performed in selected dental specialty areas with emphasis on the role of the dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 320 Preventive Dental Therapy
Units: 2 Terms Offered: Sp Study of etiology, risk factors and preventive management of periodontal disease and dental caries. Setting up community and individual preventive oral health care programs. Instruction Mode: Lecture Grading Option: Letter

DHYG 401 Introduction to Advanced Dental Hygiene
Units: 2 Principles and techniques of advanced dental hygiene with emphasis on advanced root instrumentation and dental hygiene treatment planning. Instruction Mode: Lecture Grading Option: Letter

DHYG 410a Clinic: Dental Hygiene
Units: 2, 3, 4, 5, 6, 7 each Application of advanced techniques with emphasis on increased proficiency in skills: principles of prevention; periodontal examination; root planing; soft tissue curettage; local anesthesia; inhalation sedation. Instruction Mode: Lecture Grading Option: Letter

DHYG 410b Clinic: Dental Hygiene
Units: 2, 3, 4, 5, 6, 7 each Application of advanced techniques with emphasis on increased proficiency in skills: principles of prevention; periodontal examination; root planing; soft tissue curettage; local anesthesia; inhalation sedation. Instruction Mode: Lecture Grading Option: Letter

DHYG 410c Clinic: Dental Hygiene
Units: 2, 3, 4, 5, 6, 7 each Application of advanced techniques with emphasis on increased proficiency in skills: principles of prevention; periodontal examination; root planing; soft tissue curettage; local anesthesia; inhalation sedation. Instruction Mode: Lecture Grading Option: Letter

DHYG 411a Dental Literature Review
Units: 2 Seminar-discussion and analysis of current dental literature in selected topics related to dental hygiene practice.

Instruction Mode: Lecture, Discussion
Grading Option: Letter

DHYG 411b Dental Literature Review
Units: 2 Seminar-discussion and analysis of current dental literature in selected topics related to dental hygiene practice. Instruction Mode: Lecture, Discussion Grading Option: Letter

DHYG 412 Preventive Dental Care Programs
Units: 1 Methods for development and implementation of programs involved with the delivery of preventive dental care. Instruction Mode: Lecture Grading Option: Letter

DHYG 413a Dental Hygiene Educational Concepts
Units: 2 Educational concepts for development of dental hygiene curriculum, including teaching and learning strategies, curriculum design, course development and evaluation methods. Instruction Mode: Lecture Grading Option: Letter

DHYG 413b Dental Hygiene Educational Concepts
Units: 2 Educational concepts for development of dental hygiene curriculum, including teaching and learning strategies, curriculum design, course development and evaluation methods. Instruction Mode: Lecture Grading Option: Letter

DHYG 414a Advanced Dental Hygiene
Units: 2 Advanced dental hygiene techniques: treatment, referral and maintenance of the advanced periodontitis patient emphasizing treatment planning and patient management. Instruction Mode: Lecture Grading Option: Letter

DHYG 414b Advanced Dental Hygiene
Units: 2 Advanced dental hygiene techniques: treatment, referral and maintenance of the advanced periodontitis patient emphasizing treatment planning and patient management. Instruction Mode: Lecture Grading Option: Letter

DHYG 415a Directed Clinical Teaching
Units: 2 Experience in clinical teaching with supervision and evaluation of undergraduate dental hygiene and doctoral dental students engaging in patient care. Instruction Mode: Lecture Grading Option: Letter

DHYG 415b Directed Clinical Teaching
Units: 2 Experience in clinical teaching with supervision and evaluation of undergraduate dental hygiene and doctoral dental students engaging in patient care. Instruction Mode: Lecture Grading Option: Letter

DHYG 417 Issues in Dental Health Care Delivery
Units: 1 Study of current trends in public health care delivery, manpower, finance mechanisms, and quality assurance. Instruction Mode: Lecture Grading Option: Letter

DHYG 422 Essentials of Dental Hygiene Practice
Units: 1 A review of the moral, legal, and ethical responsibilities of the dental hygienist. Other topics: securing a position, dental economics, taxes, insurance, and human relationships in the dental office. Instruction Mode: Lecture Grading Option: Letter

DHYG 424 Research Methods
Units: 2 Terms Offered: Sm Research design and methods, scientific database searching, evidence resources and evaluating information based on evidence-based principles. Application of basic research design methodology for analysis of literature. Duplicates Credit in former DHYG 424ab. Instruction Mode: Lecture Grading Option: Letter

DHYG 430 Seminar: Initial Periodontal Therapy
Units: 2 Presentation of selected clinical cases with documentation of clinical findings, diagnosis, treatment planning, and therapy. Instruction Mode: Lecture Grading Option: Letter

DHYG 431 Seminar: Periodontal Treatment Planning
Units: 2 Periodontal treatment planning; case presentations of uncomplicated periodontitis progressing to complex treatment involving multidisciplinary approach. Instruction Mode: Lecture Grading Option: Letter

DHYG 460a Clinic: Advanced Dental Hygiene
Units: 2 Clinical experience in advanced dental hygiene; preventive and therapeutic skills with emphasis on advanced periodontal instrumentation and expanded functions for the registered dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 460b Clinic: Advanced Dental Hygiene
Units: 2 Clinical experience in advanced dental hygiene; preventive and therapeutic skills with emphasis on advanced periodontal instrumentation and expanded functions for the registered dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 460c Clinic: Advanced Dental Hygiene
Units: 1 Clinical experience in advanced dental hygiene; preventive and therapeutic skills with emphasis on advanced periodontal instrumentation and expanded functions for the registered dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 460d Clinic: Advanced Dental Hygiene
Units: 1 Clinical experience in advanced dental hygiene; preventive and therapeutic skills with emphasis on advanced periodontal instrumentation and expanded functions for the registered dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 501 Dental Hygiene Theory and Science I
Units: 3 Terms Offered: Fa Issues related to professional development and the advancement of the discipline of dental hygiene. *Concurrent Enrollment:* DHYG 502. Instruction Mode: Lecture Grading Option: Letter

DHYG 502 Dental Hygiene Seminar I
Units: 1 Terms Offered: Fa Ethical principles guiding research and practice in the health care setting, with an emphasis on the rights and protection of human subjects. *Concurrent Enrollment:* DHYG 501 Instruction Mode: Lecture Grading Option: Letter

DHYG 504 Dental Hygiene Theory and Science II
Units: 3 Terms Offered: Sp Issues related to oral health promotion and disease prevention, and health services research. Includes epidemiology, health disparities, quality assurance, literacy and cultural competency. *Concurrent Enrollment:* DHYG 505 Instruction Mode: Lecture Grading Option: Letter

DHYG 505 Dental Hygiene Seminar II
Units: 1 Terms Offered: Sp Design of community health programs and health research. Includes project and study design, and applying methodological and statistical knowledge to project development. *Concurrent Enrollment:* DHYG 504 Instruction Mode: Lecture Grading Option: Letter

DHYG 506 Research Methodologies and Statistics
Units: 3 Terms Offered: Fa Process and fundamentals of research protocol design and statistical methods. Includes research design and methods, scientific database searching and evidence-based resources. Instruction Mode: Lecture Grading Option: Letter

DHYG 507 Dental Hygiene Theory and Science III
Units: 3 Terms Offered: Sm Analysis of disease diagnoses, medical complications, pharmacologic interventions and therapeutic treatment modalities associated with a variety of system diseases. *Concurrent Enrollment:* DHYG 508 Instruction Mode: Lecture Grading Option: Letter

DHYG 508 Dental Hygiene Seminar III
Units: 1 Terms Offered: Sm Strategies for project data management and analysis, and dissemination of scholarly information through journal publications and oral and poster scientific presentations. *Concurrent Enrollment:* DHYG 507 Instruction Mode: Lecture Grading Option: Letter

DHYG 510 Capstone Project
Units: 4 Terms Offered: Fa Students will complete independent field work to implement planned scholarly activities in their professional area of interest, culminating in a written paper and an oral defense. Instruction Mode: Lecture Grading Option: Letter

DHYG 511 Classroom and Clinical Instruction Design
Units: 2 Terms Offered: Sp Apply teaching and learning theories to the development of educational interventions to teach clinical dental hygiene skills in both clinical and laboratory classroom settings. Instruction Mode: Lecture Grading Option: Letter

DHYG 512 Student Teaching
Units: 2 Terms Offered: Sm Applied study of dental hygiene education, with practical experience teaching in the classroom and laboratory settings, and teaching in the dental hygiene clinic. *Prerequisite:* DHYG 511. Instruction Mode: Lecture Grading Option: Letter

DHYG 513 Educational Theory and Instructional Design
Units: 2 Terms Offered: Fa (Enroll in EDUC 622)

DHYG 514 Technology in Higher Education
Units: 2 Terms Offered: Sm (Enroll in EDUC 632)

DHYG 600 Dental Hygiene Professional Issues
Units: 2 Terms Offered: Fa Explore issues related to professional development and advancement of the discipline of dental hygiene and addressing the growth of the knowledge base of the profession Registration Restriction: Open only to master student in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 601 Development of Systematic Investigations
Units: 1 Terms Offered: Fa Focus of research study development that impacts the dental hygiene profession by exploring the ethical and legal principles that guide research and practice in healthcare. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 602 Research Methods and Biostatistics
Units: 2 Terms Offered: Fa Understand research process with fundamentals of research protocol design and statistical methods commonly used in healthcare. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 603 Learning Theories and Technology
Units: 2 Terms Offered: Fa Theories of learning with emphasis will be placed on teaching strategies to a variety of audiences and use of technology in the learning process. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 604 Health Advocacy Program Planning and Evaluation
Units: 2 Terms Offered: Sp Explore issues related to oral health promotion and disease prevention and health services research by investigating oral health reports and surveys influencing the DH profession. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 605 Professional Leadership in Program Development
Units: 2 Terms Offered: Sp Introduce concepts of business planning for the healthcare professional. Grant writing; application of leadership theory; professional leadership development in education, healthcare, research and business settings. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 606 Multidisciplinary Population Health Management Strategies
Units: 2 Terms Offered: Sm Explore population health management of multidisciplinary team care for complex patient populations and strategies for group dynamics for collaborative practice Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 607 Knowledge Assessment
Units: 1 Terms Offered: Sm An intensive course developing and evaluating dental hygiene skills and scholarly activities for application in advanced professional careers. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture, Lab, Quiz Grading Option: Letter

DHYG 608 Current Trends in Oral Healthcare
Units: 1 Terms Offered: Fa Current trends in oral healthcare is explored by evaluating the evolving discoveries of wellness, pathology and risk factors affecting oral health. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 609 Capstone Project Fieldwork
Units: 1 Terms Offered: Fa Guided learning of the research process by the design and fieldwork implementation of an approved Capstone project with proper data management. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 610 Capstone Project
Units: 2 Terms Offered: Sp Independent study through guided learning to complete a capstone project including preparation of a publishable manuscript that will be defended in an oral presentation. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 611 Research Writing
Units: 2 Terms Offered: Fa Enhancement of critical research thinking by fulfilling anticipated conceptual components of the journal article; perfection of writing skills by correcting inter- and intra-sentence distractions. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 612 Dental Hygiene Curriculum and Program Design
Units: 2 Terms Offered: Sp Prepare dental hygienists with basic guidelines and skills for development of dental hygiene program and curriculum. Focus on designing academic courses, course materials and overall evaluation methods. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture, Discussion Grading Option: Letter

DHYG 613 Laboratory and Clinical Course Development
Units: 2 Terms Offered: Sm Curriculum design for teaching psycho-motor skills in a simulation laboratory and providing feedback and strategies for achieving competence in student-patient clinical setting. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 614 Dental Hygiene Student Teaching Practicum
Units: 3 Terms Offered: Fa Application of theory and skills developed through student teaching in the classroom, laboratory and clinical settings. *Prerequisite:* DHYG 612 and DHYG 613 Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 615 Geriatric Healthcare Program Planning
Units: 1 Terms Offered: Fa Independent learning environment of interactive experiences to understand the complexities of oral health care management of older people and geriatric care facilities. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

Oral Diagnosis and Radiology

DIAG 415 Radiographic Techniques
Units: 1 Clinical application of radiographic chairside and dark room techniques and quality control. Instruction Mode: Lecture Grading Option: Letter

DIAG 521 Principles of Oral Radiology
Units: 2 Introduction to ionizing radiation and its use in the health professions; radiation biology, physics and hygiene; descriptive terms used in radiography, with illustrations; documentation. Instruction Mode: Lecture Grading Option: Letter

DIAG 522 Radiographic Techniques
Units: 1 Clinical applications of radiographic chairside and darkroom techniques; quality control and evaluation of the radiograph. Instruction Mode: Lecture Grading Option: Letter

DIAG 523 Oral Maxillofacial Imaging
Units: 2 Terms Offered: Sm Clinical application of intraoral and extraoral radiographic techniques; emphasis upon radiation physics, biology, safety, film and digital imaging and image interpretation. Instruction Mode: Lecture Grading Option: Letter

DIAG 615 Digital and Oral Maxillofacial Imaging
Units: 2, 3, 4 Terms Offered: FaSp Introduction to computer based imaging in dentistry. Student will learn to use video cameras, scanners, intraoral sensors and advanced imaging technology. *Prerequisite:* DIAG 521, DIAG 522. Instruction Mode: Lecture Grading Option: Letter

DIAG 621 CAD/CAM in Dentistry
Units: 1 Modern principles of dental Computer Assisted Design/Computer Assisted Manufacturing and will fabricate such restorations in the laboratory. Instruction Mode: Lecture Grading Option: Letter

Dental Materials

DMAT 316L Dental Materials and Clinical Procedures
Units: 2 Biomechanical principles, properties, and manipulation of dental materials; armamentarium for various dental procedures. Instruction Mode: Lecture, Lab Required Grading Option: Letter

DMAT 505 Dental Materials Update
Units: 1 Biocompatibility of dental materials, restorative materials and techniques update, critical analysis of published literature. Includes specific laboratory

testing research methodology and design of clinical trials. Instruction Mode: Lecture Grading Option: Letter

DMAT 521a Dental Materials
Units: 2 Properties, biomechanical function, manipulation, and clinical application of dental materials. Correlates restorative, biological, and materials sciences. Instruction Mode: Lecture Grading Option: Letter

DMAT 521b Dental Materials
Units: 2 Properties, biomechanical function, manipulation, and clinical application of dental materials. Correlates restorative, biological, and materials sciences. Instruction Mode: Lecture Grading Option: Letter

DMAT 701 Advanced Biomaterials
Units: 2 Terms Offered: FaSpSm Fundamental principles of materials science and clinical dentistry relative to proper selection and manipulation of dental materials. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

Digital Media Management

DMM 500 Principles and Theories of Digital Media Management
Units: 2 Terms Offered: FaSpSm Explores the digital media environment, its sociohistorical evolution and the impact of digital technologies and media on practices within cultural and business ecosystems. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 505 Digital Audience Research and Analysis
Units: 2 Terms Offered: FaSpSm Explores research methodologies and digital audience analytics, evaluating online audience needs and wants and focusing on data-driven and ethical decision making. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 510 Digital Media Buying, Measurement and Analytics
Units: 2 Terms Offered: FaSpSm Examines digital media advertising sales technologies: digital advertising, media buying, digital asset performance measurement and data collection methodologies used for business planning. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 515 Digital Content, Production and Distribution
Units: 2 Terms Offered: FaSpSm Explores the evolution of digital media content, content categories in digital media, innovations in content production techniques and technologies and the digital distribution revolution. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 520 Strategic Digital Media Marketing
Units: 2 Terms Offered: FaSpSm Case studies and examples to ideate, create and evaluate cutting-edge techniques used to implement long-range strategies for ethical digital media management and marketing. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 525 Digital Media Leadership
Units: 2 Terms Offered: FaSpSm Examines personal leadership principles and practices applicable to digital media, focused on leading within organizations, building diverse, high-performing teams and delivering digital media initiatives. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 530 Managing Digital Media Teams and Projects
Units: 2 Terms Offered: FaSpSm Covers the principles and skills needed to manage teams and projects within the digital media environment and achieve organizational goals through strategic planning. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 535 Digital Content Direction
Units: 2 Terms Offered: FaSpSm Covers principles and strategies for directing digital content across platforms to achieve organizational objectives beyond creating awareness, informing or entertaining. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 540 Developing Effective User Engagement Strategies
Units: 2 Terms Offered: FaSpSm Covers strategies to balance the needs of creating a user experience and content with the ethical imperatives of fostering equity, diversity and inclusion. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 545 Digital Platforms: Disruptions and Directions
Units: 2 Terms Offered: FaSpSm Explores how the platform economy is disrupting traditional marketplaces and industries with new, digital technologies and ways for optimizing outcomes from those changes. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 550 Digital Media Innovation and Entrepreneurship
Units: 2 Terms Offered: FaSpSm Covers management of digital media innovation within digital media organizations and new entrepreneurial ventures, and ways for alleviating challenges to equity and diversity. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

DMM 555 Digital Media Management Capstone
Units: 2 Terms Offered: FaSpSm Students create an innovative idea or initiative that solves a problem or achieves a goal within a digital media organization or business unit. Registration Restriction: Open only to Digital Media Management students Instruction Mode: Lecture Grading Option: Letter

Dental Problem Based Learning

DPBL 501a Dental Problem Based Learning — Human Structure I
Units: 3 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 501b Dental Problem Based Learning — Human Structure I
Units: 3 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 501c Dental Problem Based Learning — Human Structure I
Units: 3 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 502a Dental Problem Based Learning — Human Function I
Units: 8 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 502b Dental Problem Based Learning — Human Function I
Units: 8 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 502c Dental Problem Based Learning — Human Function I
Units: 8 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized

human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 503a Dental Problem Based Learning — Human Behavior I
Units: 2 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 503b Dental Problem Based Learning — Human Behavior I
Units: 2 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 503c Dental Problem Based Learning — Human Behavior I
Units: 2 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 504a Dental Problem Based Learning — Human Clinical Dentistry I
Units: 4 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 504b Dental Problem Based Learning — Human Clinical Dentistry I
Units: 4 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 504c Dental Problem Based Learning — Human Clinical Dentistry I
Units: 4 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 511a Dental Problem Based Learning — Human Structure II
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 511b Dental Problem Based Learning — Human Structure II
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 511c Dental Problem Based Learning — Human Structure II
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 512a Dental Problem Based Learning — Human Function II
Units: 5 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 512b Dental Problem Based Learning — Human Function II
Units: 5 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 512c Dental Problem Based Learning — Human Function II
Units: 5 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 513a Dental Problem Based Learning — Human Behavior II
Units: 3 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 513b Dental Problem Based Learning — Human Behavior II
Units: 3 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 513c Dental Problem Based Learning — Human Behavior II
Units: 2 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 514a Dental Problem Based Learning — Human Clinical Dentistry II
Units: 7 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 504c. Instruction Mode: Lecture Grading Option: Letter

DPBL 514b Dental Problem Based Learning — Human Clinical Dentistry II
Units: 7 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 504c. Instruction Mode: Lecture Grading Option: Letter

DPBL 514c Dental Problem Based Learning — Human Clinical Dentistry II
Units: 8 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 504c. Instruction Mode: Lecture Grading Option: Letter

DPBL 521a Dental Problem Based Learning — Human Structure III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 511c. Instruction Mode: Lecture Grading Option: Letter

DPBL 521b Dental Problem Based Learning — Human Structure III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 511c. Instruction Mode: Lecture Grading Option: Letter

DPBL 521c Dental Problem Based Learning — Human Structure III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 511c. Instruction Mode: Lecture Grading Option: Letter

DPBL 522a Dental Problem Based Learning — Human Function III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 522b Dental Problem Based Learning — Human Function III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 522c Dental Problem Based Learning — Human Function III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 523a Dental Problem Based Learning — Human Behavior III
Units: 1 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 523b Dental Problem Based Learning — Human Behavior III
Units: 1 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 523c Dental Problem Based Learning — Human Behavior III
Units: 1 Terms Offered: FaSpSm
Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 524a Dental Problem Based Learning — Human Clinical Dentistry III
Units: 14 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 524b Dental Problem Based Learning — Human Clinical Dentistry III
Units: 14 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 524c Dental Problem Based Learning — Human Clinical Dentistry III
Units: 14 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 531a Dental Problem Based Learning — Human Structure IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 531b Dental Problem Based Learning — Human Structure IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 532a Dental Problem Based Learning — Human Function IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 532b Dental Problem Based Learning — Human Function IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 533a Dental Problem Based Learning — Human Behavior IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL

523c. Instruction Mode: Lecture Grading Option: Letter

DPBL 533b Dental Problem Based Learning — Human Behavior IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 523c. Instruction Mode: Lecture Grading Option: Letter

DPBL 534a Dental Problem Based Learning — Human Clinical Dentistry IV
Units: 13 Terms Offered: FaSp Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 534b Dental Problem Based Learning — Human Clinical Dentistry IV
Units: 13 Terms Offered: FaSp Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

Pharmacology

DPHR 410 Principles of Pharmacology
Units: 2 Basic principles of drug action; application of drugs in the prevention and treatment of disease; harmful effects of drugs on biological systems. Instruction Mode: Lecture Grading Option: Letter

DPHR 501 Pharmacology
Units: 3 General principles of drug action: prescription writing; toxicology; pharmacology of drugs affecting cardiovascular, autonomic, endocrine, and central nervous systems; drug control of pain, anxiety, infection.

DPHR 601 Clinical Drug Therapy in Dentistry
Units: 2 Clinical pharmacology of drug therapy important to dental practice using case history disease signs and symptoms and attendant drug therapy. Instruction Mode: Lecture Grading Option: Letter

DPHR 701 Advanced Pharmacology
Units: 1 Pharmacologic principles and practice of drug use to control anxiety, pain, and infection. Treatment of drug and medical emergencies as they relate to dental specialty practice. Instruction Mode: Lecture Grading Option: Letter

Data Science

DSCI 250 Introduction to Data Science
Units: 4 Terms Offered: Fa Fundamentals of data science: representation of data and knowledge, role of a data scientist, data storage / processing / analytics, machine learning, big data and data visualization. *Recommended Preparation:* A basic understanding of engineering and / or technology is recommended. *Corequisite:* ITP 115 Duplicates Credit in former INF 250 Instruction Mode: Lecture Grading Option: Letter

DSCI 351 Foundations of Data Management
Units: 4 Terms Offered: Sm Data modeling, data storage, indexing, relational databases, key-value/document store, NoSQL, distributed file system, parallel computation and big-data analytics. *Prerequisite:* DSCI 250 and ITP 115 *Recommended Preparation:* Programming experience (e.g., Python or Java) Duplicates Credit in former INF 351 Instruction Mode: Lecture Grading Option: Letter

DSCI 352 Applied Machine Learning and Data Mining
Units: 4 Terms Offered: Fa Foundational course focusing on the understanding, application and evaluation of machine learning and data mining approaches in data-intensive scenarios. *Prerequisite:* DSCI 250 and MATH 208x Duplicates Credit in former INF 352 Instruction Mode: Lecture Grading Option: Letter

DSCI 429 Security and Privacy
Units: 4 Terms Offered: Sp Basic concepts in information security and privacy; implications of security and privacy breaches; security and privacy policies, threats and protection mechanisms; security and privacy laws, regulations and ethics. Duplicates Credit in former INF 429 Instruction Mode: Lecture Grading Option: Letter

DSCI 454 Data Visualization and User Interface Design
Units: 4 Terms Offered: Fa Design of systems for data visualization; user interface design for exploring and interacting with data. *Prerequisite:* DSCI 250 Duplicates Credit in former INF 454 Instruction Mode: Lecture Grading Option: Letter

DSCI 510 Principles of Programming for Data Science
Units: 4 Terms Offered: FaSp Programming in Python for retrieving, searching and analyzing data from the Web. Learning to manipulate large data sets. Duplicates Credit in former INF 510 Instruction Mode: Lecture, Lab Grading Option: Letter

DSCI 519 Foundations and Policy for Information Security
Units: 4 Terms Offered: Fa Threats to information systems; technical and procedural approaches to threat mitigation; policy specification and foundations of policy for secure systems; mechanisms for building secure security services; risk management. Background in computer security preferred. Recommended previous courses of study include computer science, electrical engineering, computer engineering, management information systems and/or mathematics. Duplicates Credit in former INF 519 Instruction Mode: Lecture Grading Option: Letter

DSCI 523 Computer Systems Assurance
Units: 4 Terms Offered: Fa Assurance that an information system will behave as expected; assurance approaches for fielding secure information systems; case studies. Recommended preparation: Prior degree in computer science, electrical engineering, computer engineering, management information systems and/or mathematics. Some background in computer security preferred. *Prerequisite:* DSCI 519 Duplicates Credit in former INF 523 Instruction Mode: Lecture Grading Option: Letter

DSCI 525 Trusted System Design, Analysis and Development
Units: 4 Terms Offered: Sp Analysis of computer security and why systems are not secure. Concepts and techniques applicable to the design of hardware and software for Trusted Systems. *Prerequisite:* DSCI 519 Duplicates Credit in former INF 525 Instruction Mode: Lecture Grading Option: Letter

DSCI 526 Secure Systems Administration
Units: 4 Terms Offered: Fa The administrator's role in information system testing, certification, accreditation, operation and defense from cyber attacks. Security assessment. Examination of system vulnerabilities. Policy development. Recommended preparation: previous degree in computer science, mathematics, computer engineering, data science and/or information security undergraduate program. Also, it is highly recommended that students have successfully completed course work involving policy and network security. *Prerequisite:* CSCI 530 Duplicates Credit in former INF 526 Instruction Mode: Lecture, Lab Grading Option: Letter

DSCI 527 Secure Systems Engineering
Units: 3 Terms Offered: Fa The process of designing, developing and fielding secure information systems. Developing assurance evidence. Completion of a penetration analysis. Detecting architectural weaknesses. Case studies. Recommended preparation: Previous degree in computer science, mathematics, computer engineering or data science; moderate to intermediate understanding of the fundamentals of information assurance and distributed systems and network security. Knowledge and skill in programming. *Prerequisite:* DSCI 525 Duplicates Credit in former INF 527 Instruction Mode: Lecture Grading Option: Letter

DSCI 528 Computer Forensics
Units: 4 Terms Offered: Fa Preservation, identification, extraction and documentation of computer evidence stored on a computer. Data recovery; File System Analysis; Investigative Techniques and Methodologies; Forensic Reports and Presentations. Duplicates Credit in former INF 528 Instruction Mode: Lecture Grading Option: Letter

DSCI 529 Security and Privacy
Units: 4 Terms Offered: Sp Covers societal implications of information privacy and how to design systems to best preserve privacy. Recommended Preparation: general familiarity with the use of common Internet and mobile applications. *Recommended Preparation:* General familiarity with the use of common Internet and mobile applications Duplicates Credit in former INF 529

Instruction Mode: Lecture Grading Option: Letter

DSCI 531 Fairness in Artificial Intelligence
Units: 4 Terms Offered: FaSp Basic and advanced fairness concepts and methods; applications to societal data for studying fairness and bias; fairness and bias effects in learning algorithms. *Recommended Preparation:* Knowledge of Python, linear algebra, probability, and statistics. Familiarity with artificial intelligence and machine learning. Instruction Mode: Lecture Grading Option: Letter

DSCI 534 Biomedical Data Privacy Issues and Solutions
Units: 4 Terms Offered: FaSp Privacy concerns in healthcare; current law and regulations; existing and emerging technologies shaped by ethics, privacy considerations and medical implications; special attention given to genomic data. *Recommended Preparation:* Prior experience with information security, public policy, and legal frameworks is not required for this course. Basic understanding of engineering and/or technology principles. Instruction Mode: Lecture Grading Option: Letter

DSCI 549 Introduction to Computational Thinking and Data Science
Units: 4 Terms Offered: FaSp Introduction to data analysis techniques and associated computing concepts for non-programmers. Topics include foundations for data analysis, visualization, parallel processing, metadata, provenance and data stewardship. Recommended preparation: mathematics and logic undergraduate courses. *Recommended Preparation:* Mathematics and logic undergraduate courses Duplicates Credit in former INF 549 Instruction Mode: Lecture Grading Option: Letter

DSCI 550 Data Science at Scale
Units: 4 Terms Offered: FaSp Fundamentals of big data informatics techniques. Data lifecycle; the data scientist; machine learning; data mining; NoSQL databases; tools for storage/processing/analytics of large data set on clusters; in-data techniques. *Recommended Preparation:* A basic understanding of engineering principles and programming language is desirable Duplicates Credit in former INF 550 Instruction Mode: Lecture Grading Option: Letter

DSCI 551 Foundations of Data Management
Units: 4 Function and design of modern storage systems, including cloud; data management techniques; data modeling; network attached storage, clusters and data centers; relational databases; the map-reduce paradigm. *Recommended Preparation:* Understanding of networks and databases; experience with probability, statistics, and programming Duplicates Credit in former INF 551, former INF 559, DSCI 559 Instruction Mode: Lecture Grading Option: Letter

DSCI 552 Machine Learning for Data Science
Units: 4 Terms Offered: FaSpSm Practical applications of machine learning techniques to real-world problems. Uses in data mining and recommendation systems and for building adaptive user interfaces. Duplicates Credit in former INF 552 Instruction Mode: Lecture Grading Option: Letter

DSCI 553 Foundations and Applications of Data Mining
Units: 4 Terms Offered: FaSpSm Data mining and machine learning algorithms for analyzing very large data sets. Emphasis on Map Reduce. Case studies. *Recommended Preparation:* DSCI 551 and DSCI 552. Probability, linear algebra, basic programming and machine learning Duplicates Credit in former INF 553 Instruction Mode: Lecture Grading Option: Letter

DSCI 554 Data Visualization
Units: 4 Terms Offered: Fa Graphical depictions of data for communication, analysis and decision support. Cognitive processing and perception of visual data and visualizations. Designing effective visualizations. Implementing interactive visualizations. Duplicates Credit in former INF 554 Instruction Mode: Lecture Grading Option: Letter

DSCI 555 Interaction Design and Usability Testing
Units: 4 Terms Offered: FaSp Understand and apply user interface theory and techniques to design, build and test responsive applications that run on mobile devices and/or desktops. *Recommended Preparation:* Knowledge of data management, machine learning, data mining and data visualization Duplicates Credit in former INF 555 Instruction Mode: Lecture Grading Option: Letter

DSCI 556 User Experience Design and Strategy
Units: 4 Terms Offered: FaSp The practice of User Experience Design and Strategy principles for the creation of unique and compelling digital products and services. *Recommended Preparation:* Basic familiarity with web development and/or graphic design using a digital layout tool Duplicates Credit in former INF 556 Instruction Mode: Lecture Grading Option: Letter

DSCI 558 Building Knowledge Graphs
Units: 4 Terms Offered: FaSp Foundations, techniques and algorithms for building knowledge graphs and doing so at scale. Topics include information extraction, data alignment, entity linking and the Semantic Web. *Recommended Preparation:* DSCI 553 and Experience programming in Python *Corequisite:* (DSCI 551 or INF 551 or CSCI 585) and (DSCI 552 or INF 552 or CSCI 567) Duplicates Credit in former INF 558 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 563

DSCI 559 Introduction to Data Management
Units: 3 Terms Offered: Sp Function, design, and use of modern data management systems, including cloud; data management techniques; data modeling; network attached storage, clusters and data centers; relational databases; the map-reduce paradigm. *Recommended Preparation:* Understanding of engineering principles, basic programming skills, familiarity with Python Duplicates Credit in DSCI 551, former INF 559 and former INF 551 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 559

DSCI 560 Data Science Professional Practicum
Units: 4 Terms Offered: Sp Student teams working on external customer data analytic challenges; project/presentation based; real client data and implementable solutions for delivery to actual stakeholders; capstone to degree. *Recommended Preparation:* Knowledge of data management, machine learning, data mining and data visualization Duplicates Credit in former INF 560 Instruction Mode: Lecture Grading Option: Letter

DSCI 562 Integration of Medical Imaging Systems
Units: 4 (Enroll in BME 527)

DSCI 563 Medical Diagnostics, Therapeutics and Informatics Applications
Units: 3 (Enroll in BME 528)

DSCI 564 Probability and Statistics for Data Science
Units: 4 Fundamental concepts in probability and statistics from a data science perspective; rigorous probabilistic reasoning and problem solving; statistical methods used in data science. *Recommended Preparation:* Multivariate calculus, linear algebra, linear system theory Duplicates Credit in former INF 564 Instruction Mode: Lecture Grading Option: Letter

DSCI 570 Foundations of Communication Data Science
Units: 3 Terms Offered: Sp Modeling behavior and understanding network structures using graph theory and game theory. Using massive data to analyze group behavior. *Recommended Preparation:* Minimum one year of calculus and background in matrix operations Duplicates Credit in former INF 570 Instruction Mode: Lecture Grading Option: Letter

DSCI 590 Directed Research
Units: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree; maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSCI 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSp Course content to be selected each semester from recent developments in Data Science. Instruction Mode: Lecture Grading Option: Letter

Digital Social Media

DSM 510 Introduction to Digital Social Media
Units: 4 Terms Offered: Fa Explores the sector of digital social media and online communities, with a focus on user experience, social impact, strategic content creation and models for success. Registration Restriction: Open only to Digital Social Media majors Instruction Mode: Lecture Grading Option: Letter

DSM 520 Managing Technologies for Digital Media
Units: 4 Terms Offered: Fa Strategies and decision-making for development and management of online sites, mobile

apps and social platforms, including search optimization, monetization, product development and user experience testing. Registration Restriction: Open only to Digital Media majors Instruction Mode: Lecture Grading Option: Letter

DSM 550 Analytics and Research Methodology
Units: 4 Terms Offered: Sp Teaches the use and interpretation of digital analytics as well as the use of research design, methodology, and basic statistics for digital sites and apps. Registration Restriction: Open only to digital social media majors Instruction Mode: Lecture Grading Option: Letter

DSM 560 Digital Media Policy, Law, Practices, and Regulation
Units: 4 Terms Offered: Sp Explores laws, policies, and regulations affecting online sites, mobile apps, games, and social platforms, including intellectual property, contracts, libel/defamation, and financial aspects of digital content. Registration Restriction: Open only to digital social media majors Instruction Mode: Lecture Grading Option: Letter

DSM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to graduate degree. Maximum units which may be applied to degree determined by department. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSM 596 Final Project Capstone
Units: 4 Terms Offered: FaSpSm Students produce a working site, app or embedded social platform project with digital/multimedia elements. Development includes pitching, conceptualization and launching of the final project. Registration Restriction: Open only to Digital Social Media majors Instruction Mode: Lecture Grading Option: Letter

DSM 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSpSm Special Topics in Digital Social Media. Instruction Mode: Lecture Grading Option: Letter

Data Sciences and Operations

DSO 401 Business Information Systems – Spreadsheet Applications
Units: 2 Terms Offered: FaSp Applied understanding of how spreadsheets are used to analyze business information. Create real world software applications for use in accounting, finance, marketing and operations. Duplicates Credit in former IOM 401. Instruction Mode: Lecture Grading Option: Letter

DSO 402 Business Information Systems – Database Applications
Units: 2 Terms Offered: Fa Applied understanding of how work group databases are used to analyze business information. Create real world software applications used in accounting, finance, marketing and operations. Duplicates Credit in former IOM 402. Instruction Mode: Lecture Grading Option: Letter

DSO 424 Business Forecasting
Units: 4 Terms Offered: Sp A variety of forecasting techniques used by a variety of businesses. Emphasis on learning to apply these techniques to real data. *Prerequisite:* BUAD 310g or BUAD 312g or EE 364 or MATH 407 Duplicates Credit in the former IOM 424 Instruction Mode: Lecture Grading Option: Letter

DSO 427 Designing Spreadsheet-Based Business Models
Units: 4 Terms Offered: Fa Application of decision analysis, simulation and optimization techniques to managerial problems. Learn how to create and present useful spreadsheet models to analyze practical business problems. *Recommended Preparation:* BUAD 310g or BUAD 312g Duplicates Credit in former IOM 427 Instruction Mode: Lecture Grading Option: Letter

DSO 428 Essentials and Digital Frontiers of Big Data
Units: 4 Terms Offered: Fa An overview of key concepts of big data and related digital technologies and their applications to different business problems. Hands-on experience at introductory level. Duplicates Credit in former IOM 428 Instruction Mode: Lecture Grading Option: Letter

DSO 431 Digital Innovation as Competitive Advantage
Units: 4 Terms Offered: FaSp Implementing transformative digital technologies. Strategies to complete with ERP, blockchain, cloud, cryptocurrency, fintech, insurtech, API economy, digital platforms/ecosystems, open data, AI and ML. Duplicates Credit in former IOM 431 Instruction Mode: Lecture Grading Option: Letter

DSO 433 Designing Digital Processes and User Experiences
Units: 4 Terms Offered: Sp Analyzing and improving business processes with digital technologies; use cases; business case design. Duplicates Credit in former IOM 433 Instruction Mode: Lecture Grading Option: Letter

DSO 435 Enterprise Data Architecture
Units: 4 Terms Offered: Fa Management of enterprise data architecture including data structures, conceptual data modeling, logical data modeling, structured query language (SQL), and physical optimization of high performance data architecture. Duplicates Credit in former IOM 435. Instruction Mode: Lecture Grading Option: Letter

DSO 443 Current Trends in Digital Business Models
Units: 4 Terms Offered: Fa How rapidly developing digital technologies change the organization, structure and operations of media industries. Provides the perspective of new players in the media industries. Duplicates Credit in former IOM 443 Instruction Mode: Lecture Grading Option: Letter

DSO 455 Project Management
Units: 4 Terms Offered: Fa Topics related to project management in a variety of industries such as real estate projects, new product launch, plant location, etc. Duplicates Credit in former IOM 455 Instruction Mode: Lecture Grading Option: Letter

DSO 458 Essentials of Business Data Analysis Using R
Units: 4 Terms Offered: Sp Problem-solving and algorithmic thinking. R programming for business. Small programs that solve specific business analytics tasks. Assessing the validity of analytics-based recommendations. *Prerequisite:* BUAD 310g or BUAD 312g Instruction Mode: Lecture Grading Option: Letter

DSO 462 Managing a Small Business on the Internet
Units: 2 Terms Offered: FaSp Foundational knowledge for managing a small business on the internet including strategies, tools, and resources integrated with hands-on skills for developing a small business website. Duplicates Credit in former IOM 462. Instruction Mode: Lecture Grading Option: Letter

DSO 464 Deep Learning for AI and Business Applications
Units: 4 Terms Offered: Sp Gather, categorize, analyze, interpret, evaluate relevant qualitative/quantitative information. Extract patterns from unstructured Big Data. Find crucial heterogeneity for business decisions with real-time data. *Recommended Preparation:* calculus, linear algebra, and linear regression, and some basic programming training and experience (e.g. R or Python) Instruction Mode: Lecture Grading Option: Letter

DSO 482 Supply Chain Management
Units: 4 Terms Offered: Sp Issues in supply chain management. Supply chain performance and dynamics. Tools for planning, control and coordination. Supply chain design and strategy. *Prerequisite:* BUAD 311 or BUAD 315x Instruction Mode: Lecture Grading Option: Letter

DSO 483 Operations Consulting
Units: 4 Terms Offered: Sp Study of concepts and techniques for improving operations, formulation and implementation of operations strategy, and development of frameworks for process design, selection and performance evaluation. *Prerequisite:* BUAD 311. Duplicates Credit in IOM 483. Instruction Mode: Lecture Grading Option: Letter

DSO 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics reflecting current trends and recent developments in data sciences, information systems, operations management, and statistics. May be repeated only if topic is different. Instruction Mode: Lecture Grading Option: Letter

DSO 505 Sustainable Supply Chains
Units: 1.5 Terms Offered: Fa Sustainability concepts and frameworks, design for environment, closed-loop supply chains, sustainability in sourcing, green facilities, renewable energy, facility location and transportation decisions, strategic sustainability implementation. Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in former IOM 505 Instruction Mode: Lecture Grading Option: Letter

DSO 506 Sourcing and Supplier Management
Units: 1.5 Terms Offered: Fa Factors to consider when making sourcing decisions (costs, prices, ethics, globalization); impact of sourcing on other activities such as product design or inventory management. Registration Restriction: Online registration open only to graduate business and accounting students. Duplicates Credit in

former IOM 506 Instruction Mode: Lecture Grading Option: Letter

DSO 510 Business Analytics
Units: 1.5, 3 Terms Offered: FaSpSm Foundational knowledge for business analytics, including strategies, methods, and tools integrated with hands-on skills for defining business analytics for data-driven decision making and innovation. Registration Restriction: Online registration open to only graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

DSO 516 Probability and Data Modeling
Units: 1.5 Terms Offered: FaSp Principles of probability methodology. Application for providing structure to uncertainty. Develop, implement, and use probability models. Registration Restriction: Online registration limited to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

DSO 520 Logistics Management
Units: 3 Terms Offered: Sm Gives students a managerial knowledge of basic logistics concepts and principles. Some topics include management of logistics cost integration, transportation, distribution, and customer service. Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in former IOM 520 Instruction Mode: Lecture Grading Option: Letter

DSO 522 Applied Time Series Analysis for Forecasting
Units: 1.5, 3 Terms Offered: FaSp Survey of forecasting and time series methods. Models for stationary and nonstationary time series; ARIMA model identification, estimation, and forecast development. Seasonal and dynamic models. Web registration open only to graduate business and accounting students. *Recommended Preparation:* (GSBA 506a and GSBA 506b) or GSBA 524 or (GSBA 516 and GSBA 545) Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in former IOM 522 Instruction Mode: Lecture Grading Option: Letter

DSO 528 Data Warehousing, Business Intelligence, and Data Mining
Units: 1.5, 3 Terms Offered: FaSm Introduction to data-warehousing, multidimensional database, on-line analytical processing, and survey of business intelligence applications that extract useful information from data warehouses. Business applications emphasized. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

DSO 529 Advanced Regression Analysis
Units: 3 Terms Offered: Sp Computer-assisted analysis of business data; advanced multiple regression analysis, survey analysis, ANOVA testing for Marketing-type applications and Times Series Analysis methods will be covered. *Prerequisite:* GSBA 506b or GSBA 524 or GSBA 545 Duplicates Credit in former IOM 529 Instruction Mode: Lecture Grading Option: Letter

DSO 530 Applied Modern Statistical Learning Methods
Units: 3 Terms Offered: FaSp Overview of highly computational modern statistical learning methods; applications of logistic regression, neural networks, LASSO, trees, boosting and GAM, etc., to finance and marketing data. Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in former IOM 530 Instruction Mode: Lecture Grading Option: Letter

DSO 531 Digital Foundations for Business Innovation
Units: 1.5 Terms Offered: FaSp Developing a strategic perspective on emerging digital innovations shaping consumer-oriented businesses. Topics include artificial intelligence, autonomous vehicles, augmented/virtual reality, post-screen usability and cybersecurity. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

DSO 534 Discrete-Event Simulation for Process Management
Units: 1.5 Terms Offered: FaSp Application of discrete-event simulation models to events that occur randomly over time. Representation using process flow diagrams. Use of simulation methodology to improve process performance. *Corequisite:* DSO 516 Registration Restriction: Online registration limited to graduate business and accounting students Duplicates Credit in former DSO 532 Instruction Mode: Lecture Grading Option: Letter

DSO 536 Monte Carlo Simulation and Decision Models
Units: 1.5 Terms Offered: FaSp Application of Monte Carlo simulation to determine a range of outcomes for all possible courses of action. Application of Excel simulation. *Corequisite:* DSO 516 Registration Restriction: Online registration limited to graduate business and accounting students. Credit Restriction: Online registration limited to graduate business and accounting students Duplicates Credit in former DSO 532 Instruction Mode: Lecture Grading Option: Letter

DSO 543 Global Business Issues in the Networked Digital Industry
Units: 3 Terms Offered: Fa Assessing business impact of emerging technologies on companies, business models and strategies in the "converging" digital communications, media and entertainment industries. Incorporates company field projects. Registration Restriction: Online registration open to only graduate business and accounting students Duplicates Credit in former IOM 543 Instruction Mode: Lecture Grading Option: Letter

DSO 545 Statistical Computing and Data Visualization
Units: 1.5, 3 Terms Offered: FaSp Data cleaning and reshaping; good vs. bad graphics; univariate, bivariate, trivariate, hypervariate and time series graphics; interactive graphics; web-related computing. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

DSO 547 Designing Spreadsheet-Based Business Models
Units: 3 Terms Offered: FaSp Application of decision analysis, simulation and optimization techniques to managerial problems. Learn how to create and present useful spreadsheet models to analyze practical business models. Registration Restriction: Online registration open only to graduate business and accounting majors Duplicates Credit in former IOM 547 Instruction Mode: Lecture Grading Option: Letter

DSO 548 Emerging Technologies in Supply Chain Management
Units: 3 Terms Offered: Sm Insights into the emerging technologies of artificial intelligence, machine learning, Blockchain and the theoretical difficulties and implementation challenges of these technologies. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

DSO 549 Application of Lean Six Sigma
Units: 3 Terms Offered: Sp Application of Six Sigma practices and techniques to improve operations in organizations. Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in ISE 507 and former IOM 549 Instruction Mode: Lecture Grading Option: Letter

DSO 551 Digital Transformation in the Global Enterprise
Units: 3 Terms Offered: Sp Leveraging large enterprise system applications for strategic value; managing organizational transformation of global enterprises through digital business platforms; coping with disruptive technologies. Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in former IOM 551 Instruction Mode: Lecture Grading Option: Letter

DSO 552 SQL Databases for Business Analysts
Units: 1.5 Terms Offered: FaSp SQL; relational database systems; data storage; data manipulation; data aggregation. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

DSO 553 NoSQL Databases in Big Data
Units: 1.5 Terms Offered: FaSp NoSQL; semi-structured and unstructured databases; data storage; data manipulation; distributed databases. *Prerequisite:* DSO 552 Registration Restriction: Online registration open only to graduate accounting and business majors Instruction Mode: Lecture Grading Option: Letter

DSO 554 Digital Strategies for Sustainability in Global Markets
Units: 3 Terms Offered: Sp Designing and executing business strategies for sustainability (environmental, economic, social/cultural) enabled by digital technologies. Emerging market contexts; team consulting project; international travel. Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in the

former GSBA 554 Instruction Mode: Lecture Grading Option: Letter

DSO 556 Business Models for Digital Platforms
Units: 3 Terms Offered: FaSp Managing Business models in digital platform ecosystems; designing new products and services for digital platforms; establishing digital platform leadership; assessing emerging niches in digital spaces. Registration Restriction: Online registration open only to graduate business and accounting majors Duplicates Credit in former GSBA 556 Instruction Mode: Lecture Grading Option: Letter

DSO 557a Global Supply Chain Management in International Settings
Units: 1.5 Terms Offered: Fa Study of global logistics infrastructures – water, rail, road, and air – through readings, team research and presentation, international site visits, and final written report. Open only to Global Supply Chain Management majors. Registration Restriction: Open only to Global Supply Chain Management majors. Duplicates Credit in former IOM 557ab. Instruction Mode: Lecture Grading Option: Letter

DSO 557b Global Supply Chain Management in International Settings
Units: 1.5 Terms Offered: Fa The influence of value-added services and regulatory issues on suppliers and supply chains. Readings, team research and presentation, site visits (LA), and final written report. Open only to Global Supply Chain Management majors. Registration Restriction: Open only to Global Supply Chain Management majors. Duplicates Credit in former IOM 557ab. Instruction Mode: Lecture Grading Option: Letter

DSO 560 Text Analytics and Natural Language Processing
Units: 1.5 Terms Offered: Sp Acquire, analyze, visualize and perform natural language processing (NLP) on text data. Apply Python, machine learning packages, statistical methodology and computer code to business decision-making. *Prerequisite:* DSO 545 *Corequisite:* DSO 530 Instruction Mode: Lecture Grading Option: Letter

DSO 562 Fraud Analytics
Units: 3 Terms Offered: Sp Fraud detection model systems; identify normal vs. outlying behavior; malicious adversaries; complex datasets; supervised and unsupervised fraud statistical models; measures of model efficacy. *Prerequisite:* DSO 545 *Recommended Preparation:* Proficiency in Python programming language and machine learning algorithms *Corequisite:* DSO 530 Instruction Mode: Lecture Grading Option: Letter

DSO 565 Supply Chain Analytics
Units: 3 Terms Offered: Sp Analytics for supply chain planning. Data-driven decision making, solving real-world problems, utilizing scalable technology, current industry best practices and inventory/network optimization. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

DSO 570 The Analytics Edge: Data, Models, and Effective Decisions
Units: 3 Terms Offered: FaSp Decision making under uncertainty using real data applying the most advanced optimization, statistical and probability methods. Registration Restriction: Online registration open to only graduate business and accounting students Duplicates Credit in former IOM 570 Instruction Mode: Lecture Grading Option: Letter

DSO 572 Strategies for Digital Analytics
Units: 1.5 Terms Offered: FaSp Foundation in digital analytics in tandem with digital strategy and solutions through a design thinking approach to working with digital and web data. *Recommended Preparation:* DSO 545 Registration Restriction: Online registration open only to graduate accounting and business majors Instruction Mode: Lecture Grading Option: Letter

DSO 573 Data Analytics Driven Dynamic Strategy and Execution
Units: 3 Terms Offered: Fa Advanced applications of data analytics in dynamic strategy formulation and execution; analytics and business methods for data connected enterprises to continuously enhance their competitive advantage. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

DSO 574 Using Big Data: Challenges and Opportunities
Units: 3 Terms Offered: Sp How companies can implement 'big data' initiatives to improve business activities. How leading companies have successfully implemented 'big data' initiatives and why some have failed. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

DSO 580 Project Management
Units: 3 Terms Offered: FaSp Applications of systems theory and concepts, matrix organizational structures, PERT/CPM project modeling, and management information systems to the management of complex and critical projects. *Recommended Preparation:* GSBA 504b or GSBA 534 Registration Restriction: Online registration open only to graduate accounting and business majors Duplicates Credit in former IOM 580 Instruction Mode: Lecture Grading Option: Letter

DSO 581 Supply Chain Management
Units: 3 Terms Offered: FaSp Issues in supply chain management. Supply chain performance and dynamics. Tools for planning, control and coordination. Supply chain design and strategy. *Recommended Preparation:* GSBA 504b or GSBA 534 Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in former IOM 581 Instruction Mode: Lecture Grading Option: Letter

DSO 582 Service Management: Economics and Operations
Units: 3 Terms Offered: Sp Examination of the service industry from a managerial and entrepreneurial perspective; emphasis on the tactical decisions needed to design and deliver successful and profitable services. *Recommended Preparation:* GSBA 504b or GSBA 534 Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in former IOM 582 Instruction Mode: Lecture Grading Option: Letter

DSO 583 Operations Consulting
Units: 3 Terms Offered: Sp Development of conceptual and analytic skills for improving operations. Analysis of business strategy, formulating and implementing operations strategy, process analysis and design, and project management. Registration Restriction: Online registration open to only graduate business and accounting students Duplicates Credit in former IOM 583 Instruction Mode: Lecture Grading Option: Letter

DSO 586 Global Healthcare Operations Management
Units: 3 Terms Offered: Sp Application of operations management tools and techniques to improve the performance of healthcare delivery systems. May include international travel. Registration Restriction: Online registration open only to graduate business and accounting students. Duplicates Credit in former IOM 586. Instruction Mode: Lecture Grading Option: Letter

DSO 588 Supply Chain Finance
Units: 3 Terms Offered: Fa Combines finance and supply chain management. Assess financial opportunities, finance fragmentation, challenges, optimizing working capital and managing risk in supply chain finance. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

DSO 590 Directed Research
Units: 1, 2, 3, 4, 5 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Open only to master's students. Registration Restriction: Open only to master's students. Duplicates Credit in former IOM 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 592 Field Research in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2.5, 3, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. Open only to graduate students. *Recommended Preparation:* completion of required MBA, MAcc, or MBT courses. Registration Restriction: Open only to graduate students. Duplicates Credit in former IOM 592. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 593 Independent Research in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4 Max Units: 12 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Graded CR/NC. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 595 Internship in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job

business experience in the student's area of interest (Curricular Practical Training). Recommended preparation: completion of required MBA, MSGSCM, or MSBA courses. *Recommended Preparation:* completion of required MBA, MSGSCM, or MSBA courses Registration Restriction: Open only to master's business students Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 596 Research Practicum in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member in the Data Sciences and Operations Department on an ongoing research project. Open only to graduate students. *Recommended Preparation:* completion of all required courses in the student's program. Registration Restriction: Open only to graduate students. Duplicates Credit in the former IOM 596. Instruction Mode: Lecture Grading Option: Letter

DSO 597 Consulting Project in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Open only to graduate business students. Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in former IOM 597 Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 598 Special Topics
Units: 1, 1.5, 2 or 3 Max Units: 9.0 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in data sciences, operations management, supply chain management and/or decision support systems. Online registration open only to graduate business students. Registration Restriction: Open only to graduate business students. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in data sciences, operations management, supply chain management and/or decision support systems. Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in former IOM 599 Instruction Mode: Lecture Grading Option: Letter

DSO 606 Bayesian Data Analysis
Units: 3 Terms Offered: Fa Principles of Bayesian inference, subjective probability, posterior inference via Markov chain Monte Carlo, applications to latent variable models. Hierarchical models and shrinkage estimation. Model averaging. Duplicates Credit in former IOM 606. Instruction Mode: Lecture Grading Option: Letter

DSO 607 High Dimensional Statistics and Big Data Problems
Units: 3 Terms Offered: Fa Overview of cutting-edge developments of methodologies, theory, and algorithms in high-dimensional statistical learning and big data problems; their applications to business and many other disciplines. *Recommended Preparation:* Courses in calculus, linear algebra and linear regression Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

DSO 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Data Sciences and Operations. Presentations by faculty, visiting researchers, and advanced students. Open only to Marshall PhD students. Open only to Marshall PhD students. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 670 Current Research in Operations Management
Units: 1.5, 3 Max Units: 06 Terms Offered: FaSp Critique of the current research-based literature in operations management to include scheduling, forecasting, MRP, technology planning, inventory management, and facilities location and layout. Duplicates Credit in former IOM 670 Instruction Mode: Lecture Grading Option: Letter

DSO 671 Inventory Models and Supply Chain Management
Units: 3 Terms Offered: Fa Single product, single location inventory models; multi-echelon inventory models; assembly systems; inventory and pricing; value of information; incentives and coordination in supply chains. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 671. Instruction Mode: Lecture Grading Option: Letter

DSO 673 Mathematical Programming
Units: 3 Terms Offered: Fa Integer programming; duality theory; shortest path and max flow problems; network flow; matching problems; convex sets and functions; lagrange duality; unconstrained minimization methods; optimization problems. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 673. Instruction Mode: Lecture Grading Option: Letter

DSO 674 Queueing and Stochastic Networks
Units: 3 Terms Offered: Sp Jackson Networks; Kelly networks; the M/G/1 model and the Pollaczek–Khintchine formula; the G/G/1 queue; the GI/GI/1+GI queue and its diffusion approximation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 674. Instruction Mode: Lecture Grading Option: Letter

DSO 677 Dynamic Programming and Markov Decision Processes
Units: 3 Terms Offered: Sp Introduction to Decision Analysis; MDP model formulation and examples; Finite horizon models; Infinite-horizon models: Discounted MDPs; Average reward criteria; Continuous-time models. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 677. Instruction Mode: Lecture Grading Option: Letter

DSO 699 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary data sciences, operations management, supply chain management, and/or decision support systems. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

Development, Stem Cells and Regenerative Medicine

DSR 542 Principles of Developmental and Stem Cell Biology
Units: 4 Terms Offered: Sm Introduction to developmental and stem cell biology. Lectures and lab component prepare students for a career in developmental and stem cell biology and regenerative medicine. *Prerequisite:* INTD 561 and (PM 549 or BIOC 543) Instruction Mode: Lecture, Lab Grading Option: Letter

DSR 574 Stem Cell and Developmental Biology Seminar Series
Units: 1 Max Units: 10 Terms Offered: FaSp Selected topics in Development, Stem Cell, and Regeneration. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as SCRM 574

DSR 580 Clinical Perspective of Regenerative Medicine
Units: 1 Max Units: 4.0 Terms Offered: Sp Offers interaction with clinicians in patient-care setting to understand the need and role of regenerative medicine in bedside management. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSR 610 Current Topics in Regenerative Medicine
Units: 1 Max Units: 12 Terms Offered: Sp Selected topics on sub-fields within developmental and stem cell biology including review of contemporary literature and research. Registration Restriction: Open only to DSR and SCRM graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as SCRM 610

DSR 620 Current Topics in Stem Cell Biology and Organogenesis
Units: 1 Max Units: 12 Terms Offered: Fa Selected topics on sub-fields within stem cell biology and organogenesis. Includes review of contemporary literature and research. Open only to master and doctoral students. Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SCRM 620

DSR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSR 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

DSR 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction:

Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

DSR 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

DSR 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

DSR 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

East Asian Languages and Cultures

EALC 101x Conversational Chinese and Intercultural Communication
Units: 2 Terms Offered: FaSp Basic Mandarin conversational skills for effective communication in familiar, everyday Chinese contexts and better understanding of intercultural communication through content-based language acquisition. Not available for credit to East Asian Area Studies and East Asian Languages and Cultures majors and minors. Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 102 Language, Art and Culture: Calligraphy
Units: 2 Terms Offered: FaSp This course introduces students to the origin of the basic Chinese scripts and the basic principles and styles of calligraphy. Instruction Mode: Lecture Grading Option: Letter

EALC 103a Fundamental Chinese I
Units: 2 Terms Offered: FaSpSm The first half of EALC 104. The sound system of modern Chinese; aural comprehension, oral expression, basic patterns and writing system. Duplicates Credit in EALC 104 Instruction Mode: Lecture Grading Option: Letter

EALC 103b Fundamental Chinese I
Units: 2 Terms Offered: FaSpSm The second half of EALC 104. The sound system of modern Chinese; aural comprehension, oral expression, basic patterns and writing system. *Prerequisite:* EALC 103a Duplicates Credit in EALC 104 Instruction Mode: Lecture Grading Option: Letter

EALC 104 Chinese I
Units: 4 Terms Offered: FaSpSm The sound system of modern Chinese; aural comprehension, oral expression, basic patterns, and writing system. Instruction Mode: Lecture Grading Option: Letter

EALC 106 Chinese II
Units: 4 Terms Offered: FaSpSm Dialogue practice and conversation; reading of simple stories and essays; comparison of Chinese and English grammar; writing of paragraphs. *Prerequisite:* EALC 104 or EALC 103b Instruction Mode: Lecture Grading Option: Letter

EALC 108 Reading and Writing Chinese
Units: 4 Terms Offered: FaSp The basics of reading and writing modern Chinese; intensive reading and writing of paragraphs, essays, and stories; extensive reading of beginner-level authentic materials. Instruction Mode: Lecture Grading Option: Letter

EALC 110gp East Asian Humanities: The Great Tradition
Units: 4 Terms Offered: FaSp Introduction to the major humanities traditions of China, Japan, and Korea through an examination of representative works drawn from literature, aesthetics, philosophy, religion, and historical writing. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 115 Korean I
Units: 4 Terms Offered: FaSpSm Basic Korean conversation practice, aural comprehension, basic grammar and building proficiency of reading and writing with Hangul (Korean alphabet). Instruction Mode: Lecture Grading Option: Letter

EALC 117 Korean II
Units: 4 Terms Offered: FaSpSm Continuation of EALC 115, basic conversation practice, aural comprehension, basic grammar and building proficiency of reading and writing. *Prerequisite:* EALC 115 or EALC 119 Instruction Mode: Lecture Grading Option: Letter

EALC 118 Essential Communications in Korean I
Units: 2 Max Units: 4 Terms Offered: FaSp A basic foundation of Korean, focusing on conversation skills. Students communicate on a variety of familiar topics and handle basic transactions. Registration Restriction: Open to all majors, no class standing restrictions, no school restrictions. Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 119 Essential Communications in Korean II
Units: 2 Max Units: max 4 Terms Offered: FaSp Continuation of EALC 118. Aims to develop basic communication skills required for survival in Korea. Students will practice simple conversations and understand some cultural practices through Korean drama clips. *Prerequisite:* EALC 118 Registration Restriction: No major, class standing or school restrictions. Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 120 Japanese I
Units: 4 Terms Offered: FaSpSm Basic Japanese conversation practice, basic grammar and building proficiency of reading and writing Hiragana and Katakana (Japanese alphabetical systems) and some basic kanji (Chinese characters). Instruction Mode: Lecture Grading Option: Letter

EALC 121 Extensive Reading in Japanese I
Units: 2 Max Units: 4.0 Terms Offered: FaSp Development of reading skill in Japanese for elementary level students through short stories written for learners of Japanese and authentic materials written for native Japanese speakers. *Prerequisite:* EALC 120. Instruction Mode: Lecture Grading Option: Letter

EALC 122 Japanese II
Units: 4 Terms Offered: FaSpSm Continuation of EALC 120. Basic Japanese conversation practice, basic grammar and building proficiency of reading and writing Hiragana and Katakana and basic kanji. *Prerequisite:* EALC 120. Instruction Mode: Lecture Grading Option: Letter

EALC 125g Introduction to Contemporary East Asian Cinema and Culture
Units: 4 An introduction to and overview of the contemporary cinemas of East Asia: China (Hong Kong, the People's Republic, and Taiwan), Japan, and Korea. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 130gp Introduction to East Asian Ethical Thought
Units: 4 Terms Offered: FaSp Introduction to the history of Chinese, Japanese, and Korean ethical thought; perspectives on human nature, historical writing, religious options, and aesthetic implications. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 145g Introduction to Chinese Culture, Art and Literature
Units: 4 Terms Offered: FaSp Introduction to the civilization, art and literature of pre-modern China through the lens of the cultural products of identity. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 150gw Global Chinese Cinema and Cultural Studies
Units: 4 Terms Offered: FaSp Examination of the transnational production and circulation of Chinese-language cinema. Analysis of the larger sociocultural significance of films by engaging their historical context. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 202 Language, Art, and Culture: Calligraphy II
Units: 2 Max Units: 4 Terms Offered: FaSpSm Furthers students' knowledge in the Chinese writing system and develops students' skills in a more advanced calligraphy style. *Prerequisite:* EALC 102 Instruction Mode: Lecture Grading Option: Letter

EALC 204 Chinese III
Units: 4 Terms Offered: Fa Conversational practice: reading of stories and essays; writing of short essays. *Prerequisite:* EALC 106. Instruction Mode: Lecture Grading Option: Letter

EALC 206 Chinese IV
Units: 4 Terms Offered: Sp Continuation of EALC 204, with emphasis on reading and writing, frequent interaction with native speakers. *Prerequisite:* EALC 204. Instruction Mode: Lecture Grading Option: Letter

EALC 207a Intermediate Chinese: Reading and Oral Communication
Units: 4 Terms Offered: Sm Improving Chinese reading techniques and oral presentation skills in an immersive environment. Offered only in Taiwan. *Prerequisite:* EALC 106. Instruction Mode: Lecture Grading Option: Letter

EALC 207b Intermediate Chinese: Reading and Oral Communication
Units: 4 Terms Offered: Sm Improving Chinese reading techniques and oral presentation skills in an immersive environment. Offered only in Taiwan. *Prerequisite:* EALC 204. Instruction Mode: Lecture Grading Option: Letter

EALC 215 Korean III
Units: 4 Terms Offered: Fa Drill to increase proficiency in dialogue, reading, and writing; intermediate level readings. *Prerequisite:* EALC 117. Instruction Mode: Lecture Grading Option: Letter

EALC 217 Korean IV
Units: 4 Terms Offered: Sp Advanced level reading of modern Korean and exercises in written composition. *Prerequisite:* EALC 215. Instruction Mode: Lecture Grading Option: Letter

EALC 220 Japanese III
Units: 4 Terms Offered: FaSpSm Continuation of EALC 122. Conversation practice, basic to intermediate grammar, and building proficiency of reading and writing Hiragana and Katakana with additional kanji. *Prerequisite:* EALC 122. Instruction Mode: Lecture Grading Option: Letter

EALC 221 Extensive Reading in Japanese II
Units: 2 Max Units: 08 Terms Offered: FaSp Development of reading skills in Japanese for intermediate level students through short stories written for learners of Japanese and authentic materials written for native speakers. *Prerequisite:* EALC 220 Instruction Mode: Lecture Grading Option: Letter

EALC 222 Japanese IV
Units: 4 Terms Offered: FaSpSm Continuation of EALC 220. More sophisticated grammar and vocabulary for natural conversation. Enhancing fundamental reading and writing skills, expanding the knowledge of kanji. *Prerequisite:* EALC 220. Instruction Mode: Lecture Grading Option: Letter

EALC 255gw Southeast Asian Literature and Film
Units: 4 Terms Offered: FaSp Comparative approach and general introduction to literature and cinema from the four major nations of maritime Southeast Asia (Indonesia, the Philippines, Singapore, and Malaysia). Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as COLT 255

EALC 264g Asian Aesthetic and Literary Tradition
Units: 4 (Enroll in COLT 264gp)

EALC 266 Science Fiction in East Asia
Units: 4 Terms Offered: FaSp Cross-cultural examination of science fiction literature and film in East Asia. Analysis of the genre's historical developments and its synergy and conflict with technoindustrial modernity in the region. Instruction Mode: Lecture Grading Option: Letter

EALC 304 Advanced Modern Chinese I
Units: 4 Terms Offered: Fa Reading selections from different styles of modern Chinese writings, analysis of stylistic techniques and syntactic structure, composition, and translation. *Prerequisite:* EALC 206. Instruction Mode: Lecture Grading Option: Letter

EALC 306 Advanced Modern Chinese II
Units: 4 Terms Offered: Sp Continuation of EALC 304; composition exercises in different styles of writing. *Prerequisite:* EALC 304. Instruction Mode: Lecture Grading Option: Letter

EALC 315 Advanced Korean I
Units: 4 Terms Offered: Fa Advanced reading in modern Korean materials; improvement of skills in conversation, composition, and translation. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 317 Advanced Korean II
Units: 4 Terms Offered: Sp Continuation of EALC 315, with emphasis on the use of Chinese characters, translation, and composition exercises. *Prerequisite:* EALC 315. Instruction Mode: Lecture Grading Option: Letter

EALC 318 Readings in Contemporary Korean
Units: 4 Terms Offered: FaSpSm Selected readings in a variety of Korean styles. Materials are from essays, short stories and newspapers. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 320 Advanced Japanese I
Units: 4 Strengthen intermediate Japanese language proficiency. Oral/aural communication skills as well as reading and writing skills. Promote an understanding of the present-day Japanese culture. *Prerequisite:* EALC 222. Instruction Mode: Lecture Grading Option: Letter

EALC 322 Advanced Japanese II
Units: 4 Terms Offered: FaSp Continuation of EALC 320. Improve and strengthen abilities to speak, listen, read and write, coping with more involved materials and situation. *Prerequisite:* EALC 320. Instruction Mode: Lecture Grading Option: Letter

EALC 324gw Contemporary China: Cultural Politics and Social Realities
Units: 4 (Enroll in ANTH 324gw)

EALC 332 Modern Korean Literature in Translation
Units: 4 Terms Offered: Fa Introduction to Korean literature, with discussion of critical approaches to literary discourse, historical contexts of literary production, and aspects of contemporary popular culture. Instruction Mode: Lecture Grading Option: Letter

EALC 333g Introduction to Korean Film
Units: 4 Terms Offered: Fa Survey of Korean film, the film industry, and critical issues from the colonial period to the present. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 334 Chinese Language Through Films and Television
Units: 4 Terms Offered: FaSp Enhancement of functional, advanced-level Mandarin proficiency for vocabulary, grammar, listening, speaking, reading, writing, and cultural awareness through selected Chinese-language films and television programs. *Prerequisite:* EALC 206. Instruction Mode: Lecture Grading Option: Letter

EALC 335m Korean American Literature
Units: 4 Survey of Korean American literature from the mid-20th century until the most recent years. Focus on issues and topics central to Korean American experience. Instruction Mode: Lecture Grading Option: Letter

EALC 336 Chinese Language through Films and Television II
Units: 4 Terms Offered: FaSp Further enhancement of functional, advanced-level Mandarin proficiency for vocabulary, grammar, listening, speaking, reading, writing, and cultural awareness through selected Chinese-language films and television programs. *Prerequisite:* EALC 304 and EALC 334. Instruction Mode: Lecture Grading Option: Letter

EALC 340gp Japanese Civilization
Units: 4 Terms Offered: FaSp Survey of the main characteristics and development of art, literature, philosophy, religion, political and social institutions through different periods. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 342gp Japanese Literature and Culture
Units: 4 Terms Offered: FaSp Japanese literature from the earliest times to the present; development of prose, poetry and the novel; evolution of theatre; Japanese literature under Western influence. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 344gp Korean Culture from Ancient to Modern Times
Units: 4 Terms Offered: Sp The history of Korean literature and culture from the ancient to the modern era. *Recommended Preparation:* HIST 105. Satisfies New General Education in Category B:

Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 345 Korean Civilization
Units: 4 Survey of the main characteristics and development of Korean art, literature, philosophy, religion, political and social institutions through different periods. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

EALC 346g Hallyu, the Korean Wave
Units: 4 Terms Offered: Fa Critical overview of the Korean Wave (Hallyu), the phenomenon defined as the growing, global circulation and consumption of Korean popular culture. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

EALC 350gp Chinese Civilization
Units: 4 Terms Offered: FaSp Characteristics and aspects of Chinese civilization; interpretation of philosophy, literature, religion, art, music. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 352g Chinese Literature and Culture
Units: 4 Terms Offered: FaSp Readings of Chinese poetry, prose, novels and drama; influence of the West on Chinese literature and culture in modern times. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 354g Modern Chinese Literature in Translation
Units: 4 Readings in modern Chinese poetry, fiction, and drama since 1919. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 355 Studies in Chinese Thought
Units: 4 Chinese thought, particularly as formulated in the three great traditions: Confucianism, Taoism, Buddhism. Instruction Mode: Lecture Grading Option: Letter

EALC 358g Transnational Chinese Literature and Culture
Units: 4 Terms Offered: Sp An introduction to Sinophone literatures and cultures (in English translation) from the Asia-Pacific region, including Taiwan, Hong Kong, Tibet, Southeast Asia, and North America. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 360g Performing Japan: Bodies, Media, and Textuality
Units: 4 Terms Offered: FaSp The classical foundations of Japanese performance, including noh, puppet theater, and kabuki; exploration of how these genres are implicated in modern and contemporary Japanese performance. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 361 Global East Asia
Units: 4 Max Units: 12 Terms Offered: Sp (Enroll in EASC 360)

EALC 365 Studies in Japanese Thought
Units: 4 Influence of native traditions and imported Chinese traditions on Japanese civilization; religious, ethical, aesthetic, and political aspects. Instruction Mode: Lecture Grading Option: Letter

EALC 366 Chinese Professional Internship: Communication and Culture
Units: 2 Max Units: 6 Terms Offered: FaSpSm Combined classroom discussion and supervised internship at companies. Practical experience in applying communication and cultural knowledge in a professional, "real world" employment context. *Prerequisite:* EALC 206 Grading Option: Letter

EALC 374 Language and Society in East Asia
Units: 4 The interaction of language with society in countries of East Asia: language and identity, the politicization of language, language change, language and gender. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-374

EALC 375 Women and Gender in China: Past and Present
Units: 4 An examination of changes in sex roles and in constructs of the female as influenced by traditional Chinese thought and later social developments. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-375

EALC 377 Law and Society in Premodern China and Japan
Units: 4 (Enroll in HIST 377)

EALC 380 Cultural Topics in East Asian Literature
Units: 4 Selected themes, genres, and periods in East Asian literature, e.g., Taoism and Buddhism, women, folktales. Instruction Mode: Lecture Grading Option: Letter

EALC 381g Visual Cultures of Asia
Units: 4 Max Units: max 8 Terms Offered: FaSp (Enroll in AHIS 381)

EALC 382 Art and Cultural Heritage in East Asia
Units: 4 Terms Offered: FaSpSm Introduction to heritage studies with a focus on the developments and representative examples in China, Korea, and Japan. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS 382

EALC 383 Later Chinese Art
Units: 4 (Enroll in AHIS 385)

EALC 384 Early Chinese Art
Units: 4 (Enroll in AHIS 384)

EALC 385 Myth, Folklore, and Fantasy in Japanese Literature and Film
Units: 4 Terms Offered: FaSp Examines the uses of myth, folklore, and fantasy in Japanese culture across a range of genres and media from the premodern period to contemporary times. Instruction Mode: Lecture Grading Option: Letter

EALC 386 Readings in Modern Korean Literature
Units: 4 Selected readings from modern Korean short stories, novels, plays and essays. Readings will be in English and Korean. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 387 Early Japanese Art
Units: 4 (Enroll in AHIS 386)

EALC 388 Later Japanese Art
Units: 4 (Enroll in AHIS 387)

EALC 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

EALC 400 Classical Chinese I
Units: 4 Introduction to the classical styles, selections from classical style writings, contrastive analysis of modern and classical Chinese, translation and writing practice. *Prerequisite:* EALC 206. Instruction Mode: Lecture Grading Option: Letter

EALC 402 Classical Chinese II
Units: 4 Continuation of EALC 400. Instruction Mode: Lecture Grading Option: Letter

EALC 404 Advanced Modern Chinese III
Units: 4 Terms Offered: Fa Readings in modern Chinese literary, documentary, and epistolary styles; stylistic and syntactic analysis; composition; translation. *Prerequisite:* EALC 306. Instruction Mode: Lecture Grading Option: Letter

EALC 406 Advanced Modern Chinese IV
Units: 4 Terms Offered: Sp Continuation of EALC 404. Instruction Mode: Lecture Grading Option: Letter

EALC 407 News and Web Chinese
Units: 4 Terms Offered: FaSp Reading selections from newspaper articles and online reports to further develop proficiency in advanced Chinese and understanding of the society and culture. *Prerequisite:* EALC 404 Instruction Mode: Lecture Grading Option: Letter

EALC 410 Chinese-English Translation
Units: 4 Structure, vocabulary, and techniques of written translation and oral interpretation; classroom and laboratory practice; English-Chinese and Chinese-English. Instruction Mode: Lecture Grading Option: Letter

EALC 412a Business Chinese
Units: 4 Practice in the basic vocabulary and idioms of foreign trade and other commercial transactions in Mandarin. *Prerequisite:* EALC 306. Instruction Mode: Lecture Grading Option: Letter

EALC 412b Business Chinese
Units: 4 Continuation of EALC 412a. *Prerequisite:* EALC 306. Instruction Mode: Lecture Grading Option: Letter

EALC 413 Business Japanese
Units: 4 Terms Offered: FaSpSm Practical advanced level Japanese business terms and their usage in a variety of business situations; cultural insights on Japanese customs that underlie business transactions. *Prerequisite:* EALC 222 Instruction Mode: Lecture Grading Option: Letter

EALC 415 Advanced Korean III
Units: 4 Terms Offered: Fa Selected readings in Korean texts, pre- modern and modern, in various literary and non-fiction genres; focus on developing reading and translation skills. *Prerequisite:* EALC 317. Instruction Mode: Lecture Grading Option: Letter

EALC 416 Advanced Chinese Oral Communication
Units: 2 Terms Offered: FaSp Enhancement of advanced conversational skills through descriptions, summaries of texts, active participation in discussions, debates and oral presentations in class. *Prerequisite:* EALC 406. Instruction Mode: Lecture Grading Option: Letter

EALC 417 Advanced Korean IV
Units: 4 Terms Offered: Sp Continuation of EALC 415. Instruction Mode: Lecture Grading Option: Letter

EALC 418 Korean Writing in Mixed Script
Units: 4 Terms Offered: FaSp Selected readings in Korean texts written in mixed script; a systematic study of Chinese characters and translation of text. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 419 Newspaper and Documentary Korean
Units: 4 Terms Offered: FaSp Selected readings from newspapers, magazines, and other journalistic publications; analysis of styles and practice in writing articles. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 422 Advanced Japanese III
Units: 4 Terms Offered: Fa Students develop advanced levels of Japanese linguistic knowledge and communication skills through speaking, listening, reading and writing activities using authentic Japanese texts and discourse. *Prerequisite:* EALC 322. Instruction Mode: Lecture Grading Option: Letter

EALC 424 Advanced Japanese IV
Units: 4 Terms Offered: Sp Continuation of EALC 422. Students continue to improve their Japanese language competence in the course of acquiring Japanese pragmatic skills and cultural knowledge. *Prerequisite:* EALC 422. Instruction Mode: Lecture Grading Option: Letter

EALC 426 Classical Japanese
Units: 4 Introduction to the fundamentals of classical grammar; readings from various classical works, both poetry and prose; translation practice. *Prerequisite:* EALC 322. Instruction Mode: Lecture Grading Option: Letter

EALC 427 Women's Lives in Premodern Japanese Literature
Units: 4 Terms Offered: Fa The social lives of women in ancient and medieval Japan as viewed through poetry, memoir, tale literature, legal documents, and personal correspondence. *Recommended Preparation:* Any course in Japanese literature or civilization. Instruction Mode: Lecture Grading Option: Letter

EALC 428 Nature and the Ecological Imagination in Japanese Literature
Units: 4 Terms Offered: FaSpSm Examination of cultural perceptions about nature and how they affect attitudes toward the environment: includes comparisons to Euro-American as well as other East Asian traditions. Instruction Mode: Lecture Grading Option: Letter

EALC 429 Gender in Korean Film and Literature
Units: 4 Terms Offered: Sp Changing representations of gender in Korean films and literary works over the course of the 20th century. *Recommended Preparation:* HIST 105 and EALC 332. Instruction Mode: Lecture Grading Option: Letter

EALC 430 Gender and Sexuality in Korean Literature and Culture
Units: 4 Examination of the changing representations of gender and sexuality in Korean cultural texts over the course of the 20th century. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-430

EALC 431 The Taoist Tradition
Units: 4 Close reading of primary text(s) of early Chinese Taoist thinkers (in translation), along with analysis of relevant secondary scholarship. *Recommended Preparation:* EALC 355. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-431

EALC 435 Ethnic Identity and Minority Politics in China
Units: 4 (Enroll in ANTH 435)

EALC 438 The Tale of Genji and its Worlds
Units: 4 Terms Offered: FaSp Explores the translation, history, and reception of The Tale of Genji, including its adaptation across multiple media and genres from premodern times to the present. Instruction Mode: Lecture Grading Option: Letter

EALC 440 Current Topics in Japanese
Units: 4 Max Units: 16 Terms Offered: FaSp Mastery of near native proficiency of the Japanese Language by handling variety topics of contemporary Japan such as literature, history, social and cultural issues. *Recommended Preparation:* EALC 424 or equivalent Registration Restriction: No registration restrictions Credit Restriction: No credit restrictions Instruction Mode: Lecture Grading Option: Letter

EALC 450 Contemporary Japanese Literature and Global Modernity
Units: 4 Terms Offered: FaSp Examination of historical currents in contemporary Japanese literature and popular culture and the role translation plays in their global circulation and redefinition. Instruction Mode: Lecture Grading Option: Letter

EALC 452 Chinese Fiction
Units: 4 Development of Chinese fiction and readings from English translations of major Chinese novels such as the Dream of the Red Chamber, All Men are Brothers, and others. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

EALC 454 Bildungsroman in Modern East Asia
Units: 4 Terms Offered: Sp Comparative study of core narratives of youth and its destiny in modern literature from China, Japan, Korea, and Taiwan. Readings include scholarship on European literature. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT-453

EALC 455 Japanese Fiction
Units: 4 Japanese fiction from early to modern times; literary, philosophical, and social aspects of tales and novels. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

EALC 460 Love, Self and Gender in Japanese Literature
Units: 4 Terms Offered: Sp Examines conceptions of love, self, gender, and sexuality in Japanese literature and culture of the modern and pre-modern periods with comparisons to European and Chinese literature. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT-460

EALC 465 Topics in Korean Visual and Cultural Studies
Units: 4 Terms Offered: FaSp Examination of dominant and emergent critical issues in the study of modern and contemporary Korean visual culture. Instruction Mode: Lecture Grading Option: Letter

EALC 470 Introduction to East Asian Linguistics
Units: 4 Survey of the sound systems, writing systems, grammatical systems, historical development, and social environments of the Chinese, Japanese, and Korean languages. *Prerequisite:* EALC 406 or EALC 417 or EALC 424. Instruction Mode: Lecture Grading Option: Letter

EALC 475 Topics in Chinese Photography
Units: 4 Terms Offered: FaSp An exploration of key topics in the history, theory and criticism of photography in China, from the mid 19th century to the present. *Recommended Preparation:* Prior coursework in Chinese history, politics, or cultural studies, art history, media studies, or studio art Instruction Mode: Lecture Grading Option: Letter

EALC 480 Marxism and Culture in East Asia
Units: 4 Terms Offered: FaSp Intensive reading on current transnational issues in the study of East Asian or Asian cultures. Instruction Mode: Lecture Grading Option: Letter

EALC 481 Studies in Japanese Art
Units: 4 Max Units: max 16 (Enroll in AHIS 481)

EALC 482 Japanese Photography
Units: 4 Terms Offered: FaSp (Enroll in AHIS 482)

EALC 484 Studies in Chinese Art
Units: 4 Max Units: max 16 (Enroll in AHIS 484)

EALC 485 Material Culture of the Silk Road
Units: 4 Terms Offered: FaSpSm Introduction to the history and material culture of the Silk Road with emphasis on the arts of Dunhuang and Kucha. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS 485

EALC 489 The Mongol Era in China: Genghis Khan, Khubilai, Marco Polo
Units: 4 Terms Offered: FaSp An exploration of the Mongol era in China through an examination of three great historical figures, including how depictions of them have changed over time. Instruction Mode: Lecture Grading Option: Letter

EALC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not

available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

EALC 494a Honors Thesis
Units: 4 Terms Offered: Sp Research and writing of original thesis under guidance of faculty member. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

EALC 494b Honors Thesis
Units: 4 Terms Offered: Fa Research and writing of original thesis under guidance of faculty member. Open only to EALC majors. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

EALC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

EALC 500 Advanced Classical Chinese I
Units: 4 Reading in classical Chinese and practice in classical vocabulary and syntax, with emphasis on translation into English and modern Chinese. *Prerequisite:* EALC 402. Instruction Mode: Lecture Grading Option: Letter

EALC 501 History of Chinese Literature
Units: 4 Max Units: 12 Terms Offered: FaSp An in-depth survey of literary development concerning periods, thought, genres and socio-cultural backgrounds in China. In English. Instruction Mode: Lecture Grading Option: Letter

EALC 502 Advanced Classical Chinese II
Units: 4 Continuation of EALC 500. *Prerequisite:* EALC 500. Instruction Mode: Lecture Grading Option: Letter

EALC 503 Chinese Poetry
Units: 4 Literary studies of the theory and practice of Chinese poetry from major poets. *Prerequisite:* 4th year Chinese. Instruction Mode: Lecture Grading Option: Letter

EALC 504 Selections from Modern Chinese Literature
Units: 4 Literary currents and representative writings of the 20th century. *Prerequisite:* EALC 306. Instruction Mode: Lecture Grading Option: Letter

EALC 505 Introduction to East Asian Languages and Cultures
Units: 4 Max Units: 12 Terms Offered: FaSp An in-depth introduction to East Asian studies. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

EALC 506 Selections from Classical Chinese Literature
Units: 4 Writings of the important periods and genres of Chinese literary history. *Prerequisite:* EALC 406. Instruction Mode: Lecture Grading Option: Letter

EALC 507 East Asia in Cross-Cultural Theories
Units: 4 Max Units: 12 Terms Offered: FaSp Introduction to major theoretical paradigms particularly relevant to the study of East Asian cultures. Seminal Western theoretical texts with studies on East Asia. Instruction Mode: Lecture Grading Option: Letter

EALC 509 Transnational Korean Cinema
Units: 4 Max Units: 12 Terms Offered: FaSp Korean cinema since the early 20th century, focusing on transnational production, circulation and consumption. Instruction Mode: Lecture Grading Option: Letter

EALC 510 Contemporary Japanese Cinema
Units: 4 Max Units: 12 Terms Offered: FaSp Japanese cinema since the 1980s focusing on the works by filmmakers. Instruction Mode: Lecture Grading Option: Letter

EALC 512 Japanese Literature and Film
Units: 4 Terms Offered: FaSp Relationship between Japanese literature and film, focusing on the transition from literary text to film text. Open to graduate students only. Instruction Mode: Lecture Grading Option: Letter

EALC 515 Classical Japanese Poetics
Units: 4 Max Units: 12 Terms Offered: FaSp An analysis of major texts of the Japanese literary tradition from the 8th to the 16th century. Instruction Mode: Lecture Grading Option: Letter

EALC 520 Modern Japanese Writers
Units: 4 Selections illustrative of major literary trends and literary works since the Meiji Restoration. *Prerequisite:* EALC 422. Instruction Mode: Lecture Grading Option: Letter

EALC 522 Classical Japanese Writers
Units: 4 Writings representative of important periods and genres of Japanese literary history up to the Meiji Restoration. *Prerequisite:* EALC 426. Instruction Mode: Lecture Grading Option: Letter

EALC 525 Local/Global Asia: Tourism, Travel, and Modernity
Units: 4 Terms Offered: FaSp Explores how tourism and travel have shaped the experience of modernity in Asia. Readings are drawn from anthropology, history, cultural studies and geography. *Recommended Preparation:* Intended for graduate students with previous training in cultural studies and/or humanistic social science research methods and theory Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

EALC 528 Ecocriticism and the Environmental Humanities in East Asia
Units: 4 Max Units: 12 Terms Offered: FaSp Examines literature and the environment in Japan and comparatively, including theories and approaches developed in the fields of ecocriticism, film studies and the environmental humanities. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Letter

EALC 530 Race, Ethnicity and Multiculturalism in East Asia
Units: 4 Max Units: 12 Terms Offered: FaSp Examination of scholarship and cultural production on issues and theories of race, ethnicity and multiculturalism in East Asia (China, Japan, Korea and Southeast Asia). Instruction Mode: Lecture Grading Option: Letter

EALC 531 Proseminar in Chinese Cultural History
Units: 4 Max Units: 12 Terms Offered: FaSp Intensive readings in English concerning interpretive issues in the study of Chinese cultural history. Instruction Mode: Lecture Grading Option: Letter

EALC 532 Proseminar in Korean Cultural History
Units: 4 Introduction to Korean cultural and social history through intensive reading of the English-language literature on Korean history and culture. Instruction Mode: Lecture Grading Option: Letter

EALC 533 Proseminar in Japanese Cultural History
Units: 4 Intensive readings, chronologically arranged, in interpretive issues in the study of Japanese cultural history. Readings in English. Instruction Mode: Lecture Grading Option: Letter

EALC 534 Modernity and Cultural Representation in Korea
Units: 4 Max Units: 12 Terms Offered: FaSp In-depth introduction to the cultural history, including emerging trends and new methodologies within modern Korean literary and cultural studies. Instruction Mode: Lecture Grading Option: Letter

EALC 535 Proseminar in Chinese Visual Culture
Units: 4 Max Units: 12 Terms Offered: FaSp Chinese visual culture through the complex interface of art and thought. Examines architectural layout, pictorial representation, decorative motif as part of cultural production that intertwines with intellectual trends. Instruction Mode: Lecture Grading Option: Letter

EALC 536 Studies in Modern Japanese History
Units: 4 (Enroll in HIST 534)

EALC 537 Structure of the Korean Language
Units: 4 Description and theoretical analysis of phonology, morphology and syntax of modern Korean; comprehensive view of the properties of the Korean structure. *Prerequisite:* EALC 470. Instruction Mode: Lecture Grading Option: Letter

EALC 541 Seminar: Japan
Units: 4 Social, economic, political, and cultural problems in modern Japan. Bibliographic and reference materials. *Prerequisite:* HIST 436. Instruction Mode: Lecture Grading Option: Letter

EALC 543 Seminar: Japanese Literature
Units: 4 Readings in original texts in the works of selected major writers; lectures dealing with intellectual and cultural backgrounds of the periods and the authors. *Prerequisite:* EALC 520, EALC 522. Instruction Mode: Lecture Grading Option: Letter

EALC 545 Japanese Literary Criticism and Theory
Units: 4 Max Units: 12 Terms Offered: FaSp Representative theories of literature; history of classical and modern literary criticism. *Prerequisite:* EALC 520 or EALC 522 Instruction Mode: Lecture Grading Option: Letter

EALC 547 Structure of the Japanese Language
Units: 4 Descriptive analysis of phonetic, phonological, and grammatical structure of Japanese. Conducted in English. *Prerequisite:* EALC 470. Instruction Mode: Lecture Grading Option: Letter

EALC 551 Seminar: China
Units: 4 Individual research and seminar reports on selected phases of Chinese traditional civilization. Instruction Mode: Lecture Grading Option: Letter

EALC 553 Seminar: Chinese Literature
Units: 4 Max Units: 12 Terms Offered: FaSp Research in different genres of

Chinese literature, traditional and modern. Instruction Mode: Lecture Grading Option: Letter

EALC 555 Chinese Literary Criticism and Theory
Units: 4 Classical and modern literary theories and criticism; comparisons with literary theory and criticism in the West. Instruction Mode: Lecture Grading Option: Letter

EALC 556 Seminar on Women and the Family in China
Units: 4 An introduction to the current state of research on women and the family in China, and training in feminist analytic approaches for further work in the China field of other areas. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-556

EALC 557 Structure of the Chinese Language
Units: 4 Descriptive analysis of phonology, morphology, and syntax of modern Chinese. Conducted in English. *Prerequisite:* EALC 404. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-557

EALC 558 History of the Chinese Language
Units: 4 Evolution of the Chinese language from the earliest time to the present: lectures and the reading of texts. Conducted in English. *Prerequisite:* EALC 557. Instruction Mode: Lecture Grading Option: Letter

EALC 560 Comparative Syntax of East Asian Languages
Units: 4 Max Units: 12.0 Terms Offered: FaSp Descriptive-comparative study of the Chinese, Japanese and Korean languages with an emphasis on their structures, range of properties, similarities and dissimilarities. *Prerequisite:* EALC 537 or EALC 547 or EALC 557. Instruction Mode: Lecture Grading Option: Letter

EALC 561 Topics and Issues in East Asian Linguistics
Units: 4 Max Units: 12.0 Descriptive and theoretical analysis of the grammars of Chinese, Japanese, and Korean; emphasis on comparative studies of these languages and English. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-561

EALC 562 Teaching of the East Asian Languages
Units: 4 Materials and methods in teaching East Asian languages; application of methods and techniques of foreign/second language teaching to East Asian language teaching. *Prerequisite:* EALC 537 or EALC 547 or EALC 557. Instruction Mode: Lecture Grading Option: Letter

EALC 565 Bibliography and Research Methods in Chinese Studies
Units: 4 An introduction to reference works and research methods in all fields on sinology; works in Chinese, Japanese and Western languages. Instruction Mode: Lecture Grading Option: Letter

EALC 570 Narratives of Desire in Modern Chinese Literature
Units: 4 Terms Offered: FaSp The study of prominent fiction women writers from the first half of the 20th century in English and original translations. Open to graduate students only. *Prerequisite:* EALC 553. Instruction Mode: Lecture Grading Option: Letter

EALC 575 Literary and Artistic Movements in Modern China
Units: 4 Terms Offered: FaSp Introduction to literary and artistic movements in 20th century China. Open to graduate students only. Instruction Mode: Lecture Grading Option: Letter

EALC 580 Readings in East Asian Linguistics
Units: 4 Max Units: 12.0 Terms Offered: FaSp Survey of some representative works in generative grammar since the mid '60s, including those that deal with similar phenomena in the contexts of more recent theoretical frameworks as well as non-generative grammatical works on Chinese, Japanese, and Korean. Instruction Mode: Lecture Grading Option: Letter

EALC 588a Directed Readings
Units: 2 Assigned readings according to individual needs. Instruction Mode: Lecture Grading Option: Letter

EALC 588b Directed Readings
Units: 2 Assigned readings according to individual needs. Instruction Mode: Lecture Grading Option: Letter

EALC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 593 Teaching Practicum for East Asian Studies
Units: 2 Max Units: 04 Terms Offered: FaSp Enhances the teaching experience of teaching assistants in East Asian studies through a collaborative study of relevant pedagogical principles, resources, and techniques. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Special topics in East Asian Languages and Cultures. Instruction Mode: Lecture Grading Option: Letter

EALC 610 Seminar: Buddhism and the Literary Arts in Japan
Units: 4 Seminar on the impact of Buddhism on the literary tradition of medieval Japan. Selected topics. Instruction Mode: Lecture Grading Option: Letter

EALC 620 Seminar in East Asian Linguistics
Units: 4 Max Units: 12.0 Terms Offered: FaSp Detailed theoretical discussions and empirical studies of the issues and development in East Asian linguistics. Instruction Mode: Lecture Grading Option: Letter

EALC 650 Research Seminar in Chinese Documents
Units: 4 An introduction to the different genres of documents for the study of Chinese civilization, and training in their use. Instruction Mode: Lecture Grading Option: Letter

EALC 700 Professionalization Seminar for Advanced Graduate Students
Units: 2 Max Units: 04 Terms Offered: FaSp Familiarizes advanced graduate students with topics relevant to academic work in East Asian humanities, including research planning, dissertation writing, publishing, and conference presentation. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

East Asian Studies

EASC 150gp East Asian Societies
Units: 4 Terms Offered: FaSp Main patterns of change in modern China, Japan, and Korea; historical framework and the insights of geography, economics, political science, and other disciplines. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EASC 160gmp China and the World
Units: 4 Terms Offered: FaSp Advanced-level introduction to China and its relations with the wider world in historic and contemporary perspective. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EASC 360 Global East Asia
Units: 4 Max Units: 12 Terms Offered: Sp Maymester Study Abroad Program to China or Japan with a focus on globalization. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC 361

EASC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

EASC 495 Honors Thesis
Units: 4 Terms Offered: FaSpSm Writing the honors thesis: for East Asian Area Studies Honors majors. Registration Restriction: Open only to East Asian Area Studies majors Instruction Mode: Lecture Grading Option: Letter

EASC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Interdisciplinary examination of various areas of East Asian studies. Instruction Mode: Lecture Grading Option: Letter

EASC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EASC 591 Interdisciplinary Seminar
Units: 4 Max Units: 8.0 Terms Offered: Irregular An examination of a broad topic in the study of China, Korea, or Japan. Guest speakers, student reports, papers. Readings in English and the appropriate Asian language(s). Instruction Mode: Lecture Grading Option: Letter

EASC 592 Proseminar on Issues and Trends in Contemporary East Asia
Units: 4, 2 years Terms Offered: Fa Introduction to graduate level study of policy issues and major trends in contemporary China, Japan, and Korea; contributions of various academic disciplines. Instruction Mode: Lecture Grading Option: Letter

EASC 593x Understanding East Asia: An Introduction for Professional School Students
Units: 3 Terms Offered: Sp Historical, social, political and cultural survey of China, Japan and Korea with focus on topics of particular relevance for business practitioners and other professionals. Instruction Mode: Lecture Grading Option: Letter

EASC 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EASC 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EASC 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EASC 595 Research Methods and Prospectus Writing
Units: 2 Terms Offered: Sp Research skills to launch a specific research project, usually a master's thesis. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

EASC 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

EASC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Special topics in East Asian Area Studies. Instruction Mode: Lecture Grading Option: Letter

Economics

ECON 101 Free People, Free Thought and Free Markets
Units: 4 Terms Offered: FaSpSm (Enroll in PHIL 101)

ECON 203g Principles of Microeconomics
Units: 4 Terms Offered: FaSp Behavior of firms and consumers, functions of the price system, competition and monopoly, labor markets, poverty, government regulation, international trade, and the environment. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

ECON 205g Principles of Macroeconomics
Units: 4 Terms Offered: FaSp Unemployment, inflation and output determination and links. Effects of government taxation and spending on growth, investment, saving, consumption, and trade. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

ECON 238xg Political Economy and Social Issues
Units: 4 Terms Offered: Fa Contending politico-economic perspectives in modern Western thought: conservatism, liberalism, radicalism, and their relevance for contemporary policy issues including government and markets, class, race, gender, poverty and inequality. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

ECON 303 Intermediate Microeconomic Theory
Units: 4 Terms Offered: FaSp Decision-making by business firms, consumer preferences and behavior, uncertainty, competition, monopoly, labor and resource markets, efficient resource allocation, externalities, and government policy. *Prerequisite:* ECON 203; MATH 118gx or MATH 125; *Corequisite:* ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 304 Mathematical Microeconomics
Units: 4 Terms Offered: FaSp Explores the theoretical framework of how economic agents make choices and what the implications of these choices are; presentation and application of analytical tools. *Prerequisite:* ECON 203g and (MATH 118gx or MATH 125g) Instruction Mode: Lecture Grading Option: Letter

ECON 305 Intermediate Macroeconomic Theory
Units: 4 Terms Offered: FaSp The determinants of aggregate income, employment, and inflation; economic fluctuations; fiscal and monetary policy; financial markets; the national debt. *Prerequisite:* ECON 203 and ECON 205; MATH 118gx or MATH 125. Instruction Mode: Lecture Grading Option: Letter

ECON 317 Introduction to Statistics for Economists
Units: 4 Terms Offered: FaSp Introduction to statistical methods appropriate for analyzing economic data: probability theory, random variables and probability distributions, sampling, estimation, statistical inference. *Prerequisite:* MATH 118gx or MATH 125. Instruction Mode: Lecture Grading Option: Letter

ECON 318 Introduction to Econometrics
Units: 4 Terms Offered: FaSp Application of statistical methods to economic data: estimating economic relationships using regression analysis, testing hypotheses involving economic behavior, forecasting economic variables. *Prerequisite:* ECON 317 Duplicates Credit in former ECON 414 Instruction Mode: Lecture Grading Option: Letter

ECON 319 Advanced Introduction to Econometrics
Units: 4 Terms Offered: FaSp Understanding, evaluating and interpreting econometric papers that use linear regression methods and an emphasis on matrix algebra, calculus and mathematical proofs. *Prerequisite:* ECON 317 and MATH 125g and MATH 225 Duplicates Credit in ECON 318 Instruction Mode: Lecture Grading Option: Letter

ECON 322 Economic History and Modernization of the Middle East
Units: 4 Terms Offered: Irregular Economic history of the Middle East from the rise of Islam to the modern era. Roles of law, religion. Processes of institutional transformation, stagnation, modernization. *Prerequisite:* ECON 203. Instruction Mode: Lecture Grading Option: Letter

ECON 330 The Political Economy of Institutions
Units: 4 Social functions served by the rules, laws, regulations, and customs that constrain human activity. Processes

whereby such institutions adapt, or fail to adapt, to changing circumstances. *Prerequisite:* ECON 203. Instruction Mode: Lecture Grading Option: Letter

ECON 332 Contracts, Organizations and Institutions
Units: 4 Contract law and economic organization, determinants of firm boundaries, transaction cost economics, agency theory, incomplete contracting, business strategy, bureaucracy, institutional environment, politics and property rights. *Prerequisite:* ECON 203. Instruction Mode: Lecture Grading Option: Letter

ECON 339 Philosophy of Economics
Units: 4 (Enroll in PHIL 339)

ECON 340 Economics of Less Developed Countries
Units: 4 Causes of economic underdevelopment: historical, institutional, structural, ideological, technological, cultural. Patterns and theories of development. Role of government, international trade, and education in economic growth. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 342 Economic Development of the Middle East
Units: 4 Terms Offered: FaSp Contemporary economic problems of the Middle East: comparative and historical perspectives on issues of institutions, investment, oil, trade, migration, finance, inequality, labor and capital markets. *Prerequisite:* ECON 203; *Recommended Preparation:* ECON 205 and ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 343 Economic Development of East Asia
Units: 4 Contemporary economic problems of East Asian countries: management, labor, technology, trade, investment. Determinants of their high growth rates in the late 20th century. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 344 Economic Development of Sub-Saharan Africa
Units: 4 Terms Offered: FaSpSm Contemporary economic problems of sub-Saharan African economies: policies and endowments. Focus on issues of poverty, agriculture, health, macroeconomy and political economy. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 346 Economics of Transition and Development: China
Units: 4 Terms Offered: FaSpSm A focus on the Chinese economy, its reform and transition to a market economy, its relation with East Asian countries and integration into the world economy. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 348g Current Problems of the American Economy
Units: 4 Terms Offered: Fa A comprehensive investigation of problems stemming from changing composition of the work force, urban decline, new technologies, inequalities, ethnic relations, government deficits. Prospects for continued growth. *Prerequisite:* ECON 203 or ECON 205. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

ECON 350 The World Economy
Units: 4 Terms Offered: SpSm International cooperation and conflict in the world economy. Global economic problems of growth and development, trade and finance, migration, economic stability, and the environment. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 351x Microeconomics for Business
Units: 4 Terms Offered: FaSpSm Development and business applications of: theory of the firm; theory of the consumer; intertemporal decisions; decisions under risk; market failures; industrial and enterprise structure. Not for major credit for: economics, economics / mathematics, social sciences (economics) majors. *Prerequisite:* MATH 118 or MATH 125 or MATH 126 or MATH 226; *Corequisite:* ECON 352x Duplicates Credit in former ECON 251. Instruction Mode: Lecture Grading Option: Letter

ECON 352x Macroeconomics for Business
Units: 4 Terms Offered: FaSpSm Theoretical development and significance to business and markets of economic growth; inflation; unemployment; monetary and fiscal policy; business cycles; savings and investment; exchange rates. *Recommended Preparation:* introductory economics course, high school math, and algebra. *Corequisite:* ECON 351x Duplicates Credit in former ECON 252x. Instruction Mode: Lecture Grading Option: Letter

ECON 357 Money, Credit, and Banking
Units: 4 The money, bond, stock, and other financial markets; portfolio choice; determinants of asset prices and interest rates; inflation; interactions between financial markets and government policies. *Prerequisite:* ECON 203 and ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 360 Public Finance
Units: 4 Role of the government; income and corporate taxation; direct versus indirect taxation; optimal tax structure; public goods; public sector pricing; public debt and macroeconomic stability. *Prerequisite:* ECON 203 and ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 361 Understanding Financial Crises
Units: 4 Terms Offered: FaSp Key facts and basic mechanisms concerning financial crises and related topics (bank runs, sovereign default decision, currency collapse). *Prerequisite:* ECON 203g and ECON 205g Instruction Mode: Lecture Grading Option: Letter

ECON 366 Urban Economics
Units: 4 Urban trends and problems, including changing urban form and function, urban public finance, housing, renewal, poverty, race, transportation, and the environment. *Prerequisite:* ECON 203 and ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 369 Economics of European Integration
Units: 4 Terms Offered: FaSp The challenges of policy coordination among independent political entities, starting from the aftermath of German unification (and the ramifications it had in a fixed exchange rate system) to the recent national debt crisis that followed the great recession. *Prerequisite:* ECON 203g and ECON 205g Instruction Mode: Lecture Grading Option: Letter

ECON 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ECON 395 Economic Policy Issues
Units: 4 Selected policy dilemmas, including welfare reform, urban renewal, government budget deficits, regulation and deregulation, environmental problems, immigration, and global development. Lectures by leading authorities and weekly discussion sessions. *Prerequisite:* ECON 203 and ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 401 Mathematical Methods in Economics
Units: 4 Terms Offered: Fa Introduction to quantitative methods for analyzing economic equilibria; comparative statics and dynamics. Utility theory, consumer behavior, and profit maximization. Model formulation in micro and macroeconomics. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 404 Games and Economics
Units: 4 Analysis of strategic economic interactions. Topics include bargaining, insurance, patents, voting, environmental depletion, strategic trade, learning, reputation, strikes, corporate takeovers, and the provision of public goods. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 405 Neuroeconomics
Units: 4 Introduction to the methodology used in experimental neuroeconomics and discussion of neural correlates of decision-making. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 410 Economics of Health and Healthcare
Units: 4 Terms Offered: FaSp Detailed discussion of economic models, including models of health, addiction, demand for healthcare and demand for insurance. *Prerequisite:* ECON 303 Instruction Mode: Lecture Grading Option: Letter

ECON 415 Behavioral Economics
Units: 4 Examination of the traditional and behavioral theories of decision-making and the state of the art in the field. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 419 Advanced Econometrics
Units: 4 Terms Offered: FaSpSm Analysis of binary dependent variable models, panel data analysis, program evaluations, IV analysis, basics of time series and forecasting. *Prerequisite:* (ECON 303 and ECON 305 and ECON 317 and ECON 318) and (MATH 125g or MATH 126 or

MATH 225 or MATH 226) Instruction Mode: Lecture Grading Option: Letter

ECON 420 Experimental Economics
Units: 4 Examination of economic theories and patterns of behavior useful in building new theories. *Prerequisite:* ECON 303; *Recommended Preparation:* ECON 317. Instruction Mode: Lecture Grading Option: Letter

ECON 432 Economics of Happiness
Units: 4 What is happiness? How does it vary by socio-economic status and over the life cycle? This course will develop insight into the nature and determinants of subjective well-being. *Prerequisite:* ECON 303; *Recommended Preparation:* ECON 305. Instruction Mode: Lecture Grading Option: Letter

ECON 433 Empirical Economics Research
Units: 4 Terms Offered: FaSp Analysis of economic variables; investigation of empirical economics to estimate or test for relationships using various forms of data. *Prerequisite:* ECON 303, ECON 305, ECON 317 and ECON 318. Instruction Mode: Lecture Grading Option: Letter

ECON 434 Economic Analysis of Law
Units: 4 Common law and property; rationing of justice, resource allocation between prevention and enforcement; division of decision making between public and private sectors. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 450 International Trade
Units: 4 Determinants and economic consequences of international trade patterns; effects of trade restrictions and trading blocs; trade negotiations and arrangements. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 451 The Politics of International Trade
Units: 4 (Enroll in IR 430)

ECON 452 International Finance
Units: 4 Consequences of trade deficits; theories of capital and currency markets, exchange rate regimes, and international monetary coordination. *Prerequisite:* ECON 305. Instruction Mode: Lecture Grading Option: Letter

ECON 457 Financial Markets
Units: 4 General equilibrium analysis of economies with financial markets; decision making under uncertainty; methods of risk reduction; portfolio theory and valuation of securities; efficiency of security markets. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 460 Economic Applications of Machine Learning
Units: 4 Terms Offered: FaSp A capstone course that introduces state-of-the-art estimation methods for high-dimensional data. *Prerequisite:* ECON 318 and MATH 225 and CSCI 103L and DSCI 250 *Recommended Preparation:* MATH 226g Instruction Mode: Lecture Grading Option: Letter

ECON 471 Economics of Labor Markets and Human Capital
Units: 4 A human capital interpretation of labor demand and supply; wage determination, differentials, and discrimination; job turnover and occupational mobility; unions and collective bargaining. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 472 Economics of Medical Care
Units: 4 Health as an investment in human capital; analysis of the demand for and supply of health services and manpower; health insurance; cost-effectiveness analysis; market structures and the pricing of medical services. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 474 Economic Consulting and Applied Managerial Economics
Units: 4 Terms Offered: FaSp Economic consulting and managerial economic methods applied in real world problems. Economic methods to analyze issues of intellectual property, environmental damage, trademark infringement, brand value, and consumer demand. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 480 Economics of Industrial Organization
Units: 4 Pricing and resource allocation in imperfectly competitive markets; monopoly regulation, collusion, cartels, mergers and antitrust; patents and development incentives; industry case studies. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 487 Resource and Environmental Economics
Units: 4 Management and extraction of renewable and non-renewable natural resources; environmental externalities and regulation of air, water, and land pollution; market incentives versus direct regulation. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-487

ECON 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Supervised individual research. Instruction Mode: Lecture Grading Option: Letter

ECON 495 Honors Thesis
Units: 4 Individual research supervised by a faculty adviser. Successful completion required for departmental honors degree. Instruction Mode: Lecture Grading Option: Letter

ECON 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in economic theory, history, or policy. Instruction Mode: Lecture Grading Option: Letter

ECON 500 Microeconomic Analysis and Policy
Units: 4 Terms Offered: FaSp Theories of the household and the firm; product and factor markets; perfect and imperfect competition; welfare criteria. Instruction Mode: Lecture Grading Option: Letter

ECON 501 Macroeconomic Analysis and Policy
Units: 4 Terms Offered: FaSp Theories of aggregate economic activity; design and use of macroeconometric models; stabilization and control of inflation, unemployment, and growth. Instruction Mode: Lecture Grading Option: Letter

ECON 502 Mathematical Methods in Dynamic Economics
Units: 4 Terms Offered: SpSm Movement of economic systems over time; differential and difference equations; introduction to the optimal control of economic processes; dynamic programming and optimal strategies; selected applications. *Prerequisite:* ECON 401. Instruction Mode: Lecture Grading Option: Letter

ECON 504 Game Theory with Economic and Financial Applications
Units: 4 Terms Offered: FaSp Students will cover large ground in applying game theory to economic and financial markets and interactions in a diverse set of examples like reputation, herding, bubbles and crashes, auctions, strategic information revelation and information accumulation in markets. We will witness the wide range of applications that is amenable to game theoretical analysis. *Prerequisite:* ECON 303 and ECON 404 and MATH 544L and MATH 547 Instruction Mode: Lecture Grading Option: Letter

ECON 506 Field Experiments
Units: 4 Terms Offered: FaSp Learn to design, analyze and interpret field experiments and understand their practical significance to applied economics, business and policy. Instruction Mode: Lecture Grading Option: Letter

ECON 508 Neurofinance
Units: 4 Terms Offered: FaSp Investigate human behavior in Economics. Use neuroscience as a new lens on financial decision-making; focus on specific topics in behavioral and neuro-finance. *Recommended Preparation:* Intermediate level microeconomic theory and basic calculus Instruction Mode: Lecture Grading Option: Letter

ECON 513 Practice of Econometrics
Units: 4 Terms Offered: FaSpSm Application of econometric tools using standard econometric software packages for microcomputers; empirical applications to selected economic problems of estimation and inference. Instruction Mode: Lecture Grading Option: Letter

ECON 514 Empirical Finance
Units: 4 Terms Offered: FaSp Foundational knowledge of empirical methods in finance on selected topics and econometric methods, including time-series, asset returns and pricing models. *Prerequisite:* ECON 513 Instruction Mode: Lecture Grading Option: Letter

ECON 515 Time Series Analysis
Units: 4 Terms Offered: FaSp Understanding and implementing models commonly used in time series econometrics. Emphasis is placed on intuition and application. Assists students understanding how to use time series data to test hypotheses and serve as an introduction to the ideas and techniques of forecasting. *Corequisite:* ECON 513 Instruction Mode: Lecture Grading Option: Letter

ECON 521 Open Economy Macroeconomics
Units: 4 Terms Offered: FaSp The balance of payments, macroeconomic policy in an open economy, exchange rate determination, exchange rate systems, currency crises, international financial

arrangements and monetary history. *Prerequisite:* ECON 501 Instruction Mode: Lecture Grading Option: Letter

ECON 523 Economic History and Development
Units: 4 Historical trends in developed and developing societies in various aspects of modernization such as human resources, capital, technology, resource allocation, income distribution, international relations. Instruction Mode: Lecture Grading Option: Letter

ECON 527 Theory of Value: Classical Origins and Neoclassical Critique
Units: 4 Terms Offered: FaSpSm Classical economic theory; its precursors, main contributors, extensions and critics; focus upon the writings and ideas of Smith, Say, Malthus, Ricardo, Mill and Marx. Instruction Mode: Lecture Grading Option: Letter

ECON 533 Capstone Research Seminar
Units: 2 Terms Offered: FaSp Provides Masters students with a centerpiece of their graduate experience whereby they are able to experience first-hand turning the theory of their studies into practice under the guidance of an experienced faculty member. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 537 Contracts, Organizations and Institutions
Units: 4 Information, property rights, bargaining, transaction costs, incentives, free-riding and contracting in organizations; the nature of cooperation; bureaucracies. Instruction Mode: Lecture Grading Option: Letter

ECON 538 Values and Social Analysis
Units: 4 Factors that make values an essential feature of human society; how values develop, change, and are abandoned; role of values in economic development. Instruction Mode: Lecture Grading Option: Letter

ECON 541 Economic Development
Units: 4 Development, underdevelopment and the problems thereof; agriculture, industry, trade, population, human capital, capital formation; structural, technological, environmental and institutional changes; political economy of the state. Instruction Mode: Lecture Grading Option: Letter

ECON 550 Applied Trade Policy
Units: 4 Terms Offered: FaSp Introduction and exploration of quantitative methods and data sources used for applied trade policy analysis. *Prerequisite:* ECON 303 *Corequisite:* ECON 500 Instruction Mode: Lecture Grading Option: Letter

ECON 555 Topics in Asset Pricing Theory
Units: 4 Terms Offered: FaSp How do investors evaluate risks? With what information? How do they form their beliefs? Via empirical evidence and theoretical works, this course addresses these questions. *Recommended Preparation:* ECON 508 and ECON 514 and ECON 606 Instruction Mode: Lecture Grading Option: Letter

ECON 564 Introduction to Market Design
Units: 4 Terms Offered: FaSp Introduction to market design; combined use of economic theory, experiments and empirical analysis; analyze and engineer market rules and institutions. Instruction Mode: Lecture Grading Option: Letter

ECON 570 Big Data Econometrics
Units: 4 Terms Offered: FaSp Introduction to the theory and practice of causal econometrics in modern settings of large-scale data. Major algorithms from machine learning focused on methodology and applications. *Corequisite:* ECON 513 Instruction Mode: Lecture Grading Option: Letter

ECON 572 Economics and International Health
Units: 4 Terms Offered: FaSp Apply microeconomics to explore public health issues throughout the world, with an emphasis on developing countries. Instruction Mode: Lecture Grading Option: Letter

ECON 573 Applied Program Evaluation
Units: 4.0 Terms Offered: FaSp Become equipped with a toolkit of common econometric methods that can be used to assess the causal effect of a policy. *Prerequisite:* ECON 513 *Recommended Preparation:* Familiarity with programming in R Instruction Mode: Lecture, Lab Grading Option: Letter

ECON 580 Antitrust Economics and Competition Policy
Units: 4 Terms Offered: FaSp Efficiency, market failure, government regulation, some basics for antitrust economics, competition policy analysis and collusion and agreements among competitors. *Prerequisite:* ECON 500 or ECON 513. Instruction Mode: Lecture Grading Option: Letter

ECON 584 Economic Consulting and Applied Econometrics
Units: 4 Terms Offered: FaSp Economic methods to analyze issues of intellectual property, environmental damage, trademark infringement, brand value and consumer demand, using an applied econometric approach. *Corequisite:* ECON 513 Instruction Mode: Lecture Grading Option: Letter

ECON 587 Urban Economics
Units: 4.0 Terms Offered: FaSp The role of designing incentives to reduce negative urban externalities and the interplay between spatial Big Data and testing urban economics hypotheses. *Recommended Preparation:* Statistics or Econometrics *Corequisite:* ECON 500 Instruction Mode: Lecture Grading Option: Letter

ECON 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 593x Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Registration Restriction: Open only to doctoral students in Economics. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 595 Research Seminar in Spatial Economics and Data Sciences
Units: 4 Terms Offered: FaSp Original spatial analysis research; integrate economics, data creation, and spatial analytics. Instruction Mode: Lecture Grading Option: Letter

ECON 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in economics as developed by the instructor. Instruction Mode: Lecture Grading Option: Letter

ECON 600 Economics of Choice
Units: 4 Reviews the normative and positive theories of choice drawing upon recent theoretical and empirical work in cognitive and evolutionary psychology, artificial intelligence, linguistics and economics. *Prerequisite:* ECON 500. Instruction Mode: Lecture Grading Option: Letter

ECON 601 Microeconomic Theory I
Units: 4 Terms Offered: Fa Optimization of the consumer and the firm; duality and imputed value; perfect and imperfect competition in product and factor markets. Instruction Mode: Lecture Grading Option: Letter

ECON 602 Macroeconomic Theory I
Units: 4 Terms Offered: Fa Aggregate demand, supply and government policy; theories of economic growth and business cycles; static and dynamic implications of government policies. Duplicates Credit in former ECON 505 Instruction Mode: Lecture Grading Option: Letter

ECON 603 Microeconomic Theory II
Units: 4 Terms Offered: Sp General equilibrium theory; existence, uniqueness, and stability; welfare economics; social choice; dynamic models and uncertainty; special topics. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 604 Game Theory
Units: 4 Strategies and equilibrium concepts; dynamic and repeated games; incomplete information and learning in

games. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 605 Macroeconomic Theory II
Units: 4 Terms Offered: Sp Macroeconomic theory based on the concepts of optimal growth and intertemporal equilibrium; overlapping generations models; recent developments in macroeconomic theory. *Prerequisite:* ECON 601 and ECON 602. Instruction Mode: Lecture Grading Option: Letter

ECON 606 Behavioral Theories of Decision-Making
Units: 4 Examination of behavioral theories used to describe and predict choices made in both an individual decision-making setting and strategic environments. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 607 Topics in Dynamic Optimization
Units: 4 Theory and numerical methods for dynamic optimization and control; selected applications in economic analysis and econometrics. *Prerequisite:* ECON 502 and knowledge of FORTRAN. Instruction Mode: Lecture Grading Option: Letter

ECON 608 Advanced Neuroeconomics
Units: 4 Terms Offered: FaSp Advanced methodology of neuroeconomics including neural activity, memory, value and reward systems, emotions and risk. Instruction Mode: Lecture Grading Option: Letter

ECON 609 Econometric Methods
Units: 4 Terms Offered: FaSp Review of statistical methods of estimation and inference, linear regression with multicollinearity and serial correlation; multivariate regression and simultaneous equations. *Prerequisite:* ECON 611. Duplicates Credit in former ECON 511. Instruction Mode: Lecture Grading Option: Letter

ECON 610 Quantitative Analysis in Macroeconomics
Units: 4 Terms Offered: Sp Dynamic economics, applied general equilibrium models, computational and calibration tools, discrete-state dynamic programming, log-linearization of Euler equations. *Prerequisite:* ECON 602, ECON 605. Instruction Mode: Lecture Grading Option: Letter

ECON 611 Probability and Statistics for Economists
Units: 4 Terms Offered: Fa Introduction to probability theory and statistical inference to prepare students for graduate courses in econometrics and economic theory; probability, random variables, distributions, estimation, testing, asymptotics. Instruction Mode: Lecture Grading Option: Letter

ECON 612 Econometric Theory
Units: 4 Inference and prediction, generalized and restricted least squares, specification analysis, multivariate and seemingly unrelated regressions, simultaneous equations techniques, dynamic models, instrumental variable estimation. *Prerequisite:* ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 613 Economic and Financial Time Series I
Units: 4 Terms Offered: Fa Simultaneous equation models, dynamic structural econometric models, vector autoregressions, causality, forecasting, univariate and multivariate nonstationary time series, tests for unit roots, cointegration, autoregressive conditional heteroscedasticity models, time series models with changes in regime. *Prerequisite:* ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 614 Economic and Financial Time Series II
Units: 4 Terms Offered: Sp Stock returns, predictability and volatility, random walk and variance-bounds tests, estimation of capital asset, multifactor, and derivative pricing models, term structure of interest rates. *Prerequisite:* ECON 604. Instruction Mode: Lecture Grading Option: Letter

ECON 615 Applied Econometrics
Units: 4 Terms Offered: Fa Use of quantitative models to describe and forecast economic activity; estimation and application of such models to selected policy problems. *Prerequisite:* ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 616 Experimental Economics
Units: 4 Laboratory methods for testing economic theory; experimental comparison of alternative market and non-market institutions; identification of behavioral responses to alternative regulations. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 620aL Experimental Methods I
Units: 4 Terms Offered: FaSp Experimental methods of and design of computer-based experiments. Use of standard software for data collection in individual decision-making experiments and games. *Prerequisite:* ECON 601 *Recommended Preparation:* ECON 616 Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ECON 620bL Experimental Methods II
Units: 4 Terms Offered: FaSp Experimental methods relying on non-choice data. Design methods of experiments that record information in decision-making and physiological data of emotions. *Prerequisite:* ECON 620aL and ECON 601 *Recommended Preparation:* ECON 616 Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ECON 625 Economic Analysis of Social Networks
Units: 4 Terms Offered: FaSp Mathematical tools for the study of social and economic networks. *Prerequisite:* ECON 609 *Recommended Preparation:* ECON 615 Instruction Mode: Lecture Grading Option: Letter

ECON 634 Political Economy of Institutions
Units: 4 The functions of laws, rules, customs, conventions, and other restrictions on economic and social activity. Theories of institutional evolution. *Prerequisite:* ECON 500 or ECON 601. Duplicates Credit in former ECON 534. Instruction Mode: Lecture Grading Option: Letter

ECON 636 Health Economics I
Units: 4 Terms Offered: Fa Techniques of microeconometric analysis to inform health policy. Topics include: demand for health, medical care, and insurance, risk selection, medical innovation. *Recommended Preparation:* ECON 601, ECON 611 Duplicates Credit in former PMEP 534 Instruction Mode: Lecture Grading Option: Letter Crosslisted as PMEP 534

ECON 639 Contemporary Economic Policy: Theory and Practice
Units: 4 History and analysis of the fundamental continuing policy issues: recession, inflation, public debt, regulation, international competition, energy resources and environmental issues, welfare and income distribution. *Prerequisite:* ECON 500 and ECON 501. Instruction Mode: Lecture Grading Option: Letter

ECON 641 Empirical Analysis of Economic Development
Units: 4 Terms Offered: FaSp Theory and empirics of the sources of and barriers to economic development and the micro underpinnings of macroeconomic dynamics of growth, inequality, and productivity. *Prerequisite:* ECON 601, ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 642 Poverty, Human Resources and Economic Development
Units: 4 Terms Offered: FaSpSm Household production models and intra-household models of behavior and their empirical implementation, focus on poverty, human resource investments and their interaction with public policies. *Prerequisite:* ECON 501, ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 644 Economic Development Programming and Policy Planning
Units: 4 Model construction and application to policy and planning: open economy macroeconomics, trade and investment, institutions, technology, income inequality, environment, policy reforms, political economy. *Prerequisite:* ECON 501 or ECON 602; ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 645 Economic Growth
Units: 4 Terms Offered: Fa Surveys theoretical and empirical developments in growth macroeconomics. To equip students to undertake frontier research and policy work to reduce global income inequality. *Prerequisite:* ECON 602. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

ECON 650 International Trade Theory
Units: 4 General equilibrium theory applied to theory and practice of commercial policy, economic growth, and trade. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 651 International Monetary Theory
Units: 4 Terms Offered: FaSp Balance of payments concepts and measures; price theory and the foreign exchange market; international monetary systems; adjustment mechanisms; speculation and official intervention. *Prerequisite:* ECON 601 Instruction Mode: Lecture Grading Option: Letter

ECON 652 Economics of Financial Markets II
Units: 4 Terms Offered: Sp Financial market equilibrium and partial equilibrium asset pricing in discrete and continuous

time; properties of equilibria with and without complete markets; theory of option prices; Black-Scholes pricing formula; term structure of interest rates; hedging strategies and managing market risk using options, futures and swaps; hedging exchange-rates risks. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 653 Empirical International Economics
Units: 4 Terms Offered: FaSp Empirical treatment of advanced topics in international finance including the determination of real and nominal exchange rates; stabilization policies in developing currencies and currency crisis models. Econometric methods in analyzing foreign exchange data and in forecasting. *Recommended Preparation:* ECON 625, ECON 651 Instruction Mode: Lecture Grading Option: Letter

ECON 659 Economics of Financial Markets I
Units: 4 Terms Offered: Fa Equilibrium model of finance economy; absence of arbitrage; complete and incomplete markets; asset pricing theory; representative agent pricing. Capital Asset Pricing Model, martingale property of security prices. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 661 Topics in Macroeconomics
Units: 4 Terms Offered: FaSp Current areas of research in macroeconomics: Structural Change; Inequality and Macroeconomics. *Prerequisite:* ECON 602 and ECON 605 Instruction Mode: Lecture Grading Option: Letter

ECON 663 Financial and Monetary Macroeconomics
Units: 4 Terms Offered: FaSp Macroeconomic models of financing and nominal rigidities. Focuses on the ways through which the financial system or financing constraints can affect macroeconomic fluctuations. *Prerequisite:* ECON 601 and ECON 602 and ECON 605 and ECON 611 Instruction Mode: Lecture Grading Option: Letter

ECON 671 Economics of Labor and Human Capital
Units: 4 A human capital interpretation of labor demand and supply; wage determination, differentials, and discrimination; job turnover and occupational mobility; unions and collective bargaining. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 673 Program Evaluation
Units: 4 This course first proposes various means of evaluating an economic program. It then applies the tools to specific problems. *Prerequisite:* ECON 500 or ECON 601; ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 680 Industrial Organization
Units: 4 Decision making, economic behavior and organization in firms; types of competition and market structure; property rights, nonprofit decision making. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 681 Economics of Regulated Industries
Units: 4 Theories and methods of government regulation; effects of regulation on various industries; behavior of regulatory agencies. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 687 Urban Economics
Units: 4 Terms Offered: FaSp Economic models will be used to understand the main facts observed in cities in the developed and developing world. Special attention will be paid to empirical hypothesis testing and developing an urban economics research agenda. Students will be exposed to new data sets being collected using smart phones and other novel technologies that have greatly expanded our ability to test relevant hypotheses. Instruction Mode: Lecture Grading Option: Letter

ECON 688 Empirical Industrial Organization
Units: 4 Econometric analysis of industrial organization issues including industry regulation and deregulation, collusions and pricing in differentiated oligopolistic markets, entry and exit, auction mechanisms, contractual relationships. *Prerequisite:* ECON 601, ECON 603; *Recommended Preparation:* ECON 600, ECON 603, ECON 612, ECON 615, ECON 680. Instruction Mode: Lecture Grading Option: Letter

ECON 690 Seminar in Economic Theory
Units: 2 Max Units: 8.0 Terms Offered: FaSp Current research in economic theory presented by faculty, students and outside scholars. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 691 Seminar in Econometrics
Units: 2 Max Units: 8.0 Terms Offered: FaSp Current research in econometrics presented by faculty, students and outside scholars. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 692 Seminar in Economic Development
Units: 2 Max Units: 8.0 Terms Offered: FaSp Current research in international, regional, and urban development economics presented by faculty, students and outside scholars. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 693 Seminar in Applied Economics and Public Policy
Units: 2 Max Units: 8.0 Terms Offered: FaSp Current research in applied microeconomics, macroeconomics and public policy presented by faculty, students and outside scholars. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 694 Seminar in Dynamic Economics
Units: 2 Max Units: 8.0 Terms Offered: FaSp Topics in dynamic economics involving business fluctuations, economic growth and development, micro-economic adjustments and market mechanisms; related quantitative and qualitative methods; empirical research involving economic change. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 695 Internship in Mathematical Finance
Units: 4 Terms Offered: Sm Internship for students in the Mathematical Finance master's program. Practical training in real market environments. Real-world first-hand experience in implementing trading strategies. Application of mathematical finance to real financial markets. Instruction Mode: Lecture Grading Option: Letter

ECON 696 Empirical Microeconomics Seminar
Units: 2 Max Units: 8.0 Terms Offered: FaSp Presentations on current research in empirical microeconomics by outstanding scholars from leading economics departments and faculty at USC. Registration Restriction: Open only to Economics Ph.D. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 700 Research on Frontier Economics
Units: 2 Max Units: 08 Terms Offered: FaSpSm Examination of various frontier research topics of economics through critical discussions of research papers that study the most recent economic research agendas. Instruction Mode: Lecture Grading Option: Letter

ECON 715 Advanced Topics in Econometrics
Units: 4 Time-series methods; aggregation; structural models and methods such as factor analysis and multiple indicator models; various special topics. *Prerequisite:* ECON 612 and ECON 613. Instruction Mode: Lecture Grading Option: Letter

ECON 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Education Counseling

EDCO 030x The Process of Paraprofessional Counseling for Young Adults
Units: 2 Terms Offered: Sp Explores the theoretical processes involved in paraprofessional counseling with specific application to issues faced by young adults. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDCO 324m Asian American Psychology
Units: 4 Terms Offered: Sp Psychological issues of Asian Americans such as cultural identity, intergenerational conflict, stereotypes, interracial dating and marriage, educational achievement, and mental health. Instruction Mode: Lecture Grading Option: Letter

EDCO 503 Ethical and Legal Issues in Counseling
Units: 3 Terms Offered: Sp Examination of current legal, ethical, and other professional issues in the practice of counseling and psychotherapy. *Prerequisite:* EDUC 500. Instruction Mode: Lecture Grading Option: Letter

EDCO 504 Behavior Management in the Classroom
Units: 3 Terms Offered: Sp Analysis of student behavior in school settings. Emphasis is on a problem-solving functional approach to behavioral changes. Instruction Mode: Lecture Grading Option: Letter

EDCO 505 Counseling and Collaborative Consultation in the School Setting
Units: 3 Terms Offered: Sp Theory and practice of collaborative consultations provided by school counselors and school psychologists to improve student achievement and the learning environment. Duplicates Credit in EDUC 540 Instruction Mode: Lecture Grading Option: Letter

EDCO 506 Development, Administration and Evaluation of Pupil Personnel Services
Units: 3 Terms Offered: Fa Develop skills in the evaluation and management of pupil personnel services programs in the public schools for comprehensive support of student learning and achievement. Instruction Mode: Lecture Grading Option: Letter

EDCO 541 Theories in Counseling
Units: 3 Terms Offered: FaSp Theory, research, and practice of psychological counseling. *Corequisite:* EDUC 500. Instruction Mode: Lecture Grading Option: Letter

EDCO 574 School Counseling Practicum
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Supervised practice in school counseling. *Prerequisite:* EDCO 503, EDCO 541. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDCO 575 School Counseling Field Experience
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Supervised field experience in applying knowledge and skills within a K–12 school setting. *Prerequisite:* EDCO 574. Instruction Mode: Lecture Grading Option: Credit/No Credit

Higher and Postsecondary Education

EDHP 500 Foundations of Higher, Adult, and Professional Education
Units: 3 Terms Offered: Fa Contemporary issues in higher, adult, and professional education in the United States; analytic perspectives from various disciplines (history, philosophy, sociology); implications for policy and practice. Instruction Mode: Lecture Grading Option: Letter

EDHP 502 Administration of Higher, Adult, and Professional Education
Units: 3 Terms Offered: Sp Policies and theories for governance and management. Relations between historical and contemporary organizational processes in postsecondary education. Critique and applications of current research. Instruction Mode: Lecture Grading Option: Letter

EDHP 503 Curriculum, Teaching, and Learning in Higher, Adult, and Professional Education
Units: 3 Terms Offered: Sp Curriculum, teaching, and learning strategies for general, vocational, and professional education; planning for lifelong learning; theories, policies, and practices for higher, adult, and professional education. Instruction Mode: Lecture Grading Option: Letter

EDHP 552 The Politics of Difference
Units: 3 Explores strategies for restructuring institutions of higher education to improve student support and achievement among historically marginalized groups. Duplicates Credit in EDUE 560 Instruction Mode: Lecture Grading Option: Letter

EDHP 560 Feminist Theory
Units: 4 Terms Offered: FaSpSm (Enroll in SWMS 560)

EDHP 565 Intervention Strategies in College Student Development
Units: 3 Terms Offered: Sp Exploration of current campus issues such as violence, diversity and academic remediation, and their related intervention strategies (policy-based, programmatic, and counseling-based). Instruction Mode: Lecture Grading Option: Letter

EDHP 580 The Community College
Units: 3 Terms Offered: SpSm The community college movement; history; aims; curriculum; types of administrative organization; teaching procedures; relation to lower and higher institutions; profiles of faculty and students; evaluation. Instruction Mode: Lecture Grading Option: Letter

EDHP 587 Fieldwork in Higher, Adult, and Professional Education
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Structured participation in supervised teaching or administrative activities. Assignments matched with student's goals, training, experience. *Recommended Preparation:* EDHP 563, EDHP 565. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDHP 593a Master's Seminar
Units: 2 Terms Offered: FaSpSm An examination and analysis of research and literature in the student's area of focus. Required for all master's candidates who do not enroll in the Master's Thesis (EDHP 594a, EDHP 594b, EDHP 594z). Instruction Mode: Lecture Grading Option: Credit/No Credit

EDHP 593b Master's Seminar
Units: 2 Terms Offered: FaSpSm An examination and analysis of research and literature in the student's area of focus. Required for all master's candidates who do not enroll in the Master's Thesis (EDHP 594a, EDHP 594b, EDHP 594z). Instruction Mode: Lecture Grading Option: Credit/No Credit

EDHP 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Required for all master's candidates who do not enroll in the Master's Seminar (EDHP 593a, EDHP 593b). Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDHP 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Required for all master's candidates who do not enroll in the Master's Seminar (EDHP 593a, EDHP 593b). Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDHP 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Required for all master's candidates who do not enroll in the Master's Seminar (EDHP 593a, EDHP 593b). Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDHP 657 Leadership and Management in Student Affairs
Units: 3 Terms Offered: Sp Delivery of student services and programs in higher education, organizational behavior, management systems, administrative procedures, and alternative leadership styles. Registration Restriction: Open only to USC Rossier School of Education PASA students Instruction Mode: Lecture Grading Option: Letter

EDHP 679 Legal Issues in the Administration of Higher Education
Units: 3 Terms Offered: Sm Analysis of legal issues related to the administration of higher education; emphasis on relations with students, faculty, staff, alumni, and campus communities. *Prerequisite:* EDHP 500 or appropriate experience. Instruction Mode: Lecture Grading Option: Letter

EDHP 687 Student Development in Higher Education
Units: 3 Terms Offered: Sp Theories of college student development and application of developmental models to program design, interventions, outreach, and research programs. Instruction Mode: Lecture Grading Option: Letter

Educational Policy, Planning and Administration

EDPA 308 Politics and American Education
Units: 4 Terms Offered: FaSp Historical study of political, legislative, judicial decisions that have shaped American education; interaction of educators, courts, legislative bodies; emphasis on in-depth analysis of current issues. Instruction Mode: Lecture Grading Option: Letter

EDPA 612 Qualitative Methods in Educational Research
Units: 3 Terms Offered: SpSm Overview of the assumptions, methods and techniques of qualitative educational research; discussion and application of analytical tools derived from anthropology, sociology, history, and related social sciences. Instruction Mode: Lecture Grading Option: Letter

Educational Psychology and Technology

EDPT 310 Parental Influences on Children's Educational Development
Units: 4 Terms Offered: FaSp Basic principles and theories of child development and learning with emphasis on parent-child, parent-school, and child-school relationships. Instruction Mode: Lecture Grading Option: Letter

EDPT 502 Learning and Individual Differences
Units: 3 Terms Offered: FaSpSm Theory and research in learning, development, and individual differences, and social psychology related to education or training contexts. Instruction Mode: Lecture Grading Option: Letter

EDPT 540 Introduction to Educational Measurement and Evaluation
Units: 3 Terms Offered: FaSp Survey of theories, concepts, and procedures for assessing intellective and non-intellective characteristics and for evaluating individual and program performances. Instruction Mode: Lecture Grading Option: Letter

EDPT 550 Statistical Inference
Units: 3 Terms Offered: FaSpSm Application of statistical techniques in education; emphasis on underlying principles and concepts coupled with selected inferential techniques using desk-top computer software. Instruction Mode: Lecture Grading Option: Letter

EDPT 570 Language and Cultural Diversity in Learning
Units: 3 Terms Offered: Fa Analysis of current research and theory regarding the influences of language and culture on learning and cognition, with a special focus on academic achievement and instructional transactions. Instruction Mode: Lecture Grading Option: Letter

EDPT 576 Technology in Contemporary Education and Training
Units: 3 Terms Offered: FaSp Development and scope of instructional technology and its role in modern educational and training systems; overview of instructional development; innovation and trends in the field. Instruction Mode: Lecture Grading Option: Letter

EDPT 642 Measurement Theory
Units: 3 Terms Offered: Fa Mathematical concepts and psychometric theory underlying test construction and interpretation; emphasis on current research in the area. *Prerequisite:* EDPT 652. Instruction Mode: Lecture Grading Option: Letter

EDPT 652 Multiple Regression
Units: 3 Terms Offered: Sp Applied multiple regression analysis using Stata. *Recommended Preparation:* Introductory Statistics Instruction Mode: Lecture Grading Option: Letter

EDPT 654 Multivariate Statistical Techniques
Units: 3 Terms Offered: FaSpSm Multivariate statistical procedures in the analysis of behavioral inquiries; particular emphasis on multivariate analysis of variance. *Prerequisite:* EDPT 652. Instruction Mode: Lecture Grading Option: Letter

EDPT 655 Advanced Research Methods in Education
Units: 3 Terms Offered: Sp Focuses on principles of research design in education including literature synthesis, formulation of research problem and questions, selection of methodology and integration of research proposal. *Prerequisite:* EDPT 550. Instruction Mode: Lecture Grading Option: Letter

Education

EDUC 140m Mind, Belief and Behavior: Learning in a Diverse World
Units: 4 Terms Offered: FaSpSm Examination of current research about learning and motivation in the context of human diversity. Instruction Mode: Lecture Grading Option: Letter

EDUC 200 Introduction to the Teaching Profession
Units: 2 Identification and discussion of current issues and trends in schools and the teaching profession. Introduction to the development of a professional portfolio. Instruction Mode: Lecture Grading Option: Letter

EDUC 204L Sociological Foundations of Education
Units: 3 Terms Offered: FaSp Introduction to the sociological foundations of education through focused study of schools, teacher-student relations, and classroom processes as they relate to social stratification. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EDUC 205L Child Development and Learning in Schools
Units: 3 Terms Offered: FaSp Introduction to processes of development and learning in school aged children, with an emphasis on school contexts. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EDUC 392 Undergraduate Research Methods
Units: 2 Terms Offered: Sp (Enroll in AMST 392)

EDUC 409 Foundations of Language Education
Units: 3 Terms Offered: FaSp Overview of research and current theories in bilingual, second language, and foreign language instruction. Instruction Mode: Lecture Grading Option: Letter

EDUC 410 The Teaching of Reading and Writing
Units: 4 Terms Offered: FaSp Analysis of reading/writing processes; methods/materials for teaching literacy in elementary schools; issues in biliteracy and instruction; classroom observation/participation in small-group instruction. Admission to the major. Instruction Mode: Lecture Grading Option: Letter

EDUC 411 Sociopolitical and Raciolinguistic Contexts of Language
Units: 4 Terms Offered: FaSp Systematic study of effective policies and practices of multilingual and multicultural education based upon raciolinguistic and sociopolitical understandings of second language learning. Instruction Mode: Lecture, Lab Grading Option: Letter

EDUC 412 Linguistically and Culturally Sustaining Teaching
Units: 4 Terms Offered: FaSp Introduction to critical multilingual pedagogy for equitable, inclusive and effective language learning lesson design. Instruction Mode: Lecture, Lab Grading Option: Letter

EDUC 413 Methods and Models of Instruction for Language Minority Students
Units: 2 Terms Offered: FaSp Curriculum materials and teaching strategies for use in successfully teaching language minority students in both elementary and secondary schools. Instruction Mode: Lecture Grading Option: Letter

EDUC 415 Content to Pedagogy: Mathematics in the Elementary School
Units: 2 Terms Offered: FaSp Bridging college level mathematics content and elementary school curricula to design developmentally appropriate mathematics instruction. *Concurrent Enrollment: Concurrent enrollment:* EDUC 424a or EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 416 Content to Pedagogy: Art in the Elementary School
Units: 2 Terms Offered: Sp Transformation of content in art to curriculum in the elementary classroom. *Corequisite:* EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 417 Content to Pedagogy: From Science Content to Science Curriculum
Units: 2 Terms Offered: FaSp An overview of the goals and content of science instruction at the elementary level coupled with appropriate science curricular and pedagogical models. *Concurrent Enrollment: Concurrent enrollment:* EDUC 424a or EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 418 Content to Pedagogy: From Social Sciences to Social Studies
Units: 2 Terms Offered: FaSp Content, concepts, methods, and values for integrating the social sciences in the social studies. *Concurrent Enrollment: Concurrent enrollment:* EDUC 424a or EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 419 Content to Pedagogy: P.E. for Elementary Students
Units: 2 Terms Offered: Sp Transformation of content in Physical Education to curriculum in the elementary classroom. *Corequisite:* EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 420 Technology, Media and Culturally Sustaining Education
Units: 4 Terms Offered: FaSp Select, create and use multimedia and technology to plan for more effective and equitable learning in schools, communities and organizations. *Recommended Preparation:* EDUC 411 Duplicates Credit in EDUC 435 Instruction Mode: Lecture Grading Option: Letter

EDUC 421 Global Issues: Impact on Educational Outcomes
Units: 4 Terms Offered: FaSpSm Situates U.S. education within the global context and examines the impact of global issues on national and international schooling in the 21st Century. Instruction Mode: Lecture Grading Option: Letter

EDUC 422 Education for Social Change
Units: 4 Terms Offered: FaSp Examines access to schooling and quality education across student difference indexed by race, class and gender. Promotes understanding of U.S. public schooling for equitable outcomes. Duplicates Credit in EDUC 435 Instruction Mode: Lecture Grading Option: Letter

EDUC 423 Unrealized Promise and Hope for Education in 21st Century
Units: 4 Terms Offered: FaSpSm Investigates the promise of education and often-failed outcomes though the lens of literacy/language. Focuses on literacy to promote student agency for successful educational attainment. *Recommended Preparation:* Freshman Seminar on a topic in education Instruction Mode: Lecture Grading Option: Letter

EDUC 424a Curriculum and Methods in Elementary Education
Units: 2 Terms Offered: FaSp Curriculum materials and teaching procedures in the elementary school. *Concurrent Enrollment:* concurrent enrollment: EDUC 425a. Instruction Mode: Lecture Grading Option: Letter

EDUC 424b Curriculum and Methods in Elementary Education
Units: 2 Terms Offered: FaSp Curriculum materials and teaching procedures in the elementary school. *Concurrent Enrollment:* concurrent enrollment: EDUC 425b. Instruction Mode: Lecture Grading Option: Letter

EDUC 425a Observation and Directed Teaching in Elementary Schools
Units: 3 Terms Offered: FaSp Observation and experience in teaching under supervision in elementary schools (one semester at the kindergarten-primary level and one semester in the intermediate or upper grades). *Concurrent Enrollment:* Concurrent enrollment: EDUC 424a. Instruction Mode: Lecture Grading Option: Letter

EDUC 425b Observation and Directed Teaching in Elementary Schools
Units: 3 Terms Offered: FaSp Observation and experience in teaching under supervision in elementary schools (one semester at the kindergarten-primary level and one semester in the intermediate or upper grades). *Concurrent Enrollment:* Concurrent enrollment: EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 426 Educational Inquiry
Units: 4 Terms Offered: FaSp Introduction to the skills and knowledge required to be competent consumers and producers of education research. Students will be asked to design an educational study. Instruction Mode: Lecture Grading Option: Letter

EDUC 427 Vectors that Influence Early Childhood Development
Units: 4 Terms Offered: FaSp Investigating early childhood issues from professional perspectives: historian, journalist, premedical, and law. Instruction Mode: Lecture Grading Option: Letter

EDUC 428 The Effects of Curriculum and Institution on Early Childhood
Units: 4 Terms Offered: FaSp The study of research, philosophy, and pedagogy that informs political, parents, community members, schools and their curriculum. Duplicates Credit in EDUC 435 Instruction Mode: Lecture, Lab Grading Option: Letter

EDUC 429 Early Childhood and Contemporary Society
Units: 4 Terms Offered: FaSp Consequences of "corporate world" on developing expectations of young children as consumers and scholars, an emphasis on films, television, and toys that effect intellectual growth. Instruction Mode: Lecture Grading Option: Letter

EDUC 430 Early Childhood: Action Research Focus
Units: 4 Terms Offered: FaSp Selecting an instructional or developmental problem of young children to investigate through an action research design. Instruction Mode: Lecture Grading Option: Letter

EDUC 431 Education Policy in the United States
Units: 4 Terms Offered: Sp Analysis of key issues in education policy. Understanding the policymaking process, including policy design, implementation and analysis. Instruction Mode: Lecture Grading Option: Letter

EDUC 432 Inequality in Education
Units: 4 Terms Offered: Fa Exploration of the role of education in causing or ameliorating opportunity gaps. Social stratification and its effects. Instruction Mode: Lecture Grading Option: Letter

EDUC 433 Elementary Mathematics for Teaching
Units: 4 Terms Offered: FaSpSm Dissection of elementary mathematics curriculum in order to gain the deep understanding of an effective teacher. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

EDUC 434 Secondary Mathematics for Teaching
Units: 4 Terms Offered: FaSpSm Dissect secondary mathematics curriculum to gain a deep understanding needed to be an effective teacher. *Prerequisite:* MATH 226g Instruction Mode: Lecture Grading Option: Letter

EDUC 435 Education and Society
Units: 4 Terms Offered: FaSp Examine relationship between education and society; identify intractable issues denying access to quality education by race, class and gender. Duplicates Credit in EDUC 422, EDUC 420, EDUC 428 Instruction Mode: Lecture Grading Option: Letter

EDUC 436 Applications of Mathematics Curriculum and Pedagogy
Units: 4 Terms Offered: FaSpSm Explore the integration of curriculum, teaching in urban school communities. Instruction Mode: Lecture Grading Option: Letter

EDUC 437 Research in Teaching and Learning Mathematics
Units: 4 Terms Offered: FaSpSm Addressing the basic designs, with emphasis on the characteristics of research, in learning and teaching mathematics education and their impacts on curricula, instruction and learning. Instruction Mode: Lecture Grading Option: Letter

EDUC 438 Truth in Mathematics
Units: 4 Terms Offered: FaSpSm Addresses the needs for mathematical arguments and proofs in learning and teaching mathematics. Instruction Mode: Lecture Grading Option: Letter

EDUC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

EDUC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Seminar in selected topics in education. Specific topics to be determined at the time seminar is offered. Instruction Mode: Lecture Grading Option: Letter

EDUC 500 The Counseling Process
Units: 3 Theoretical foundations, models, values, and assumptions underlying psychological counseling; cross-cultural perspectives, ethical and legal considerations. *Concurrent Enrollment:* Concurrent enrollment: EDUC 507. Duplicates Credit in former EDCO 500. Instruction Mode: Lecture Grading Option: Letter

EDUC 503 Learning and Motivation
Units: 3 Terms Offered: FaSpSm Design and advancement of learning and motivation outcomes in various environments through a systematic examination and application of current research. Instruction Mode: Lecture Grading Option: Letter

EDUC 507 Professional Identity, Law and Ethics for Counselors
Units: 3 History of the field of counseling and professional identity development for counselors are addressed. Examination of current legal, ethical, and other professional issues in counseling. *Concurrent Enrollment:* Concurrent enrollment: EDUC 500. Instruction Mode: Lecture Grading Option: Letter

EDUC 508 Interrogating Systems of Inequity in Professional Practice
Units: 2 Terms Offered: FaSpSm Framing the graduate experience for master's students. Examining self and field of professional practice in the context of achieving equity. Instruction Mode: Lecture Grading Option: Letter

EDUC 510 Theories of Language Learning and Teaching
Units: 3 Terms Offered: FaSpSm Application of learning theories to the design of second language instruction and student assessment to promote motivation, investment, self-regulation and engagement among language learners. Registration Restriction: Open only to majors in Teaching English to Speakers of Other Languages Instruction Mode: Lecture Grading Option: Letter

EDUC 511 Introduction to Counseling
Units: 3 Terms Offered: Fa The role of the school counselor. An overview of key elements in increasing access to and equity for primary and secondary education for all

students. Instruction Mode: Lecture Grading Option: Letter

EDUC 512 Reading and Writing Methods for Secondary Teaching
Units: 2 Terms Offered: Fa Analysis of reading/writing processes; methods for teaching literacy in grades 9–12; issues in biliteracy and instruction. Instruction Mode: Lecture Grading Option: Letter

EDUC 514 School Counseling Seminar
Units: 3 Terms Offered: Sp Current issues and problems in school counseling; emphasis is on K–12 learning and achievement. Instruction Mode: Lecture Grading Option: Letter

EDUC 515 Theories of Marriage and Family Therapy
Units: 3 Major psychotherapeutic orientations relating to family systems, marital relationships, and communications theory applied to the family unit. *Prerequisite:* EDUC 500, EDUC 507, EDCO 541. Instruction Mode: Lecture Grading Option: Letter

EDUC 520 Career and College Readiness Counseling
Units: 3 Terms Offered: FaSpSm Theoretical foundations of individual and systemic characteristics that impact college and career choices. Consideration of economic, political, social and policy issues. Registration Restriction: Registration is restricted to USC Rossier School of Education Master students in the School Counseling Program Duplicates Credit in EDUC 600 Instruction Mode: Lecture Grading Option: Letter

EDUC 521 Assessment and Instruction for Diverse Language Learners
Units: 3 Terms Offered: FaSpSm Assessment practices and strategies in English language instruction with special attention to learner differences (social, cultural, physical, intellectual) that influence academic performance. Open only to MAT TESOL and TESOL (online) students. Registration Restriction: Open only to Teaching English to Speakers of Other Languages and Teaching English to Speakers of Other Languages (online). Instruction Mode: Lecture Grading Option: Letter

EDUC 522 Challenges in Urban Education: Accountability
Units: 3 Terms Offered: Sp Issues related to accountability theory and practice in urban education settings. Open only to EdD students. Registration Restriction: Open only to Ed.D. students. Instruction Mode: Lecture Grading Option: Letter

EDUC 523 Challenges in Urban Education: Diversity
Units: 3 Terms Offered: Fa Diversity issues in urban educational settings. Open only to EdD students. Registration Restriction: Open only to Ed.D. students. Instruction Mode: Lecture Grading Option: Letter

EDUC 524 Challenges in Urban Education: Leadership
Units: 3 Terms Offered: Sp Theories, principles, and concepts of leadership in urban K–12 schools and institutions of higher education. Open only to EdD students. Registration Restriction: Open only to Ed.D. students. Instruction Mode: Lecture Grading Option: Letter

EDUC 525 Challenges in Urban Education: Learning
Units: 3 Terms Offered: Fa Theory and research in learning, motivation, and instruction for diverse educational settings. Open only to EdD students. Registration Restriction: Open only to Ed.D. students. Instruction Mode: Lecture Grading Option: Letter

EDUC 526 Language Teaching: Planning and Instruction
Units: 3 Terms Offered: FaSp Introduces a broad range of theories that inform and underpin second language learning and teaching, their critical review and applications for designing of classroom learning and teaching experiences. Registration Restriction: Open only to Rossier School of Education master's students Instruction Mode: Lecture Grading Option: Letter

EDUC 527 Assessment in the Language Classroom
Units: 2 Terms Offered: Sm Introduces students to relevant research in language assessment, reviews concepts of reliability and validity and examines assessment practices in the classroom. Instruction Mode: Lecture Grading Option: Letter

EDUC 528 Course Proposal Project
Units: 2 Terms Offered: Sm Using a framework of course development, students present a course proposal, linking the theoretical, methodological and practical principles gained from all course work in the program. Instruction Mode: Lecture Grading Option: Letter

EDUC 529 Political and Academic Issues Affecting Gifted Students
Units: 3 Terms Offered: FaSpSm Examination of the political and academic issues affecting gifted and high-ability students. Psychosocial reasons contributing to achievement and underachievement. Institutional and personal factors inhibiting potential. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 530 Differentiated Curriculum and Pedagogy for Gifted Students
Units: 3 Terms Offered: FaSpSm Recognizing the talent and potential of gifted and high ability students. How gifted education can be generalized to affect the education of all students. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 531 Student Disability Issues in Higher Education
Units: 3 Terms Offered: Fa History of the disability movement; current research on the success of students with disabilities in higher education; legal and management issues. Instruction Mode: Lecture Grading Option: Letter

EDUC 532 Inquiry Methods I
Units: 3 Terms Offered: Sp Logic and methods of quantitative data analysis in the examination of educational issues and the framing of solutions for them. Open only to EdD students. Instruction Mode: Lecture Grading Option: Letter

EDUC 533 School Leadership: Theory and Practice
Units: 3 Terms Offered: Fa Theories and principles of leadership and the application of principles to solve authentic problems in elementary and secondary schools. Instruction Mode: Lecture Grading Option: Letter

EDUC 535 Teaching Secondary English and Language Arts
Units: 4 Terms Offered: FaSpSm Instructional procedures, techniques, strategies, and resources for teaching English in secondary classrooms. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 536 Inquiry Methods II
Units: 3 Terms Offered: Sp Logic and methods of qualitative data analysis in the examination of educational issues and the framing of solutions for them. Open only to EdD students. Instruction Mode: Lecture Grading Option: Letter

EDUC 537 Leading with the Community and Culture in Context
Units: 3 Terms Offered: Sp Creating a positive culture of learning to promote student success. Strategies to engage diverse communities. Instruction Mode: Lecture Grading Option: Letter

EDUC 538 Entrepreneurial School Leadership
Units: 2 Terms Offered: Fa Entrepreneurial opportunities in education. Developing the skills and knowledge for entrepreneurial leadership to improve educational outcomes. Instruction Mode: Lecture Grading Option: Letter

EDUC 539 Teaching Secondary Science
Units: 4 Terms Offered: FaSpSm Instructional procedures, techniques, strategies, and resources for teaching science in secondary classrooms. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 540 Assessment in Counseling
Units: 3 Terms Offered: FaSpSm Understand educational and psychological instruments, psychometric concepts and rationale for the use of instruments in the school counseling setting. Registration Restriction: Registration is restricted to USC Rossier School of Education Duplicates Credit in EDCO 505 Instruction Mode: Lecture Grading Option: Letter

EDUC 542 Substance Abuse Counseling
Units: 3 Terms Offered: FaSpSm Focus on theoretical models of substance abuse counseling and understanding the role of assessment, treatment, medical and psychological complications, family and recovery. Instruction Mode: Lecture Grading Option: Letter

EDUC 543 Family Counseling
Units: 3 Terms Offered: FaSpSm Master family counseling approaches, systemic models of K-12 family functioning and therapeutic interventions to work with families of diverse backgrounds. Instruction Mode: Lecture Grading Option: Letter

EDUC 544 Psychological Assessment
Units: 3 Utilizing a wide range of clinical assessment tools with cultural sensitivity to achieve a comprehensive patient profile to guide the therapeutic process. Duplicates Credit in former EDCO 544 Instruction Mode: Lecture Grading Option: Letter

EDUC 545 Teaching Secondary Mathematics
Units: 4 Terms Offered: FaSpSm

Instructional procedures, techniques, strategies, and resources for teaching mathematics in secondary classrooms. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 546 Psychopathology for Marriage and Family Therapy
Units: 3 Theories of psychological impairment emphasizing diagnosis of child and family dysfunction. Practice in utilizing DSM-IV classification of case studies. Duplicates Credit in former EDCO 546. Instruction Mode: Lecture Grading Option: Letter

EDUC 547 Career Development: Theory and Process
Units: 3 Theories and process of career development; principles of career and leisure planning and counseling applicable throughout life. Duplicates Credit in former EDCO 548. Instruction Mode: Lecture Grading Option: Letter

EDUC 548 Data-Driven Leadership for Schools
Units: 3 Terms Offered: Sm Analyzing, interpreting, and using data to increase effectiveness of instruction and programs, improve student learning, and reduce or eliminate the achievement gap. Instruction Mode: Lecture Grading Option: Letter

EDUC 549 Supervising Instruction for Optimal Learning
Units: 3 Terms Offered: Sm Application of adult learning theory to evaluate instruction. Appropriate professional development to improve student achievement. Instruction Mode: Lecture Grading Option: Letter

EDUC 552 Literacies in the Content Area
Units: 3 Terms Offered: FaSpSm Literacy and language within content areas. Developing reading, writing, speaking and listening skills for real audiences. Academic language. Instruction Mode: Lecture Grading Option: Letter

EDUC 553 Psychopharmacology and the Effects of Substance Abuse
Units: 3 Terms Offered: Sp Focus on the effects of psychotropic medication, alcohol, and other substances on behavior. The professional and ethical issues for marriage and family therapists. Instruction Mode: Lecture Grading Option: Letter

EDUC 555 STEM Education in Secondary Classrooms
Units: 3 Terms Offered: FaSpSm Developing innovative practices in designing inquiry-based lesson plans to facilitate integrating the STEM disciplines as a foundation for teaching. Instruction Mode: Lecture Grading Option: Letter

EDUC 557 Civics Education
Units: 3 Terms Offered: FaSpSm Uses of pedagogical practices for increasing student engagement in the study of history and civics. Becoming critical thinkers, problem solvers, and effective citizens. Instruction Mode: Lecture Grading Option: Letter

EDUC 558 Culture Learning in Schools: Latino
Units: 3 History, values, beliefs, and the demography of Spanish-speaking people; implications for the American classroom. Conducted in English. No previous knowledge of Latino culture is needed. Registration Restriction: Open only to USC Rossier School of Education students

Instruction Mode: Lecture Grading Option: Letter

EDUC 559 Discourse Analysis and Technology in STEM Classrooms
Units: 3 Terms Offered: FaSpSm Using multiple assessment strategies and technology to assess mathematical and scientific thinking and performance. Instruction Mode: Lecture Grading Option: Letter

EDUC 560 Primary Language Instruction in a Bilingual Setting
Units: 3 Terms Offered: Fa Bilingual programs, their goals, personnel, teaching methods, and materials. Instruction Mode: Lecture Grading Option: Letter

EDUC 561 TESOL Instruction and Methods of Teaching A
Units: 3 Overview of approaches and methods in TESOL, topics include curriculum and lesson planning, lesson sequencing and delivery and methods for teaching reading, writing, speaking and listening. Registration Restriction: Open only to majors in Teaching English to Speakers of Other Languages. Instruction Mode: Lecture Grading Option: Letter

EDUC 562 Teaching English to Speakers of Other Languages Pedagogy II
Units: 3 Introduction to microcomponents of effective teaching, including curriculum and lesson planning, lesson sequencing and delivery, and creating a classroom environment conducive to English language learning. Instruction Mode: Lecture Grading Option: Letter

EDUC 563 Teaching from a Comparative and International Perspective
Units: 3 Terms Offered: FaSpSm Examines the social context of schooling from a comparative and international perspective, connections between cultural beliefs and societal values; issues of social stratification and marginalization. Instruction Mode: Lecture Grading Option: Letter

EDUC 564 Teacher Leadership
Units: 2 Terms Offered: FaSpSm Strategies of leadership that lead from influencing learning in the classroom to influencing learning across an entire school. Becoming an instructional leader. Instruction Mode: Lecture Grading Option: Letter

EDUC 567 English and Language Arts in Elementary Social Studies
Units: 4 Terms Offered: FaSpSm Integrating English and language arts development with learning in elementary social studies classrooms. Factors affecting the teaching and learning of social studies and language arts. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 569a Capstone Portfolio in Learning and Instruction
Units: 2 The culminating experience in the Master of Arts in Teaching Program for students in the non-credential track. Open only to MAT students. Duplicates Credit in former EDUC 569. Instruction Mode: Lecture Grading Option: Letter

EDUC 569b Capstone Portfolio in Learning and Instruction
Units: 2 The culminating experience in the Master of Arts in Teaching Program for students in the non-credential track. Open only to MAT students. Duplicates Credit in former EDUC 569. Instruction Mode: Lecture Grading Option: Letter

EDUC 570 Research Methods and Data Analysis
Units: 3 Terms Offered: FaSpSm Various research designs and their appropriateness for addressing different research questions. Threats to validity and other challenges in research. Basic statistical methods and their use. *Recommended Preparation:* beginning statistics course. Instruction Mode: Lecture Grading Option: Letter

EDUC 572a Teaching in an International and Intercultural Context
Units: 2 Terms Offered: Fa Examines social context of education from an international and intercultural perspective, linkages between societal values, culture, and schooling, and implications for the role of teachers. Instruction Mode: Lecture Grading Option: Letter

EDUC 572b Teaching in an International and Intercultural Context
Units: 2 Terms Offered: Fa Examines social context of education from an international and intercultural perspective, linkages between societal values, culture, and schooling, and implications for the role of teachers. Instruction Mode: Lecture Grading Option: Letter

EDUC 573 Introduction to Special Education
Units: 3 Terms Offered: FaSpSm Effective and appropriate educational settings for students with disabilities. Legal and professional responsibilities. Components for an inclusive classroom. Instruction Mode: Lecture Grading Option: Letter

EDUC 574 Collaboration, Families and Case Management
Units: 3 Terms Offered: FaSpSm Planning and implementing effective educational services for students receiving special education services. Potential interventions for family support. Coordination of services. Instruction Mode: Lecture Grading Option: Letter

EDUC 575 Assessment and Curriculum for Students with Disabilities
Units: 3 Terms Offered: FaSpSm Developing effective educational interventions for students with disabilities. Formal and informal assessment. Curriculum strategies. Instruction Mode: Lecture Grading Option: Letter

EDUC 576 Establishing and Maintaining an Effective Classroom Ecology
Units: 3 Terms Offered: FaSpSm Environmental and personal factors affecting student achievement. Intervention methodologies. Creating an effective learning environment. Instruction Mode: Lecture Grading Option: Letter

EDUC 577 Guided Practice: Mild/Moderate Disabilities
Units: 3 Terms Offered: FaSpSm Supervised practicum in observation and teaching. Focus on planning, implementing, and assessing instruction for whole classes and individual students with mild/moderate disabilities. Instruction Mode: Lecture Grading Option: Letter

EDUC 578 Integrating the Arts into the Secondary Curriculum
Units: 3 Terms Offered: FaSpSm Methods for integrating the arts into secondary

classroom instruction. Critical and creative thinking, aesthetic education. Instruction Mode: Lecture Grading Option: Letter

EDUC 579 Media Selection and Evaluation
Units: 2 Terms Offered: FaSpSm Selection and evaluation of media and technologies in support of instructional design based on a survey of current research and recommendations. Instruction Mode: Lecture Grading Option: Letter

EDUC 580 Transforming STEM Education into Teaching Science
Units: 3 Terms Offered: FaSpSm The convergence of science, technology, engineering, and mathematics (STEM) as a foundation for teaching science. Instruction Mode: Lecture Grading Option: Letter

EDUC 581 STEM Education from a Project-Based Learning Approach
Units: 3 Terms Offered: FaSpSm Model-based reasoning and inquiry as a means of integrating STEM disciplines. Instruction Mode: Lecture Grading Option: Letter

EDUC 582 Assessment and Evaluation
Units: 2 Terms Offered: FaSpSm Overview of the concepts and procedures for assessment and evaluation of individual and overall performance in various learning environments. Instruction Mode: Lecture Grading Option: Letter

EDUC 583 Counseling through the Lifespan
Units: 3 Developmental issues and life events from infancy to old age and their effect upon individuals, couples, and family relationships. Instruction Mode: Lecture Grading Option: Letter

EDUC 584 Facilitating Creativity and Innovation in STEM Classrooms
Units: 3 Terms Offered: FaSpSm The role of creativity in STEM education. Theories and approaches to facilitating creative and innovative thinking. Instruction Mode: Lecture Grading Option: Letter

EDUC 585 Action Research Project
Units: 3 Terms Offered: FaSpSm Design and implementation of a STEM-based project. Instruction Mode: Lecture Grading Option: Letter

EDUC 586 Design of Learning Environments
Units: 3 Terms Offered: FaSpSm Design of learning environments through application of design principles; project-based practice in aligning instructional design, media selection, and the features of learning spaces. Instruction Mode: Lecture Grading Option: Letter

EDUC 587 Master's Studio A
Units: 2 Terms Offered: FaSpSm Students propose and design a capstone project that applies knowledge and skills learned throughout the program and prepare a coursework portfolio. Instruction Mode: Lecture Grading Option: Letter

EDUC 588 Master's Studio B
Units: 4 Terms Offered: FaSpSm Students implement the capstone project and submit a portfolio that integrates program coursework. Instruction Mode: Lecture Grading Option: Letter

EDUC 589 Human Lifespan Development
Units: 3 Terms Offered: FaSpSm Fundamentals of human physical, motor, mental, social, and emotional development, spanning the prenatal period through late adulthood. Duplicates Credit in the former EDPT 520. Instruction Mode: Lecture Grading Option: Letter

EDUC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 591 Diversity: Power, Equity and Inclusion
Units: 3 Terms Offered: FaSpSm Appraises practices that maintain power; creates strategies to empower individuals and marginalized groups by intervening to achieve equitable outcomes in education, professions and communities. Instruction Mode: Lecture Grading Option: Letter

EDUC 592a Applied Linguistics for TESOL
Units: 3 Terms Offered: FaSp Exploration of English language systems including words, sounds, sentence structure, and discourse and application of this knowledge to teaching English as second or foreign language. Duplicates Credit in the former EDUC 571. Instruction Mode: Lecture Grading Option: Letter

EDUC 592b Applied Linguistics for TESOL
Units: 3 Terms Offered: FaSp Exploration of English language systems including words, sounds, sentence structure, and discourse and application of this knowledge to teaching English as second or foreign language. Duplicates Credit in the former EDUC 571. Instruction Mode: Lecture Grading Option: Letter

EDUC 593a Master's Seminar
Units: 2 An examination and analysis of research and literature in the student's area of focus. Duplicates Credit in former EDCO 593ab. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 593b Master's Seminar
Units: 2 An examination and analysis of research and literature in the student's area of focus. Duplicates Credit in former EDCO 593ab. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

EDUC 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

EDUC 595 Instructional Design
Units: 3 Terms Offered: FaSpSm Formulation and design of effective instruction; emphasis on analysis of media characteristics and instrumentation requirements. Duplicates Credit in the former EDPT 520. Instruction Mode: Lecture Grading Option: Letter

EDUC 596 English Language Learning Design, Teaching and Technology
Units: 3 Terms Offered: FaSp Students collaboratively design and deliver synchronous and asynchronous online language learning opportunities. Students become versatile with adapting content, technical aspects of video-conferencing and interactional dynamics Duplicates Credit in the former EDUC 540a and EDUC 540b Instruction Mode: Lecture Grading Option: Letter

EDUC 599 Special Topics
Units: 1, 2, 3, 4 Max Units: 9.0 Terms Offered: FaSpSm Selected topics in various areas of education. Instruction Mode: Lecture Grading Option: Letter

EDUC 601 Seminar in Social Psychology
Units: 4 Max Units: max 8 Terms Offered: Fa (Enroll in PSYC 512)

EDUC 602 Self-concept and Motivation
Units: 4 (Enroll in PSYC 602)

EDUC 603 Framing Organizational Change and Leadership
Units: 4 Terms Offered: Fa Students identify and research problems of practice particularly pertinent in urban learning. The presentation of problems of practice requires the use of sound evidence-based research. Instruction Mode: Lecture Grading Option: Letter

EDUC 604 National Perspective on School Leadership
Units: 1 Terms Offered: Sm Students will examine the cultural, political, and economic issues pertinent to urban education within the national context to prepare them to be effective school leaders. Instruction Mode: Lecture Grading Option: Letter

EDUC 605 Framing Educational Leadership
Units: 1 Terms Offered: FaSm Critical analysis and creative expression applied to problems of practice. Supported and unsupported assertions. Evidence-based decision-making. The quality of evidence used to support arguments. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 607 Role of School Counselors in Student Learning and Motivation
Units: 3 Terms Offered: FaSpSm The process of identifying and assessing learning and motivational issues in schools, the application of research-based interventions, and the evaluation of effectiveness of these interventions. Instruction Mode: Lecture Grading Option: Letter

EDUC 608 School Connectedness, Climate, and Classroom Management
Units: 2 Terms Offered: Fa Prevention, education, and training for achievement. Data collection for assessment and evaluation of school climate, crisis and classroom management conducive to learning and success. Instruction Mode: Lecture Grading Option: Letter

EDUC 609 Academic Advising in Postsecondary Education
Units: 3 Terms Offered: Fa Contemporary issues in academic advising in

postsecondary education. Examines and analyzes relevant theories, policies, and practices related to academic advising. Instruction Mode: Lecture Grading Option: Letter

EDUC 610 Higher Education Administration in China
Units: 3 Terms Offered: Sm Examination of student affairs and higher education administration practices in the People's Republic of China. Course concludes with a trip to China. Instruction Mode: Lecture Grading Option: Letter

EDUC 611 Athletic Administration
Units: 3 Terms Offered: Sp Analysis and discussion of critical issues in intercollegiate athletics. Student-athlete academic and social accountability; challenges of NCAA policies; commercialization, marketing, and fundraising in college athletics. Instruction Mode: Lecture Grading Option: Letter

EDUC 612 Application of Human Development Theory in School Counseling
Units: 3 Terms Offered: FaSpSm
A theoretical perspective of human development across the lifespan. Issues and challenges faced by school counselors. Instruction Mode: Lecture Grading Option: Letter

EDUC 613 Title IX and Gender Issues in Athletic and Academic Administration
Units: 3 Terms Offered: FaSpSm Overview of Title IX and gender issues in institutions of higher education and implications for all postsecondary institutions. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

EDUC 614 Research and Assessment in Higher Education
Units: 3 Terms Offered: Sm Theory and practice of outcomes assessment, program evaluation, and research design in postsecondary educational administration. Instruction Mode: Lecture Grading Option: Letter

EDUC 615 Ethics in Athletic Administration
Units: 3 Terms Offered: Fa Ethical concerns in intercollegiate athletics. Review, analysis, and discussion of ethical and moral conduct in sports. Relevance of social justice to ethical behaviors. Instruction Mode: Lecture Grading Option: Letter

EDUC 616 Higher Education Capstone
Units: 3 Terms Offered: FaSp Capstone seminar course focused on the future of student affairs and higher education. Registration Restriction: Open only to master students in Postsecondary Administration and Student Affairs Instruction Mode: Lecture Grading Option: Letter

EDUC 617 The Student Athlete in Higher Education
Units: 3 Terms Offered: Fa Examination of student athletes in higher education. Effective strategies for counseling and advising college student athletes; issues and challenges of athletic amateurism. Instruction Mode: Lecture Grading Option: Letter

EDUC 618 School Counseling Professional Portfolio
Units: 2 Terms Offered: Fa Preparation of an electronic resource portfolio that addresses a field based practice. The culminating experience for the M.Ed., School Counseling program. Instruction Mode: Lecture Grading Option: Letter

EDUC 619 Framing Educational Leadership in a Global Context
Units: 4 Terms Offered: Sm Globalization as a distinct phenomenon. Assessment of impact of globalization on educational systems and institutions. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 620 Fundamentals of Creativity, Innovation, and Entrepreneurship
Units: 2 Terms Offered: Sm The genesis and facilitation of creative ideas in educational practice. The transformation of creativity into innovation and entrepreneurship. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 622 Educational Theory and Instructional Design
Units: 2 Terms Offered: Fa Theories and elements of learning. Application in educational settings. Methodology for course development and evaluation. Emphasis on strategies, tools, and use of technology. Instruction Mode: Lecture Grading Option: Letter Crosslisted as DHYG-513

EDUC 623 Understanding Research That Informs Leadership
Units: 3 Terms Offered: Fa Understanding, interpreting, and applying education research. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 624 Educational Organizations: Governance and Finance I
Units: 2 Terms Offered: Fa Overview of economic concepts of education. Linkages between economic growth, development, and education. Impact of globalization. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 625a Induction Plan and Assessment of Candidate Competence
Units: 1 Terms Offered: FaSpSm The development of an individualized induction plan and assessment of competence for meeting requirements for the Clear Administrative Services Credential. Duplicates Credit in former EDUC 595 Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 625b Induction Plan and Assessment of Candidate Competence
Units: 1 Terms Offered: FaSpSm The development of an individualized induction plan and assessment of competence for meeting requirements for the Clear Administrative Services Credential. Duplicates Credit in former EDUC 596. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 626 Fostering Entrepreneurship in Educational Systems
Units: 2 Terms Offered: Fa The role of entrepreneurship in education and conditions that support entrepreneurism within an educational organization. How social entrepreneurship partnerships improve educational outcomes. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 627 Education Performance Problems: Role of Learning
Units: 3 Terms Offered: Sp Contemporary perspectives on learning and motivation. Strategies and tools for identifying, diagnosing, and solving learning and motivational challenges and opportunities. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 628 Educational Organizations: Governance and Finance II
Units: 2 Terms Offered: Sp Diversification and differentiation of educational institutions globally. The finances of higher education. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 629 Consulting Practicum Context Analysis
Units: 3 Terms Offered: Sm Preparation, design, and analysis of an education-related problem. *Prerequisite:* EDUC 723 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 630 Organizations and Policy: Current Issues
Units: 4 Terms Offered: FaSp Study of contemporary issues in educational organizations, policy and change in K–12 and higher education with an explicit focus on the improvement of urban education. Open to students admitted to the PhD only. Instruction Mode: Lecture Grading Option: Letter

EDUC 631 Locating Educational Performance Problems
Units: 3 Terms Offered: Sp Development and implementation of strategies for locating, solving and evaluating solutions to performance problems in educational organizations. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 632 Technology in Higher Education
Units: 2 Terms Offered: Sm The integration of technology in higher education and the relationship to quality of teaching, access to learners, and cost-effectiveness for universities and colleges. Instruction Mode: Lecture Grading Option: Letter Crosslisted as DHYG-514

EDUC 633 Child and Elder Abuse and Domestic Violence
Units: 2 A review of laws governing mandated reporting of child and elder abuse, the procedures involved, as well as etiology, effects, and treatment interventions. Instruction Mode: Lecture Grading Option: Letter

EDUC 634 Couples Counseling
Units: 3 Examines relational development and change, strategies for intervention with

couples, and selected issues in couples relationship functioning. *Prerequisite:* EDUC 500, EDUC 507, EDCO 541. Instruction Mode: Lecture Grading Option: Letter

EDUC 635 Psychotherapy with Children and Adolescents
Units: 3 Training in unique diagnostic considerations in working with children and adolescents. Exposure to empirically supported treatment modalities for children and adolescents. *Prerequisite:* EDUC 500, EDUC 507, EDCO 541. Duplicates Credit in former EDCO 554. Instruction Mode: Lecture Grading Option: Letter

EDUC 636 Perspectives on Human Sexuality
Units: 3 The physiological-psychological and socio-cultural variables associated with sexual identity and sexual behavior with an emphasis upon sexual dysfunctions. *Prerequisite:* EDUC 507. Duplicates Credit in former EDCO 516. Instruction Mode: Lecture Grading Option: Letter

EDUC 637 Group Counseling: Theory and Process
Units: 3 Theory, research, and practice of group counseling. Includes laboratory experience. *Prerequisite:* EDUC 500, EDUC 507, EDCO 541. Duplicates Credit in former EDCO 542. Instruction Mode: Lecture Grading Option: Letter

EDUC 638 Multicultural Counseling: Research and Practice
Units: 3 An examination of the cultural, socioeconomic, and language factors that impact historically marginalized populations; alternative multicultural counseling approaches. Duplicates Credit in former EDCO 551 Instruction Mode: Lecture Grading Option: Letter

EDUC 639 Approaches and Strategies for Language Teaching
Units: 4 Terms Offered: FaSp Overview of approaches, models and strategies in language teaching, topics include lesson planning, and implementation of the lesson for language and content area instruction. Duplicates Credit in EDUC 561 Instruction Mode: Lecture Grading Option: Letter

EDUC 640 The Research University in the 21st Century
Units: 4 Terms Offered: FaSp An examination of the current transformation of the American research university with a focus on key issues that confront academics who work in research universities. Open to students admitted to the PhD only. Instruction Mode: Lecture Grading Option: Letter

EDUC 641 Human Capital and School Organization
Units: 3 Terms Offered: Fa School leadership, organization, management and development of school personnel. Capitalizing on school resources to meet school goals. Instruction Mode: Lecture Grading Option: Letter

EDUC 642 Controversies in Learning and Instruction
Units: 4 Terms Offered: FaSp An introduction to learning research and theory, issues in learning and educational psychology situated in the context of diverse, urban settings. Open to students admitted to the PhD only. Instruction Mode: Lecture Grading Option: Letter

EDUC 643 Advancing Community Support through Social Media
Units: 2 Terms Offered: Fa Use of social media to communicate school vision. Incorporating objectives, strategies, assessment, and accountability measures in communication plans. Instruction Mode: Lecture Grading Option: Letter

EDUC 644 Practicum in Counseling
Units: 3 Max Units: 6.0 Supervised clinical work with clients, including adults, couples, children, and families. *Prerequisite:* EDUC 500, EDUC 507, EDUC 546, EDCO 541. Duplicates Credit in former EDCO 560. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 645a Fieldwork in Counseling
Units: 3 Supervised field experience in a clinical setting. *Prerequisite:* EDUC 644. Duplicates Credit in former EDCO 561. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 645b Fieldwork in Counseling
Units: 3 Supervised field experience in a clinical setting. *Prerequisite:* EDUC 644. Duplicates Credit in former EDCO 561. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 646 Marriage and Family Therapy Capstone: Leadership Project
Units: 2 Terms Offered: Sp Culminating academic, professional and reflective experience for MFT candidates in their final year. Students will identify and address issues of professional and clinical practice. Registration Restriction: Open only to USC Rossier School of Education students in the Marriage and Family Therapy program Duplicates Credit in former EDUC 646a and former EDUC 646b Instruction Mode: Lecture Grading Option: Letter

EDUC 647 School Leadership Seminar
Units: 2 Terms Offered: Sp Planning, design, and development of an action research plan for school improvement using multiple measures of project assessment. Instruction Mode: Lecture Grading Option: Letter

EDUC 648a Apprenticeship in School Administration and Leadership
Units: 2 Terms Offered: FaSp Supervised field experience in administrative areas of K–12 schools. Development of Administrative Services Portfolio. Instruction Mode: Lecture Grading Option: Letter

EDUC 648b Apprenticeship in School Administration and Leadership
Units: 2 Terms Offered: FaSp Supervised field experience in administrative areas of K–12 schools. Development of Administrative Services Portfolio. Instruction Mode: Lecture Grading Option: Letter

EDUC 649 Teaching Practice to Support Language Learners
Units: 4 Terms Offered: FaSp Introduces components of effective teaching, including lesson and unit planning, creating a classroom environment conducive to learning, and classroom management strategies. Duplicates Credit in EDUC 562 Instruction Mode: Lecture Grading Option: Letter

EDUC 650 Ways of Seeing: Applying Social Science and Critical Theories to Education
Units: 4 Terms Offered: FaSp Examines the intersections of inequality and education, focusing on how each disciplinary perspective outlines a logic for change. Registration Restriction: Open only to Urban Education Policy majors Instruction Mode: Lecture Grading Option: Letter

EDUC 651 Introduction to Qualitative Research Methods
Units: 3 Terms Offered: FaSpSm Introduces qualitative methodologies, qualitative data collection and analysis techniques, support in drafting research proposals, and paradigms on how to critically think about inquiry. Instruction Mode: Lecture Grading Option: Letter

EDUC 652 Inquiry Methods III
Units: 3 Terms Offered: FaSpSm Logic and methods of qualitative data analysis in the examination of educational issues and the framing of solutions for them. *Prerequisite:* EDUC 532 and EDUC 536 Registration Restriction: Open only to Organizational Change and Leadership students Instruction Mode: Lecture Grading Option: Letter

EDUC 653 Advanced Qualitative Research
Units: 3 Terms Offered: Sp Interactive seminar that explores the theoretical underpinnings and practicalities of interviews, portraiture, focus groups, life histories, and cultural biographies. *Recommended Preparation:* introductory statistics. Instruction Mode: Lecture Grading Option: Letter

EDUC 654 Advanced Qualitative Research Methods II
Units: 3 Terms Offered: FaSpSm Designed to follow Advanced Qualitative Research, focuses on data analysis in the qualitative research tradition, writing and publishing from qualitative data. Instruction Mode: Lecture Grading Option: Letter

EDUC 655 Social Foundations of Language Education
Units: 4 Terms Offered: FaSp Candidates engage in systematic study of the social aspects of language learning and their significance for structuring learning opportunities for diverse students in language classrooms. Duplicates Credit in former EDUC 565a and former EDUC 565b Instruction Mode: Lecture Grading Option: Letter

EDUC 656 Applied Linguistics for English Language Educators
Units: 3 Terms Offered: FaSp Introduction to systems of English language and language in use. Contrasts systems of English to other languages to identify issues of interest for language teachers. Duplicates Credit in EDUC 592a, EDUC 592b, the former EDUC 571 Instruction Mode: Lecture Grading Option: Letter

EDUC 657 Social Foundations of Research
Units: 3 Terms Offered: Fa Foundations in social science research with exposure to broad cross-section of research methods, design, and analytical techniques. Open only to doctoral students. Registration Restriction: Open only to doctoral students.

Instruction Mode: Lecture Grading Option: Letter

EDUC 658 Hierarchical Linear Models
Units: 3 Terms Offered: Fa Application of two- and three-level multilevel models in educational settings, fixed and random effects, growth models. *Recommended Preparation:* a working understanding and knowledge of regression analysis and related Stata software. Instruction Mode: Lecture Grading Option: Letter

EDUC 659 Introduction to Causal Inference in Educational Settings
Units: 3 Terms Offered: Sm An introduction to quasi- and non-experimental methods researchers use to strengthen causal linkages between educational policies and reforms, and student, teacher, and other outcomes. *Recommended Preparation:* EDUC 658 Instruction Mode: Lecture Grading Option: Letter

EDUC 660a Clinical Practice Seminar in Language Teaching
Units: 2 First of two-course series focused on helping students translate theory to practice. Designed for students completing fieldwork required for the teaching credential. *Recommended Preparation:* Completion of CTC basic skills and subject matter competency test required to begin student teaching Instruction Mode: Lecture Grading Option: Letter

EDUC 660b Clinical Practice Seminar in Language Teaching
Units: 2 Terms Offered: FaSp Second of two-course series focused on helping students translate theory to practice. Part B also facilitates preparation for and submission of the EdTPA. *Prerequisite:* EDUC 660a Instruction Mode: Lecture Grading Option: Letter

EDUC 661 Equity in College and Career Access
Units: 3 Terms Offered: Fa Focus on College and Career Readiness using an equity lens with a foundation in the relevant theories, conceptual frameworks and issues. *Recommended Preparation:* EDUC 609 Registration Restriction: Open only to EDCN and MFTH students Instruction Mode: Lecture Grading Option: Letter

EDUC 663 Race and Racism in Education
Units: 3 Terms Offered: FaSpSm Race, racism, racial equity, Critical Race Theory (CRT) will be explored particularly within educational institutions, with a heavy focus placed on practice. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

EDUC 665 Foundations and Design of Educational Research
Units: 4 Terms Offered: Fa Build knowledge, skills and perspective to design and carry out scholarship as an educational researcher. Registration Restriction: Open only to PhD students Instruction Mode: Lecture Grading Option: Letter

EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools
Units: 4 General introduction to curriculum and instruction (pedagogy) affecting teaching and learning across disciplines, grade levels, and different social contexts of schooling. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 671 Contexts for Educational Equity, Access, and Agency
Units: 3 Terms Offered: FaSpSm Examines how environmental, pedagogical, and curricular choices can be cultivated with greater knowledge of culture, gender, orientation, race, learning differences and language. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 672 Integrated Language Development Across the Curriculum
Units: 3 Understanding of language development and the connection between language and learning in school, across all curricular areas. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 673 Applications of Curriculum and Pedagogy, Part A
Units: 4 Candidates apply content-area knowledge utilizing a repertoire of pedagogical practices responsive to the needs and interests of diverse learners. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 674 Identifying and Teaching to Student Differences
Units: 3 Building on EDUC 671, course proceeds with greater focus on learner behavior, ability, and language to access strategies to differentiate, scaffold, and assess learning. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 675 Literacy Development and Instruction in Elementary Education
Units: 3 Literacy development and instruction, with a focus on the importance of literacy for academic success and civic participation. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 676 Literacy Development and Instruction in Secondary Education
Units: 3 Prepares prospective secondary teachers to integrate literacy instruction within their content area by creating authentic opportunities for learners to develop literacy skills. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 677 Applications of Curriculum and Pedagogy, Part B
Units: 4 Max Units: 08 Terms Offered: FaSpSm Building on EDUC 673, prepares candidates to apply curricular principles to lesson development and determine how content should be delivered to maximize learning. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 678 Applying Knowledge and Strategies for Teaching All Students
Units: 2 Building on EDUC 673, prepares candidates to apply curricular principals to lesson development and determine how content should be delivered to maximize learning. Registration Restriction: MAT Students Only Instruction Mode: Lecture Grading Option: Letter

EDUC 679 Blended Learning Experiences for Students in Urban Schools
Units: 2 Design, implement, and evaluate technology-rich learning environments to customize and individualize learning opportunities and assessments for K-12 students. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 680 Critical Research and Reflection in Urban Education
Units: 4 Terms Offered: FaSp Using the inquiry as stance research process and critical self-reflection, conduct research to understand the factors for effective teaching and learning in urban education contexts. *Prerequisite:* EDUC 670 and EDUC 671 and EDUC 672 and EDUC 674 and (EDUC 675 or EDUC 676) Registration Restriction: Open only to students in the MAT Program Instruction Mode: Lecture Grading Option: Letter

EDUC 681 Research, Policy and Practice in Urban Education
Units: 4 Terms Offered: FaSpSm Development of urban education through the social, historical and political lens as it shapes and influences education research and policy. Instruction Mode: Lecture Grading Option: Letter

EDUC 682 Introduction to Quantitative Research Methods in Education
Units: 3 Terms Offered: FaSpSm Basic concepts of quantitative/statistical methods common in education research, emphasizing applications with data. Introduces sampling, types of validity, statistical inference, bivariate analysis, internal / external validity. Instruction Mode: Lecture Grading Option: Letter

EDUC 683 Proseminar in Urban Education Policy
Units: 1 Max Units: 03 Terms Offered: FaSpSm Introduction to faculty and their research; provides professional development on a variety of topics. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 684 Research Synthesis
Units: 3 Max Units: FaSpSm Skill development in rigorous literature reviewing practices, systematic research synthesis methods and meta-analytic techniques in social science. *Recommended Preparation:* Social Foundations and Quantitative methods Instruction Mode: Lecture Grading Option: Letter

EDUC 685 School-to-Prison Nexus
Units: 3 Terms Offered: FaSpSm Understanding the multifaceted and complex relationship between education and criminology through research from sociological, psychological, educational and criminal justice perspectives. Instruction Mode: Lecture Grading Option: Letter

EDUC 686 Responding to Gifted Students
Units: 4 Terms Offered: FaSpSm Addresses the political, social, economic and educational factors that deter or enhance the identification and education of diverse PreK-12 gifted students. Duplicates Credit in EDUC 529 and EDUC 530 Instruction Mode: Lecture Grading Option: Letter

EDUC 687 Capstone Seminar
Units: 3 Terms Offered: Fa Synthesize institutional, public and non-public sources of data to write and orally present an enrollment management plan for both campus and external stakeholders.

Registration Restriction: Open only to Enrollment Management and Policy students Instruction Mode: Lecture Grading Option: Letter

EDUC 688 Institutions, Organizations, and Equity in Education
Units: 3 Terms Offered: Sp Examine how sociologists and organizational theorists conceptualize institutions, stasis, and change. Learn to apply these perspectives to pressing issues of educational equity. Instruction Mode: Lecture Grading Option: Letter

EDUC 689 Fiscal Support and Expenditure in Higher Education
Units: 3 Terms Offered: Sp Analyses of private and public financial support and expenditure patterns; includes recent trends in state and federal legislation related to higher education. Instruction Mode: Lecture Grading Option: Letter

EDUC 690 Framing and Enrollment Management
Units: 3 Terms Offered: Sm Identify and research enrollment management practices while developing academic literacy skills. Students will understand roles and responsibilities in Enrollment Management offices. Registration Restriction: Open only to Enrollment Management and Policy majors Instruction Mode: Lecture Grading Option: Letter

EDUC 691 Admission Policy and Practice
Units: 3 Terms Offered: Fa Examines admission policy within the contexts of history, social class, professional practice, and the interplay of institutions and society. Registration Restriction: Open only to Enrollment Management and Policy majors Instruction Mode: Lecture Grading Option: Letter

EDUC 692 Role of Diversity in Admissions
Units: 3 Terms Offered: Fa Addresses college access, the manifestations of diversity through the admission process, and a primer on the role of identities, demographics, and intersectionality within them. Registration Restriction: Open only to Enrollment Management and Policy majors Instruction Mode: Lecture Grading Option: Letter

EDUC 693 Institutional Positioning in Student Recruitment
Units: 3 Terms Offered: Sm Explores market research, demand, pricing, value, segmentation, positioning, consumer-centric communication, and the characteristics of a market-oriented enrollment management unit. Registration Restriction: Open only to Enrollment Management and Policy majors Instruction Mode: Lecture Grading Option: Letter

EDUC 694 Legal Issues in Enrollment Management
Units: 3 Terms Offered: Sp Examines legal issues in enrollment management and addresses the intersection of law and policy, including implications for decision-making by higher education officials. Registration Restriction: Open only to Enrollment Management and Policy Instruction Mode: Lecture Grading Option: Letter

EDUC 695 Organizations and Leadership in Education
Units: 3 Terms Offered: Sm Emphasizes models of educational organizations and how they are influenced by the contexts and problems they experience, with emphasis on leadership, change management, and governance. Registration Restriction: Open only to Enrollment Management and Policy Instruction Mode: Lecture Grading Option: Letter

EDUC 696 Financial Aid in Enrollment Management
Units: 3 Terms Offered: Sp Examines institutional budgets, the role of tuition, influences on the price of higher education, and the purpose and processes of applying for and packaging financial aid. Registration Restriction: Open only to Enrollment Management and Policy majors Instruction Mode: Lecture Grading Option: Letter

EDUC 697 Research, Planning, and Accountability
Units: 3 Terms Offered: Fa Develop a research perspective related to understanding and solving complex problems and strategic planning in enrollment management. Registration Restriction: Open only to Enrollment Management and Policy majors Instruction Mode: Lecture Grading Option: Letter

EDUC 698 Enhancing Student Retention
Units: 3 Terms Offered: Fa Examines how student characteristics are associated with persistence and graduation, how rates vary with institutional type, and the institutional role in student success. Registration Restriction: Open only to Enrollment Management and Policy majors Instruction Mode: Lecture Grading Option: Letter

EDUC 700 Research and Practice in the Preparation of Teachers
Units: 3 Research on the preparation of teachers for diverse populations. Measures of teacher quality and student achievement. Existing practices in teacher education from multiple perspectives. Instruction Mode: Lecture Grading Option: Letter

EDUC 701 Pedagogy in Teacher Education
Units: 3 A critical examination of pedagogical practices in teacher education. The design of pedagogical approaches and programs for diverse and underserved students in urban schools. Instruction Mode: Lecture Grading Option: Letter

EDUC 702 Curriculum, Teacher Preparation, and Student Learning
Units: 3 The process and role of curriculum in a variety of urban settings, teacher preparation, and professional growth. The philosophical and psychological foundations of curriculum development. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 703 Examining Literacy Theories and Practice
Units: 3 Literacy theories as practiced in urban, teacher education and professional development settings using an inquiry approach to examine best practice. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 704 Evaluation and Assessment in Teacher Education
Units: 3 Terms Offered: Fa Evaluation and assessment in the context of public schools, teacher preparation and professional growth in urban settings. Policy implications of data-based decision making and program implementation. Instruction Mode: Lecture Grading Option: Letter

EDUC 705 Survey Design and Analysis
Units: 3 Terms Offered: FaSpSm Design, collection, and analysis of survey data; survey analysis techniques including classical test theory, item response theory, differential item functioning, scaling, linking. Instruction Mode: Lecture Grading Option: Letter

EDUC 706 Proseminar in Higher Education
Units: 3 Critical issues in urban higher education from historical and philosophical perspectives. Instruction Mode: Lecture Grading Option: Letter

EDUC 707 Administration in Higher Education
Units: 3 Terms Offered: Fa Administrative issues in higher education. Academic leadership related to undergraduate and graduate education. Quality standards and assessment. How administrators create efficiency, effectiveness, performance, and change. Instruction Mode: Lecture Grading Option: Letter

EDUC 708 Student Development Theory and Today's Critical Issues
Units: 3 Terms Offered: Sm Examination of traditional and emergent student development theories. Instruction Mode: Lecture Grading Option: Letter

EDUC 709 Financing and Assessing Colleges for Equity
Units: 3 Terms Offered: Fa Examination of federal, state, local and individual roles in financing of higher education towards enhancing equity and reducing opportunity gaps. Instruction Mode: Lecture Grading Option: Letter

EDUC 710 Assessment, Organizational Learning and Performance
Units: 3 The role of assessment in higher education. An analysis of the purpose and value of particular assessment approaches and instruments, in particular those addressing classroom learning and institutional effectiveness. Instruction Mode: Lecture Grading Option: Letter

EDUC 711 Social Factors Influencing Learning and Motivation
Units: 3 Social psychological principles and research techniques applied to educational problems; school environment, group behavior, teacher effectiveness, teacher-student interaction, behavioral change. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 712 Advanced Study of Motivation: Theory, Research and Application
Units: 3 Terms Offered: Fa Analysis of motivational principles; diagnosis and solutions to motivation gaps in learning environments; and motivation and efficacy theories and principles. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

EDUC 713 Human Lifespan Development
Units: 3 Terms Offered: FaSpSm An examination of issues related to the development of diverse students and

the development of environments that promote motivated behavior. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

EDUC 714 Measurement and Evaluation for Decision-Making
Units: 3 Terms Offered: Sm Collecting, analyzing, and using quantitative data to solve problems of practice and in evaluating educational institutions, programs, and policies. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 715 Advanced Study of Learning and Instruction: Theory, Research and Application
Units: 3 Terms Offered: Sm Current research in the application of learning theories and the applicability of this research across a variety of contexts. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

EDUC 716 Instructional Leadership
Units: 3 Terms Offered: Sm Examines the role of instructional leaders in improving student performance; current issues in curriculum design and implementation; and effective instructional leadership approaches for school improvement. Open only to doctoral students. Duplicates Credit in former CTSE 688. Instruction Mode: Lecture Grading Option: Letter

EDUC 717 Resourcing Schools for Equity and Excellence
Units: 3 Terms Offered: Fa Applying economic theory to the study of education. Application of market theory to education, partnerships, allocation of resources and the examination of educational enterprises. Registration Restriction: Open only to doctoral students Duplicates Credit in former EDPA 615 Instruction Mode: Lecture Grading Option: Letter

EDUC 718 Maximizing Human Resources in Education
Units: 3 Terms Offered: Sm Strategically understanding the management of human capital to ensure high student performance. How to attract and retain top quality teachers. Open only to doctoral students. Duplicates Credit in former EDPA 610. Instruction Mode: Lecture Grading Option: Letter

EDUC 719 Education Policy and Politics
Units: 3 Terms Offered: Fa Major issues facing educators in the 21st century. Emphasis on how educational policy can focus on incentives for schools to improve student learning. Registration Restriction: Open only to doctoral students Duplicates Credit in former EDPA 613 Instruction Mode: Lecture Grading Option: Letter

EDUC 720 Leadership for Principals
Units: 3 Terms Offered: Sm The role of the principal as an instructional leader with a focus on improving student achievement. Open only to doctoral students. Duplicates Credit in former EDPA 600. Instruction Mode: Lecture Grading Option: Letter

EDUC 721 Seminar in the Superintendency
Units: 3 Terms Offered: Sm The role of the superintendent in establishing a focus on student achievement and holding school sites accountable. How superintendents support student learning through leadership. Registration Restriction: Open only to doctoral students Duplicates Credit in former EDPA 618 Instruction Mode: Lecture Grading Option: Letter

EDUC 723 Evaluating and Assessing Educational System Outcomes
Units: 3 Terms Offered: Sm Evaluating impact. Examination of key assessment theories; planning and implementation of learning and program effectiveness. *Prerequisite:* EDUC 631 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 724 Creating Policy Alternatives for Educational Settings
Units: 3 Terms Offered: Sm Effective policy-making and constructing alternatives. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 725 Analyzing Organizational Change and Its Effectiveness
Units: 3 Terms Offered: Fa Designed to help leaders apply research about learning and motivation to the strengthening of organizational performance in organizations around the world. Instruction Mode: Lecture Grading Option: Letter

EDUC 726 Making Choices: Deciding Among Policy Alternatives
Units: 3 Terms Offered: Fa Models of decision making including cost-benefit analysis, risk-benefit analysis, and decision analysis. Ethical considerations and the political environment. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 727 Implementing Policy in Educational Systems
Units: 3 Terms Offered: Sp Effective policy-making. Human and financial resources to support implementation. Targeting resources to support implementation to attain policy goals. *Prerequisite:* EDUC 726 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 728 Global Trends: Emerging Ideas, Emerging Markets
Units: 3 Terms Offered: Sp Examination of a range of emerging markets in education. Global efforts of institutions of higher education to access new markets through collaborations and offshore endeavors. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 729 Assessing Policy Impact in Educational Settings
Units: 3 Terms Offered: Sp Theory and practice of educational policy evaluation. Limits of rationality and the political forces that shape policy. Preparation of an evaluation design. *Prerequisite:* EDUC 727 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 730 Using Communication to Facilitate Organizational Change
Units: 2, 3 Terms Offered: FaSpSm Addresses communication strategies that leaders use to facilitate positive change in their organization. Reinforces written, non-verbal, and verbal communication skills through leadership situations. Registration Restriction: Open only to Organizational Change and Leadership majors Instruction Mode: Lecture Grading Option: Letter

EDUC 731 Economics of Organizational Change and Learning Environments
Units: 3 Terms Offered: FaSpSm Leadership, problem solving, communication, research, reflection, and professional dispositions will concurrently expand. Candidates will acquire the knowledge and skills to identify and implement economic change. Instruction Mode: Lecture Grading Option: Letter

EDUC 732 Building Capacity for Organizational Change
Units: 3 Terms Offered: FaSpSm Focuses on learning issues related to building organizational capacity for change through leadership and development of personnel within an organization. Instruction Mode: Lecture Grading Option: Letter

EDUC 733 Analyzing Data and Identifying Solutions
Units: 3 Terms Offered: Sp Designed to help students interpret study data and construct evidence-based solutions for real-time organizational problems of practice. *Prerequisite:* EDUC 629 Registration Restriction: Open only to USC Rossier School of Education students Duplicates Credit in EDUC 725 Instruction Mode: Lecture Grading Option: Letter

EDUC 764a Dissertation in Practice
Units: 1 Terms Offered: FaSpSm Credit on acceptance of Dissertation in Practice. *Prerequisite:* EDUC 629 Registration Restriction: Open only to Rossier School of Education Global Executive and Organizational Change and Leadership doctoral students Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

EDUC 764b Dissertation in Practice
Units: 1 Terms Offered: FaSpSm Credit on acceptance of Dissertation in Practice. *Prerequisite:* EDUC 764a Registration Restriction: Open only to Rossier School of Education Global Executive and Organizational Change and Leadership doctoral students Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

EDUC 764c Dissertation in Practice
Units: 1 Terms Offered: FaSpSm Credit on acceptance of Dissertation in Practice. *Prerequisite:* EDUC 764b Registration Restriction: Open only to Rossier School of Education Global Executive and Organizational Change and Leadership doctoral students Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

EDUC 764d Dissertation in Practice
Units: 1 Terms Offered: FaSpSm Credit on acceptance of Dissertation in Practice. *Prerequisite:* EDUC 764c Registration Restriction: Open only to Rossier School of Education Global Executive and Organizational Change and Leadership doctoral students Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

EDUC 764z Dissertation in Practice
Units: 0 Terms Offered: FaSpSm Credit on acceptance of Dissertation in Practice. *Prerequisite:* EDUC 764d Registration Restriction: Open only to Rossier School of Education Global Executive and

Organizational Change and Leadership doctoral students Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

EDUC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 791 Proposal for Doctoral Dissertation
Units: 1 Terms Offered: FaSpSm Preparation of initial dissertation proposal. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 792 Critique of Research in Education
Units: 3 Terms Offered: FaSp A survey and critical analysis of selected research and literature. Open to students admitted to the EdD only. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Education Expanded

EDUE 560 Identity and Diversity
Units: 3 Explore the historical and contemporary foundations of hierarchies and relationships of power, sociocultural diversity of experiences and sociopolitical resistance within higher education. Registration Restriction: Open only to Postsecondary Administration and Student Affairs majors Duplicates Credit in EDHP 552 Instruction Mode: Lecture Grading Option: Letter

EDUE 563 History of Higher Education
Units: 3 Terms Offered: Fa Examination of roles and functions of higher education from historical and contemporary perspectives, with a focus on equity and urban education. Registration Restriction: Open only to USC Rossier School of Education PASA students Duplicates Credit in EDHP 500 and EDUC 508 Instruction Mode: Lecture Grading Option: Letter

EDUE 571 Research Methods and Applied Educational Ethnography
Units: 3 Terms Offered: Sp Explore the use of quantitative, qualitative and mixed methods research to explore problems/ opportunities of practice in higher education. Registration Restriction: Open only to Postsecondary Administration and Student Affairs majors Duplicates Credit in EDHP 551 and EDUC 570 Instruction Mode: Lecture Grading Option: Letter

EDUE 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUE 700 Foundations in Urban Education
Units: 3 Terms Offered: Fa Explores urban P-20 education through social, historical, and political lenses and how research and policy shape professional practice in Los Angeles and the United States. Instruction Mode: Lecture Grading Option: Letter

EDUE 701 Foundations in Leadership in Education
Units: 3 Terms Offered: Fa Provides foundational knowledge about leadership theory and practice to support students' development as critically conscious leaders who take action to address inequities in urban contexts. *Concurrent Enrollment:* EDUE 700 Duplicates Credit in EDUC 524 Instruction Mode: Lecture Grading Option: Letter

EDUE 702 Foundations in Learning
Units: 3 Terms Offered: Sp Supports the development of critically conscious leaders who facilitate learning in urban contexts by understanding how culture, identity and power influence learners' opportunities to learn. *Prerequisite:* EDUE 700 and EDUE 701 Duplicates Credit in EDUC 525 Instruction Mode: Lecture Grading Option: Letter

EDUE 703 Power, Diversity and Equity
Units: 3 Terms Offered: Sp Explores power, diversity and equity through the social, historical, and political lenses as these constructs shape and impact education (P-20) research, policy and professional practice. *Prerequisite:* EDUE 700 Duplicates Credit in EDUC 523 Instruction Mode: Lecture Grading Option: Letter

EDUE 704 Leadership Enactment
Units: 3 Terms Offered: Sm Provides students with the opportunity to acquire or deepen knowledge and skills related to acting as a critically conscious leaders who address existing educational inequities. *Prerequisite:* EDUE 700 and EDUE 701 Instruction Mode: Lecture Grading Option: Letter

EDUE 705 Communicating as Leaders
Units: 3 Terms Offered: Fa Develops critically conscious leaders' ability to communicate effectively and in innovative ways with multiple audiences in multiple formats including scholarly, internal and external communications. *Prerequisite:* EDUE 700 and EDUE 701 and EDUE 702 and EDUE 703 and EDUE 704 Instruction Mode: Lecture Grading Option: Letter

EDUE 718 Leading for Instructional Improvement
Units: 3 Terms Offered: Sm Improves K-12 practitioners' instructional leadership capacity, addressing power and its impact on creating and perpetuating educational inequities for historically marginalized and minoritized children and adults. Instruction Mode: Lecture Grading Option: Letter

EDUE 722 Leading Transformational Learning
Units: 3 Terms Offered: Sm Explores the macro context of policies, structures and procedures that affect those who are responsible for the education of teachers in K-12 and higher education. *Prerequisite:* EDUE 700 and EDUE 702 Registration Restriction: Open only to Educational Leadership Doctoral Students in Rossier Instruction Mode: Lecture Grading Option: Letter

EDUE 723 Curriculum and Instructional Leadership
Units: 3 Terms Offered: Fa Social, political, economic and scholarly factors determining curriculum and instructional design and implementation and implications for formal and informal leaders in P-20 contexts are explored. *Prerequisite:* EDUE 722 Instruction Mode: Lecture Grading Option: Letter

EDUE 724 Culturally Responsive Educational Leadership
Units: 3 Terms Offered: Sm Prepares education leaders to enact culturally responsive change in order to transform teaching, learning, and educational practices in their urban professional context. *Prerequisite:* EDUE 723 Instruction Mode: Lecture Grading Option: Letter

EDUE 725 Inter-Disciplinary Curriculum, Instruction and Assessment P-20
Units: 3 Terms Offered: FaSpSm Educational leaders utilize spatial data and technologies to study their leadership trajectories across urban P-20 settings and bring inter-disciplinary approaches to curriculum, instruction, and assessment. *Prerequisite:* EDUE 724 Instruction Mode: Lecture Grading Option: Letter

EDUE 726 Research Methods 1
Units: 3 Terms Offered: Fa Explores the historically complex relationship between education research, education (in)equity and personal practice, and will highlight the possibilities of research to foster justice in education through the examination of the utility of basic and applied quantitative, qualitative and mixed methods research. Instruction Mode: Lecture Grading Option: Letter

EDUE 727 Research Methods 2
Units: 3 Terms Offered: Sp Building on Research Methods 1, students learn to implement a research design by conducting pilot studies to answer quantitative and qualitative research questions. *Prerequisite:* EDUE 726 *Corequisite:* EDUE 780a Instruction Mode: Lecture Grading Option: Letter

EDUE 780a Dissertation in Practice
Units: 3 Terms Offered: Sp Supports students to prepare a literature review, overview of methodology and other

contextual writing for their dissertations in practice and prepare for the qualifying exam. *Prerequisite:* EDUE 726 *Corequisite:* EDUE 727 Duplicates Credit in EDUC 792 Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUE 780b Dissertation in Practice
Units: 2 Terms Offered: Sm Builds on EDUE 780a as students finalize their literature reviews, overview of methodology and other contextual writing for the dissertation in practice and qualifying exam. *Prerequisite:* EDUE 726 and EDUE 727 and EDUE 780a Duplicates Credit in EDUC 794a and EDUC 794b Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUE 784a Dissertation in Practice, Data Analysis
Units: 2 Terms Offered: FaSp Builds students' knowledge and skills for analyzing quantitative and qualitative data and reporting results and findings for their Dissertations in Practice. *Prerequisite:* EDUE 726 and EDUE 727 and EDUE 780a and EDUE 780b Instruction Mode: Lecture Grading Option: In Progress and Credit/ No Credit

EDUE 784b Dissertation in Practice, Data Analysis
Units: 2 Terms Offered: FaSpSm Builds students' knowledge and skills for analyzing quantitative and qualitative data and reporting results and findings for their Dissertations in Practice. *Prerequisite:* EDUE 780a and EDUE 780b and EDUE 784a Instruction Mode: Lecture Grading Option: In Progress and Credit/No Credit

EDUE 784c Dissertation in Practice, Data Analysis
Units: 2 Terms Offered: FaSpSm Builds students' knowledge and skills for analyzing quantitative and qualitative data and reporting results and findings for their Dissertations in Practice. *Prerequisite:* EDUE 780a and EDUE 780b and EDUE 784b Instruction Mode: Lecture Grading Option: In Progress and Credit/No Credit

EDUE 784d Dissertation in Practice, Data Analysis
Units: 2 Terms Offered: FaSpSm Builds students' knowledge and skills for analyzing quantitative and qualitative data and reporting results and findings for their Dissertations in Practice. *Prerequisite:* EDUE 780a and EDUE 780b and EDUE 784c Instruction Mode: Lecture Grading Option: In Progress and Credit/No Credit

EDUE 784z Dissertation in Practice, Data Analysis
Units: 0 Terms Offered: FaSpSm Builds students' knowledge and skills for analyzing quantitative and qualitative data and reporting results and findings for their Dissertations in Practice. *Prerequisite:* EDUE 780a and EDUE 780b and EDUE 784d Instruction Mode: Lecture Grading Option: In Progress and Credit/No Credit

Electrical Engineering

EE 101 Introduction to Digital Logic
Units: 3 Terms Offered: FaSp Boolean algebra; number systems; Boolean function synthesis; binary arithmetic; codes; combinational logic devices; sequential circuits; state machine design and implementation. Duplicates Credit in former EE 154. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI-110

EE 105 Introduction to Electrical Engineering
Units: 4 Terms Offered: Fa Electrical engineering overview: communications, computers, circuits, components, signals, electromagnetics, microelectronics; data encoding and compression, USPS and UPC product codes, DVDs, semiconductor devices, and integrated circuits. Instruction Mode: Lecture, Lab Grading Option: Letter

EE 109L Introduction to Embedded Systems
Units: 4 Terms Offered: Fa Information representations, embedded programming, digital and serial I/O, analog-to-digital conversion, and interrupt mechanisms. Elementary analog, logic, and state-machine design. *Corequisite:* EE 155L or CSCI 103L Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 141L Applied Linear Algebra for Engineering
Units: 4 Introduction to linear algebra with engineering applications. Weekly laboratory exercises using MATLAB. Duplicates Credit in former EE 241 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 155L Introduction to Computer Programming for Electrical Engineers
Units: 4 Terms Offered: Fa Introduction to solving engineering problems using computational methods. Survey of various programming languages and their strengths and weaknesses. Program structure, input/output, conditionals, loops, functions, arrays. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 202L Linear Circuits
Units: 4 Lumped circuit elements; network equations; zero-input and zerostate responses; sinusoidal steady-state analysis; impedance; resonance; network functions; power concepts; transformers; Laplace transforms. *Corequisite:* MATH 245 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 250L Distributed Systems for the Internet of Things
Units: 4 Introduction to hardware, operating systems, signal processing and control, network protocols, mobile applications, databases, cloud computing, machine learning and security for the Internet of Things. *Prerequisite:* EE 109L and (EE 155L or CSCI 103L) *Recommended Preparation:* Experience with DIY electronics, Linux and programming in a distributed, networked environment Registration Restriction: Open only to students with at least a sophomore standing Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 301L Linear Systems
Units: 4 Terms Offered: FaSp Representation and analysis of linear time-invariant systems primarily for the continuous time case. Convolution, Fourier series and transform, Laplace transform, controls and communications applications. *Prerequisite:* EE 141L and EE 202L Instruction Mode: Lecture, Lab Grading Option: Letter

EE 322 Introduction to Digital Audio and Acoustics
Units: 4 Terms Offered: Fa Fundamentals of digital audio along with an in-depth examination of the key factors that affect audio quality: room acoustics and human perception (psychoacoustics). *Recommended Preparation:* Matlab basic proficiency *Corequisite:* EE 301L Instruction Mode: Lecture Grading Option: Letter

EE 326Lx Essentials of Electrical Engineering
Units: 4 Network analysis and theorems; transient analysis; transformers; semiconductor physics and circuits; power amplifiers, modulation and demodulation, and pulse, digital, and switching circuits. Introduction to instrumentation. *Prerequisite:* PHYS 152L, MATH 126. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 337L Engineering Nano-Systems
Units: 3 Terms Offered: Sp Methods to control and exploit the phenomena of nanoscience, and the integration of nano-technology into systems. Development of fundamental concepts through a series of experimental modules. *Prerequisite:* PHYS 152. Duplicates Credit in former EE 238L. Instruction Mode: Lecture, Lab Grading Option: Letter

EE 338 Physical Electronics
Units: 4 Semiconductor device characteristics and applications. Physical models of electronic conduction in solids, p-n junctions, bipolar and field effect transistors and other solid-state devices. *Prerequisite:* EE 202L and PHYS 152L Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 348L Electronic Circuits
Units: 4 Terms Offered: FaSp Basic analog and digital circuit design using Bipolar Junction Transistors, Field Effect Transistors and integrated circuits. *Corequisite:* EE 338. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 352L Computer Organization and Architecture
Units: 3 Computer organization and architecture. Concepts include: computer evolution and performance, system busses, cache memory, internal and external memory, input/output, operating system support, computer arithmetic. *Prerequisite:* CSCI 104. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CSCI-352

EE 354L Introduction to Digital Circuits
Units: 4 Digital system design and implementation; synchronous design of datapath and control; schematic/ Verilog-based design, simulation, and implementation in Field Programmable Gate Arrays; timing analysis; semester-end project. *Prerequisite:* EE 109L Duplicates Credit in former EE 254 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 355x Software Design for Electrical Engineers
Units: 4 Object-oriented programming techniques, basic data structures, and elementary complexity analysis for the modeling, simulation, and solution of

engineering problems. *Prerequisite:* EE 155L Credit Restriction: Not available for credit for CSCI, CSGM, CSBA, or CECS majors Duplicates Credit in former CSCI 355x Instruction Mode: Lecture, Lab Grading Option: Letter

EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science
Units: 4 Terms Offered: FaSp Introduction to concepts of randomness and uncertainty: probability, random variables, statistics. Applications to digital communications, signal processing, automatic control, computer engineering and computer science. *Prerequisite:* MATH 225 or MATH 245 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 370 Electromagnetics for Engineering Systems
Units: 4 Electromagnetic plane-wave propagation and interactions with simple media, transmission/reception of wireless signals in complex environments. Optimization design methods for system applications. *Prerequisite:* PHYS 172L or PHYS 162L Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

EE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

EE 415 Introduction to MEMS
Units: 3 (Enroll in AME 455)

EE 422x Electromagnetic Systems Design
Units: 3 Terms Offered: FaSp Applied electromagnetics for large- and small-scale electromechanical systems. Comprehensive design project. Capstone design experience. *Prerequisite:* EE 330. Instruction Mode: Lecture Grading Option: Letter

EE 434Lx Digital Signal Processing Design Laboratory
Units: 4 Experiments and design project in digital signal processing (e.g., real-time DSP, acoustics, video) including: systems specification, preliminary analysis, trade-off studies, implementation, presentation. Capstone design experience. *Prerequisite:* EE 483. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 436 Introduction to Condensed Matter Physics
Units: 4 Terms Offered: Irregular, Sp (Enroll in PHYS 440)

EE 439 Principles of Semiconductor Processing
Units: 3 (Enroll in MASC 439)

EE 443 Introduction to Power Systems
Units: 4 Components of power systems; analysis techniques in electrical power generation transmission and utilization; and environmental and economic considerations in system operations and planning. *Prerequisite:* EE 370 Instruction Mode: Lecture Grading Option: Letter

EE 444 Power Systems Technology
Units: 4 Terms Offered: Fa Comprehensive assessment of the technical, environmental, and regulatory challenges that affect the future delivery and utilization of electric power. Case-study analysis. *Prerequisite:* EE 202L Instruction Mode: Lecture Grading Option: Letter

EE 445 Introduction to Robotics
Units: 4 (Enroll in CSCI 445)

EE 447Lx Mixed Signal Electronic Circuits
Units: 4 Application of solid-state electronic devices to the design of linear and mixed-signal systems. Laboratory experiments and projects involving the design of electronic hardware. Capstone design experience. *Prerequisite:* EE 348. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 448L Communication Electronics
Units: 4 Terms Offered: FaSp Analysis, design, and experimental evaluation of transistor-level communication circuits and micro-systems. Transmission lines, impedance matching, noise, distortion, tuned amplifiers, mixers, oscillators, phase-locked loops. *Prerequisite:* EE 348. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 450 Introduction to Computer Networks
Units: 4 Terms Offered: FaSpSm Network architectures; layered protocols, network service interface; local, wide area, wireless networks; Internet protocols; link protocols; addressing; routing; flow control; software defined network; multimedia networks. Registration Restriction: Open only to junior, senior and graduate students Duplicates Credit in CSCI 353 Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter Crosslisted as CSCI 450

EE 451 Parallel and Distributed Computation
Units: 4 Introduction to parallel programming techniques, models and optimization strategies; Application mapping to multi-core, accelerator, GPU and cloud platforms; High Performance Computing and Data Science applications. *Prerequisite:* EE 355x or CSCI 201L *Recommended Preparation:* High-level programming Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI 452

EE 452L Game Hardware Architectures
Units: 3 Terms Offered: Fa Architectural principles underlying modern game console hardware design; introduction to the programming techniques, optimization strategies, and hardware insights to create powerful games. *Prerequisite:* EE 352. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CSCI-452

EE 453 Computing Platforms and Paradigms
Units: 4 Microarchitecture performance, storage technologies, FPGA and GPU architecture, and cloud-based architectures combining heterogeneous processing resources. Programming paradigms including CUDA, MapReduce and OpenMP. *Prerequisite:* EE 250L Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 454L Introduction to System-on-Chip
Units: 4 Terms Offered: Fa Design flow, tools, and issues related to System/Network-on-Chip (S/Noc) design for real-time embedded systems with applications in mobile, cloud, aerospace, and medical electronics. *Prerequisite:* EE 354. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CSCI 454

EE 455x Introduction to Programming Systems Design
Units: 4 (Enroll in CSCI 455)

EE 457 Computer Systems Organization
Units: 4 Terms Offered: FaSpSm Register Transfer level machine organization; performance; arithmetic; pipelined processors; exceptions, out-of-order and speculative execution, cache, virtual memory, multi-core multi-threaded processors, cache coherence. *Prerequisite:* EE 354 Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter Crosslisted as CSCI 457

EE 459Lx Embedded Systems Design Laboratory
Units: 4 Terms Offered: Sp Specification, design, implementation, testing and documentation of a digital system project using embedded processors, programmable logic, analog I/O interfaces and application specific hardware. Capstone design experience. *Prerequisite:* EE 354L *Recommended Preparation:* Proficient in programming in the "C" language; knowledge of programming on the level of EE 155L or CSCI 103L Registration Restriction: Open only to seniors Credit Restriction: Not available for graduate credit Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 467 Introduction to Communication Systems
Units: 3 Analog and digital communication systems. (De)modulation and (de) multiplexing of AM/FM/PM, noise, digital data formats, error rates, and spectral analysis. Review of wireless, networking, and optical systems. *Prerequisite:* EE 301. Instruction Mode: Lecture Grading Option: Letter

EE 470L Electromagnetic Wave Engineering
Units: 4 Application of Maxwell's equations to electromagnetic waves and electrical engineering devices. *Prerequisite:* EE 370 *Recommended Preparation:* Familiarity with MATLAB Instruction Mode: Lecture, Lab Grading Option: Letter

EE 471 Applied Quantum Mechanics for Engineers
Units: 4 Introductory quantum mechanics and applications. Schrodinger equation, atomic and molecular processes, time-dependent perturbation theory. Applications to lasers, solid-state demos and gaseous devices. *Prerequisite:* EE 470L Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 471

EE 472 Introduction to Lasers and Laser Systems
Units: 3 Terms Offered: Fa Electric dipole transitions; traveling wave and resonant amplifiers; laser pumping and rate equations; threshold, frequency, and power output of lasers; holography; laser

communication systems. *Corequisite:* EE 470. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHYS-472

EE 473L Lasers and Optics Laboratory
Units: 3 Terms Offered: Sp Introductory design/research laboratory in lasers and optics, which typically includes fiber optics, photonics, electro-optics, optical sensors, optical communication, optical signal processing and computing. *Corequisite:* EE 470. Instruction Mode: Lab Required, Lecture Grading Option: Letter Crosslisted as PHYS-473

EE 475 Wireless Communication Technology
Units: 3 Terms Offered: FaSpSm Fundamentals of wireless communication from a device point of view. Lab experiments and design project. *Recommended Preparation:* EE 467 Instruction Mode: Lecture Grading Option: Letter

EE 476 Chemical Engineering Materials
Units: 4 Terms Offered: Fa (Enroll in CHE 476)

EE 477L MOS VLSI Circuit Design
Units: 4 Terms Offered: FaSpSm Analysis and design of digital MOS VLSI circuits including area, delay and power minimization. Laboratory assignments including design, layout, extraction, simulation and automatic synthesis. *Prerequisite:* EE 338 or EE 354L Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 479 Analog Integrated Circuit Design
Units: 4 Terms Offered: Sp MOSFET and BJT operation and models; elementary amplifier configurations; biasing and references; frequency response; feedback; operational amplifiers. *Prerequisite:* EE 348. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 481L Control Systems Laboratory
Units: 3 Terms Offered: Sp (Enroll in AME 443)

EE 482 Linear Control Systems
Units: 4 Terms Offered: FaSpSm Analysis of linear time-invariant (LTI) control systems; stability of LTI systems; frequency response, proportional-integral-differential (PID) and root-locus compensation techniques. *Prerequisite:* EE 301L Duplicates Credit in AME 451 Instruction Mode: Lecture, Lab Grading Option: Letter

EE 483 Introduction to Digital Signal Processing
Units: 4 Terms Offered: FaSp Fundamentals of digital signal processing covering: discrete time linear systems, quantization, sampling, Z-transforms, Fourier transforms, FFTs and filter design. *Prerequisite:* EE 301L *Recommended Preparation:* Familiarity with MATLAB Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 484x Communication System Design
Units: 3 Terms Offered: Sp Design and analysis of analog and digital communication systems. System models, requirements, development, performance analysis and component selection techniques. Comprehensive system design project. Capstone design experience. *Prerequisite:* EE 364, EE 475; *Recommended Preparation:* EE 467. Instruction Mode: Lecture Grading Option: Letter

EE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

EE 492a Undergraduate Project
Units: 2 For the undergraduate degree. Credit on acceptance of project. In Progress (IP) (EE 492a) or letter grade (EE 492b). Instruction Mode: Lecture Grading Option: In Progress to Letter

EE 492b Undergraduate Project
Units: 2 For the undergraduate degree. Credit on acceptance of project. In Progress (IP) (EE 492a) or letter grade (EE 492b). *Prerequisite:* EE 492a Instruction Mode: Lecture Grading Option: Letter

EE 494a Undergraduate Thesis
Units: 2 For the undergraduate degree. Credit on acceptance of thesis. IP (EE 494a) or letter grade (EE 494b). Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: In Progress/Letter

EE 494b Undergraduate Thesis
Units: 2 For the undergraduate degree. Credit on acceptance of thesis. IP (EE 494a) or letter grade (EE 494b). *Prerequisite:* EE 494a Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: Letter

EE 496 Capstone Design
Units: 4 Capstone design project for the undergraduate degree. Project topics vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

EE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content will be selected each semester from current developments in the field of electrical engineering. Instruction Mode: Lecture Grading Option: Letter

EE 501 Solid State
Units: 4 Terms Offered: Sp (Enroll in MASC 501)

EE 502 Advanced Solid State
Units: 3 (Enroll in MASC 502)

EE 503 Probability for Electrical and Computer Engineers
Units: 4 Terms Offered: FaSp Rigorous coverage of probability, discrete and continuous random variables, functions of multiple random variables, covariance, correlation, random sequences, Markov chains, estimation, and introduction to statistics. Duplicates Credit in EE 464 and EE 465. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 504L Solid-State Processing and Integrated Circuits Laboratory
Units: 4 Laboratory oriented with lectures keyed to practical procedures and processes. Solid-state fabrication and analysis fundamentals; basic device construction techniques. *Prerequisite:* EE 507 or EE 508 *Recommended Preparation:* Basic theory of semiconductor devices, including pn junction diodes and MOSFETs (EE 338 or equivalent). Registration Restriction: Open only to graduate students Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 505 Analog, Mixed-Signal, and RF Integrated-Circuit Tape-Out
Units: 4 Terms Offered: Sm Complete systematic tape-out flow including schematic design, simulation, layout and post-layout verification of analog, mixed-signal or radio-frequency integrated circuits. *Prerequisite:* EE 536a Instruction Mode: Lecture Grading Option: Letter

EE 506 Semiconductor Physics
Units: 4 Terms Offered: FaSp Semiconductor bonds, crystallography, band structure assumptions, group theory, band structure results, k.p. method, quantum wells, wires and dots, superlattices, amorphous, organic semiconductors, defects, statistics, surfaces. *Prerequisite:* MASC 501 and EE 471 Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 506

EE 507 Micro- and Nano-Fabrication Technology
Units: 4 Terms Offered: Sp Physical basis of technologies for the fabrication of micro- and nano-scale devices. Thin-film deposition, etching, and material modification processes; pattern transfer methods. *Recommended Preparation:* graduate standing in engineering, physics, or chemistry Duplicates Credit in former EE 508 Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 507

EE 509 Nanophotonics and Metamaterials
Units: 4 Overview of electromagnetic theory and numerical design needed to understand and design photonic devices. Includes discussion of integrated photonic waveguides and resonant cavities, photonic crystals, plasmonics, and metamaterials. *Prerequisite:* EE 470L *Recommended Preparation:* prior coursework in solid-state physics, quantum mechanics, and electromagnetics, prior experience using MATLAB Instruction Mode: Lecture Grading Option: Letter

EE 510 Linear Algebra for Engineering
Units: 4 Terms Offered: FaSp Introduction to linear algebra and matrix theory and their underlying concepts; applications to engineering problems; mathematically rigorous and foundational to other classes in communication, control, and signal processing. *Recommended Preparation:* EE 141L and MATH 445 or equivalent (calculus, undergraduate linear algebra, matrix theory) Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 511 Simulation Methods for Stochastic Systems
Units: 1 Project-oriented investigation of simulation methods used for the analysis and design of complex stochastic systems whose operation and performance are affected by random events. *Recommended Preparation:* MatLab programming experience. *Corequisite:* EE 503; Instruction Mode: Lecture Grading Option: Letter

EE 512 Stochastic Processes
Units: 3 Probability theory and stochastic processes, including renewal theory, Markov chains, Brownian motion, martingales, and stochastic calculus. Applications in communication networks, queuing theory and financial systems. *Prerequisite:* EE 503 and (EE 441 or EE

510 or EE 518) Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 513 Solid State Energy Devices
Units: 3 Design and operation of solar photovoltaic energy converters, thermovoltoic energy converters, thermoelectric energy converters, and solid state light emitters; their roles in renewal and conservation of energy. *Recommended Preparation:* EE 338. Instruction Mode: Lecture Grading Option: Letter

EE 514 Quantum Error Correction
Units: 4 A comprehensive introduction to quantum error correction and decoherence control, from the basics to the cutting edge, enabling students to delve into current research topics. *Recommended Preparation:* EE 520 Instruction Mode: Lecture Grading Option: Letter

EE 515 High-Voltage Technology
Units: 3 High voltage engineering basic concepts; theoretical, design, and practical aspects of overvoltages, travelling-waves, insulation, and aging; breakdown mechanisms; insulation coordination. Instruction Mode: Lecture Grading Option: Letter

EE 516 High-Voltage DC Transmission Systems
Units: 4 AC/DC conversion processes, converter technologies, and design; harmonics, controls, and protection; AC/DC interactions and system performance; modeling, application, and installation; current-source versus voltage-source converters. *Prerequisite:* EE 443 Instruction Mode: Lecture Grading Option: Letter

EE 517 Statistics and Data Analysis for Engineers
Units: 4 Terms Offered: FaSpSm Statistics and data analysis emphasizing computation and problem solving: confidence intervals, hypothesis tests, bootstrap and Monte Carlo estimation, regression, Bayesian and statistical learning techniques. *Prerequisite:* EE 503 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 518 Mathematics and Tools for Financial Engineering
Units: 4 Students will build a mathematical background for studying financial engineering. Emphasis is on analysis, proofs and examples. Mathwork's financial toolbox will be introduced. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 519 Speech Recognition and Processing for Multimedia
Units: 3 Terms Offered: Fa Speech production, acoustics, perception, synthesis, compression, recognition, transmission. Coding for speech, music, and CD-quality. Feature extraction. Echo cancellation. Audio, visual synchronization. Multimedia, internet use. *Prerequisite:* EE 483. Instruction Mode: Lecture Grading Option: Letter

EE 520 Introduction to Quantum Information Processing
Units: 4 Terms Offered: FaSpSm Basics of quantum computation and information: quantum bits and registers, unitary gates, algorithms, error correction and cryptography. Experimental realizations and near-term quantum technology. *Recommended Preparation:* An advanced course in complex linear algebra, such as EE 510 Instruction Mode: Lecture Grading Option: Letter

EE 521 Power Systems Analysis and Design
Units: 4 Power system planning, studies, and design; time-domain modeling and analysis of power-system networks; power flow, stability, fault, and economic dispatch analysis; symmetrical components. *Prerequisite:* EE 443 Instruction Mode: Lecture Grading Option: Letter

EE 522 Immersive Audio Signal Processing
Units: 4 Terms Offered: Sp Fundamentals of room acoustics, human perception (psychoacoustics) and digital audio signal processing algorithms to create immersive audio environments. *Recommended Preparation:* Familiarity with the basics of linear signals and systems, Fourier Transforms, Filters, Matlab proficiency, all at the level of EE 301L Instruction Mode: Lecture Grading Option: Letter

EE 523 Advanced Biomedical Imaging
Units: 4 Terms Offered: Sp (Enroll in BME 525)

EE 524 Transients in Power Systems
Units: 3 Overvoltages during faults, voltage recovery, arcing faults, restrikes, theory of switching surges. Systems grounding, traveling waves, lightning and surge protection, insulation coordination. *Prerequisite:* EE 443. Instruction Mode: Lecture Grading Option: Letter

EE 525 Power System Protection
Units: 4 Theory of system and equipment protection, characteristics of relays, relay coordination, and system considerations. *Prerequisite:* EE 443 Instruction Mode: Lecture Grading Option: Letter

EE 526 Renewable Energy in Power Systems
Units: 4 Renewable energy sources and their integration in electrical networks. Power-flow control from highly variable resources. Cost analysis and planning. Instruction Mode: Lecture Grading Option: Letter

EE 527 Net-Centric Power-System Control
Units: 3 Terms Offered: FaSpSm Control and stability of large-scale systems such as the electric power grid. Integration with information networks. *Recommended Preparation:* EE 482. *Corequisite:* EE 521; Instruction Mode: Lecture Grading Option: Letter

EE 528 Power Electronics
Units: 4 Terms Offered: Fa Fundamentals of switched-mode power converters operating under steadystate and transient conditions. Feedback control systems. Magnetic circuit design. *Prerequisite:* EE 443 Instruction Mode: Lecture Grading Option: Letter

EE 529 Optics
Units: 4 Geometrical optics, electromagnetic wave propagation, reflection and refraction at interfaces, imaging with lenses and mirrors, optics of the eye, optical instruments (microscopes/ telescopes/ cameras), and polarization. *Recommended Preparation:* EE 470 or graduate standing Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 530 Optical Materials, Instruments and Devices
Units: 4 Optical materials and devices; design and theory of selected optical instruments and components; properties of modulators; optical sources and detectors; emerging technologies relevant to system design. *Prerequisite:* EE 529 Instruction Mode: Lecture Grading Option: Letter

EE 531 Nonlinear Optics
Units: 4 Theory of nonlinear optical susceptibility and application to self-focusing, harmonic generation, and parametric interactions. Raman and Brillouin scattering. Coherent spectroscopy. *Prerequisite:* EE 470L *Recommended Preparation:* Familiarity with Maxwell's equations Instruction Mode: Lecture Grading Option: Letter

EE 532 Wireless Internet and Pervasive Computing
Units: 3 Terms Offered: Fa Wireless Internet access technologies, 3G cellular systems, WAP and PKI protocols, mobile computing devices, network security for mobile E-commerce, software and middleware for pervasive, cluster, grid, and Internet computing. *Prerequisite:* EE 450; *Recommended Preparation:* EE 457. Instruction Mode: Lecture Grading Option: Letter

EE 533 Network Processor Design and Programming
Units: 3 Terms Offered: Sp Understanding of network processor architecture, applications, and other relevant issues. Program network processor and test under realistic network environment. Design and deploy custom network processor. *Prerequisite:* EE 457; *Recommended Preparation:* EE 450. Instruction Mode: Lecture Grading Option: Letter

EE 534 Materials Characterization
Units: 4 Terms Offered: Fa (Enroll in MASC 534)

EE 535 Wireless Communications
Units: 4 Terms Offered: Sp The mobile communication channel; techniques used to combat the channel; cellular communications; multiple-access techniques; example mobile communication systems. *Prerequisite:* EE 503 *Recommended Preparation:* Basic electromagnetic theory, digital communications systems; EE 510 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 536a Analog Integrated Circuits
Units: 4 MOSFET operation and models; elementary amplifier configurations; biasing and references; frequency response; noise; feedback; operational amplifiers; frequency compensation; non-linearity and mismatch; passive and active filters. *Prerequisite:* EE 348L Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 536b Analog Integrated Circuits
Units: 4 Terms Offered: Sp Advanced topics in analog integrated circuits: Advanced feedback concepts; active filters; ultra-low-power and ultra-low-voltage subthreshold design; analog signal processing for

machine learning and artificial intelligence. *Prerequisite:* EE 536a Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 537 Modern Solid-State Devices
Units: 4 Terms Offered: Fa Integrated-circuit technologies for mixed-signal communication and data systems. Constituent device models and their limitations. Contemporary research topics. *Prerequisite:* EE 338 Instruction Mode: Lecture Grading Option: Letter

EE 538 Computing Principles for Electrical Engineers
Units: 2 Terms Offered: Sp Survey of computing principles and practice of software design: object-oriented and non object-oriented, testing, template libraries, time-space complexity, data structures, algorithms, and dynamic programming. *Recommended Preparation:* Exposure to computer programming Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 539 Engineering Quantum Mechanics
Units: 4 Terms Offered: Fa Quantum mechanics for engineering majors who work with solid-state devices, quantum electronics, and photonics. Schroedinger equation, perturbation theory, electronic and optical processes. *Recommended Preparation:* Experience with linear algebra, Newtonian mechanics, Maxwell's equations, and MATLAB Instruction Mode: Lecture, Quiz Grading Option: Letter Crosslisted as MASC 539

EE 540 Introduction to Quantum Electronics
Units: 4 Fundamentals of light amplification; laser amplifiers and oscillators; atomic pumping; maser and laser systems; definitions of coherence; measurements in quantum electronics. *Prerequisite:* EE 470L *Recommended Preparation:* Quantum Mechanics at the level of EE 471 or (PHYS 438a and PHYS 438b) Instruction Mode: Lecture Grading Option: Letter

EE 541 A Computational Introduction to Deep Learning
Units: 2 Terms Offered: Fa Deep learning frameworks for training multilayer perceptrons, convolutional and recurrent neural networks; Python, virtual environments, linux and shell scripting, cloud computing, including GPUs and datasets. *Recommended Preparation:* Graduate standing and a typical undergraduate ECE background including the equivalent of EE 105 and EE 155L and some exposure to a high-level scripting language such as Python or Matlab. *Corequisite:* EE 503 and EE 510 Instruction Mode: Lecture Grading Option: Letter

EE 542 Internet and Cloud Computing
Units: 3 Terms Offered: Fa Principles and technologies of server clusters, virtualized datacenters, Grids/P2P, Internet clouds, social networks, Internet of Things (IoT), and their innovative applications. *Recommended Preparation:* EE 450 or EE 457. Instruction Mode: Lecture Grading Option: Letter

EE 543aL Digital Control Systems
Units: 3 Terms Offered: Fa Design, analysis, and implementation of digital control systems using microcomputers; Z-transform methods; frequency domain and state space approach; computational aspects; sampling and quantization. *Prerequisite:* EE 482. Duplicates Credit in b: former EE 485abL. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-553A

EE 543bL Digital Control Systems
Units: 1 Modeling of real processes; design and implementation of digital control systems in the controls laboratory. *Prerequisite:* EE 543a. Duplicates Credit in b: former EE 485abL. Instruction Mode: Lab Required Grading Option: Letter Crosslisted as AME-553B

EE 544 Radio Frequency Systems and Hardware
Units: 3 Terms Offered: Sp Elements of radio frequency communication systems: modulation/demodulation strategies, transmission-channel impairments, performance criteria, hardware (low-noise amplifiers, mixers, oscillators), digital back-end, contemporary case studies. *Prerequisite:* EE 301, EE 348, EE 364. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 545 Robotics
Units: 3 Terms Offered: FaSp (Enroll in CSCI 545)

EE 546 Mathematics of High-Dimensional Data
Units: 4 Terms Offered: Irregular Modern developments in data representation/analysis, nonconvex optimization, high-dimensional probability, sketching, clustering, low-rank models, inverse problems, applications in imaging, machine learning, computer vision and neuroscience. *Prerequisite:* EE 510 and EE 503 Instruction Mode: Lecture Grading Option: Letter

EE 547 Applied and Cloud Computing for Electrical Engineers
Units: 2 Terms Offered: Fa Introduction to cloud applications; software development and deployment within cloud platforms; interactive user-facing interfaces; API development; databases, virtualization, asynchronous execution, testing and scalability. *Prerequisite:* EE 538 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 548 Analytical Methods in Robotics
Units: 3 (Enroll in AME 548)

EE 549 Nanotechnology for Materials, Electronics, and Circuits
Units: 4 Nanotechnology for advanced nanomaterials, nanoelectronics devices, and circuits, including the rigorous treatment of electronic band structures of carbon nanotubes, graphene, and two-dimensional materials. Instruction Mode: Lecture Grading Option: Letter

EE 550 Data Networks: Design and Analysis
Units: 4 Applications of stochastic modeling and optimization techniques to communication network design and analysis. Data link control; performance models; multi-access channels; routing and flow control. *Prerequisite:* EE 450 and EE 503 *Recommended Preparation:* Probability analysis and general mathematical analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 551 Principles of Radar
Units: 3 Terms Offered: Irregular Signal propagation, reflections from targets; radar equation; detection of scintillating targets; resolution; ambiguity functions; clutter rejection; tracking radars. *Prerequisite:* EE 364 and EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 552 Asynchronous VLSI Design
Units: 4 Terms Offered: Sp Asynchronous channels and architectures; implementation design styles; controller synthesis; hazards, and races; Petri-nets; performance analysis, and optimization; globally asynchronous, locally synchronous design. *Prerequisite:* EE 477L *Recommended Preparation:* EE 457 or other basic course in computer architecture Registration Restriction: Open only to graduate students Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 553 Computational Solution of Optimization Problems
Units: 3 Terms Offered: Sp Computer algorithms for system optimization. Search techniques, gradient methods, parameter optimization in control systems. Optimization with constraints; linear and nonlinear programming. Random search techniques. *Prerequisite:* EE 441 or EE 510 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 553

EE 554 Cyber-Physical Systems: A Computing Perspective
Units: 4 Terms Offered: Sp Cyber-physical systems; models of computation; programming models; compiler analysis; automatic parallelization; heterogeneous computing and memory systems; multicores; interconnect; mapping; scheduling; real-time operating systems; reliability; fault-tolerance. Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter Crosslisted as CSCI 554

EE 555 Broadband Network Architectures
Units: 3 Terms Offered: FaSpSm Broadband network architectures and services, technologies for high-speed access and core networks, optical infrastructure for layered network architectures, high performance switch and router architectures. *Prerequisite:* EE 450 and EE 503. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 556 Stochastic Systems and Reinforcement Learning
Units: 4 Terms Offered: Sp Stochastic system models, Dynamic programming, Linear quadratic control, Kalman filtering and estimation, System identification, approximate dynamic programming methods, adaptive control, reinforcement and online learning. *Prerequisite:* EE 503 *Recommended Preparation:* EE 512 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ISE 556

EE 557 Computer Systems Architecture
Units: 4 Terms Offered: FaSp Computer architecture from a design perspective: Pipelined processors, speculative execution, VLIW, vector processors, GPU/GPGPU, memory technology and systems, interconnection networks, shared-memory and message-passing multiprocessors, chip multiprocessors. *Prerequisite:* EE 457 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI 557

EE 558 Optical Fiber Communication Systems
Units: 3 Terms Offered: FaSp State-of-the-art optical fiber communication systems. Emphasis on optoelectronic-device and communication-systems issues necessary to provide high-speed and/or networked optical communications. *Recommended Preparation:* EE 338; basic knowledge of optics, semiconductor, and communications concepts. Instruction Mode: Lecture Grading Option: Letter

EE 559 Machine Learning I: Supervised Methods
Units: 4 Terms Offered: Sp Distribution-free and probabilistic methods for supervised classification and regression; learning algorithms; optimization techniques; feature-space transformations; parametric and nonparametric methods; Bayes decision theory; artificial neural networks. *Recommended Preparation:* knowledge of Python at the level of EE 541 (A Computational Introduction to Deep Learning); knowledge of multivariate calculus. *Corequisite:* EE 503 and EE 510 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI 559

EE 560L Digital System Design
Units: 4 ASIC design, FPGAs, VHDL, verilog, test benches, simulation, synthesis, timing analysis, post-synthesis simulation, FIFOs, handshaking, memory interface, PCI bus protocol, CAD tools, design lab exercises. *Prerequisite:* EE 457 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 561 Foundations of Artificial Intelligence
Units: 3 Terms Offered: FaSp (Enroll in CSCI 561)

EE 562 Random Processes in Engineering
Units: 4 Random vectors, sequences, and functions. Linear transformations, second moment theory, spectral densities, narrowband processes, Gaussian processes, correlation detection, linear minimum mean square error estimation. *Prerequisite:* EE 503 and (EE 441 or EE 510) Duplicates Credit in former EE 562a Instruction Mode: Lecture Grading Option: Letter

EE 563 Estimation Theory
Units: 3 Terms Offered: Fa Parameter estimation and state estimation technique including: least squares, BLUE, maximum-likelihood, maximum a posteriori, Kalman-prediction, Kalman-filtering and Kalman smoothing and extended Kalman filtering. *Prerequisite:* EE 503 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 564 Digital Communication and Coding Systems
Units: 4 Digital modulations. Optimal reception. Performance analysis. Classical and modern codes. Viterbi, forward-backward, and iterative decoding. Practical designs for channels with memory or nonlinearities. Example systems. *Prerequisite:* EE 503 and (EE 441 or EE 510) *Recommended Preparation:* Basic computer skills (simple programs and plotting) Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 565 Information Theory and Its Application to (Big) Data Sciences
Units: 4 Terms Offered: FaSp Entropy and mutual information. Variable and fixed-length, lossless and lossy compression. Universal compression. Text and multimedia compression. Channel capacity. Error-correcting codes. Erasure and Gaussian channels. *Prerequisite:* EE 503 Duplicates Credit in former EE 565a Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 566 Optical Information Processing
Units: 3 Terms Offered: Sp Coherent and incoherent optical transforming, imaging and two-dimensional information processing systems; optical image processing, spatial frequency response and filtering; optical and digital holography. *Recommended Preparation:* continuous-time Fourier transforms, linear systems, signals/function Instruction Mode: Lecture Grading Option: Letter

EE 567 Communication Systems
Units: 3 Terms Offered: FaSpSm Analysis of communication systems operating from very low to optical frequencies. Comparison of modulation and detection methods. System components description. Optimum design of communication systems. *Recommended Preparation:* EE 441 or EE 510 *Corequisite:* EE 503 Instruction Mode: Lecture Grading Option: Letter

EE 568 Parallel Programming
Units: 4 Terms Offered: Sp Parallel programming and computation models, shared memory, message passing; performance modeling and optimization; communication computation tradeoffs; heterogeneous computing; stream processing; application acceleration. *Recommended Preparation:* EE 451 or EE 457 and a high level programming language at the level of CSCI 455x Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 569 Introduction to Digital Image Processing
Units: 4 Terms Offered: Sp Image sampling, 2-D image transform, image enhancement, geometric image modification, morphologic processing, edge detection, texture analysis, image filtering and restoration. *Recommended Preparation:* EE 503, C/C++ or Matlab programming ability Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 570a Advanced Electromagnetic Theory
Units: 4 Classical electromagnetic field theory and its usage in understanding and analytically modelling advanced applied electrical engineering devices. *Recommended Preparation:* EE 470 (or equivalent); working knowledge of vector algebra, vector calculus, differential equations, and complex variables Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 570b Advanced Electromagnetic Theory
Units: 4 Classical electromagnetic field theory and its usage in understanding and analytically modelling advanced applied electrical engineering devices. *Prerequisite:* EE 570a Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 571 Wave Interactions with Random and Inhomogeneous Media
Units: 4 Analyses and applications of electromagnetic wave scattering and propagation in inhomogenous media, including random media and periodic structures. *Prerequisite:* EE 470L Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 572a Plasma Dynamics
Units: 3 Particle drifts, collision phenomena, Boltzmann and Vlasov equations, hydrodynamic equations, Coulomb interactions; waves in a cold and hot plasma, plasma oscillations, Landau damping, hydromagnetic waves. Instruction Mode: Lecture Grading Option: Letter

EE 572b Plasma Dynamics
Units: 3 Particle drifts, collision phenomena, Boltzmann and Vlasov equations, hydrodynamic equations, Coulomb interactions; waves in a cold and hot plasma, plasma oscillations, Landau damping, hydromagnetic waves. Instruction Mode: Lecture Grading Option: Letter

EE 573a Antenna Systems Engineering
Units: 3 Analysis of idealized antenna models, including the dyadic Green's function, reciprocity, aperture radiation, methods of moments, geometrical and physical optics, reflectors, arrays. *Prerequisite:* EE 470. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 573b Antenna Systems Engineering
Units: 4 Introduction to the analytical and numerical techniques used in the analysis and design of modern reflector antenna systems, including physical optics, asymptotic techniques, shaping and feeds. *Prerequisite:* EE 573a and EE 470L Instruction Mode: Lecture Grading Option: Letter

EE 574 Computer Vision
Units: 3 Terms Offered: Fa (Enroll in CSCI 574)

EE 575 Computational Differential Geometry for Engineers
Units: 3 Differential geometry of curves and surfaces, vectors, tensors, manifolds, curvature, Lie groups, Riemannian geometry, numerical PDEs, heat and Laplace equation, Applications to computer vision, machine learning, signal and image processing. *Recommended Preparation:* Good background in calculus and familiarity with Matlab or C++ Instruction Mode: Lecture Grading Option: Letter

EE 576 Integrated Memory Devices and Technologies
Units: 4 Fundamental device physics, integration technology and cutting-edge innovations in integrated microelectronic

memory devices and systems, and their applications in data storage and emerging beyond-von-Neumann computing. *Recommended Preparation:* Understanding of basic semiconductor device physics and fabrication technology is useful, but not required Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 577a VLSI System Design
Units: 4 Terms Offered: FaSp MOS logic; system design; memory design; datapath subsystem design; circuit simulation; basic device physics; simple device layout: structured chip design; timing; project chip; silicon compilers. *Prerequisite:* EE 477L Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

EE 577b VLSI System Design
Units: 2 Terms Offered: FaSp Semi-custom ASIC VLSI flow; RTL coding, logic synthesis, automatic placement & routing, memory and memory interface design, signal integrity issues and solutions *Prerequisite:* EE 577a Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 578 Computational Electromagnetics for Engineers
Units: 4 Computational electromagnetics: numerical methods; partial differential equations, integral equations; finite difference and finite element methods; electromagnetic scattering, nanophotonics, waveguides, antennas; Maxwell, acoustic, and quantum simulation. Instruction Mode: Lecture Grading Option: Letter

EE 580 System Verification
Units: 4 Functional/timing/power verification of complex systems. Simulation-based, formal/semi-formal/assertion languages and tools (SystemVerilog, UVM, UPF, etc.) FPGA prototyping, hardware acceleration, statistical modeling and machine learning. Instructor permission required. *Recommended Preparation:* EE 457 and EE 477L; scripting using Python, OOP using C++; algorithms, statistics and probability Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

EE 581 Mathematical Foundations for System Design: Modeling, Analysis, and Synthesis
Units: 4 Fundamental techniques underlying the methodologies for system design, from integrated circuits to cyber-physical systems. Design flows, fundamental classes of models, and verification and synthesis techniques. *Recommended Preparation:* Exposure to the fundamentals of calculus or discrete mathematics, some background in programming, and an inclination to formal reasoning Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI 593

EE 582 CMOS:Nano Neuromorphic Circuits
Units: 4 Design and simulation of CMOS and nano electronic circuits modeling brain cells, including neurons and glial cells; low-power design; simulation laboratory. *Prerequisite:* EE 348L *Recommended Preparation:* EE 477L or EE 479 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as BME 582

EE 583 Statistical Signal Processing
Units: 3 Characterization of discrete-time random processes. Parametric and non-parametric spectral estimation, adaptive filtering, signal subspace methods, independent components analysis, non-Gaussian signal processing. *Prerequisite:* EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 584 Chaotic Systems
Units: 3 Terms Offered: Fa Logistic map, chaotic bifurcation, strange attractors, and fractals. Conservative dynamical systems and measure preserving transformations. Ergodicity. Kolmogorov-Sinai entropy. Chaotic/stochastic realization. Chaos in feedback. *Prerequisite:* EE 562a, EE 562b. Instruction Mode: Lecture Grading Option: Letter

EE 585 Linear System Theory
Units: 4 Terms Offered: FaSpSm Analysis of linear dynamical systems by state-space and input-output techniques; stability, controllability, observability; observer-based controller; linear quadratic regulator. *Prerequisite:* EE 441 or EE 510 *Recommended Preparation:* Solid knowledge of linear algebra Duplicates Credit in AME 541 Instruction Mode: Lecture Grading Option: Letter

EE 586L Advanced DSP Design Laboratory
Units: 4 Terms Offered: Sp Real-time adaptive signal processing design projects using special purpose DSP processors. Suitable project areas include acoustics, speech, arrays, image compression and biomedical signal processing. Permission of instructor required. *Prerequisite:* EE 483 *Recommended Preparation:* At least one 500-level DSP course Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 587 Nonlinear Control Systems
Units: 4 Terms Offered: Fa State-space Models. Equilibrium points. Limit Cycles. Linearization. Nonlinear Phenomena. Lyapunov Stability. Analysis and Design of Nonlinear Systems. Passivity. Backstepping. Feedback and Input-Output Linearization. *Prerequisite:* EE 585 *Recommended Preparation:* Beneficial (but not required): classical control (at the level of EE 482 or equivalent) and some prior exposure to Matlab and/or Simulink. Background in probability (at level of EE 503 or equivalent). Duplicates Credit in AME 552 Instruction Mode: Lecture Grading Option: Letter

EE 588 Optimization for the Information and Data Sciences
Units: 4 Convex sets, functions, and optimization problems. Basic convex analysis and theory of convex programming. Novel, efficient first-order algorithms. Applications in the information and data sciences. *Prerequisite:* EE 510 *Recommended Preparation:* EE 503 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 589 Quantum Information Theory
Units: 4 Terms Offered: Sp Quantum Shannon theory: quantum channels and entanglement; dense coding, teleportation, quantum compression, and quantum capacity theorems. Open problems in quantum communication. *Recommended Preparation:* A strong working knowledge of complex linear algebra and probability theory (at the level of MATH 225, MATH 307, EE 364, etc.); knowledge of quantum information at the level of EE 520 or EE 514 Instruction Mode: Lecture Grading Option: Letter

EE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EE 591 Magnetic Resonance Imaging and Reconstruction
Units: 3 Terms Offered: FaSp Principles of magnetic resonance imaging. Spin physics, Fourier-based acquisition and reconstruction, generation of tissue contrast, fast imaging, artifact correction, advanced image reconstruction. *Prerequisite:* EE 483; *Recommended Preparation:* EE 441 and EE 503. Familiarity with MATLAB is required. Instruction Mode: Lecture Grading Option: Letter

EE 592 Computational Methods for Inverse Problems
Units: 4 Terms Offered: FaSpSm A rigorous description of vector space and functional analysis concepts and tools that are useful for solving inverse problems in real-world applications. *Prerequisite:* EE 483 and (EE 441 or EE 510) *Recommended Preparation:* EE 503 Instruction Mode: Lecture Grading Option: Letter

EE 593 Robust Multivariable Control
Units: 4 Terms Offered: Fa Singular values of the various sensitivity matrices are introduced to quantify the benefits of multivariable feedback systems operating in an uncertain environment and controllers are designed for the worst-case disturbances making them "robust." *Prerequisite:* EE 482 *Recommended Preparation:* Nonlinear and Adaptive Control on the level of EE 587 *Corequisite:* EE 585 Instruction Mode: Lecture Grading Option: Letter

EE 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 595 Software Design and Optimization
Units: 4 Software strategies for applications constrained by power consumption, memory space and verification time; assignments incorporate key elements of planning, modeling, design simulation and testing. *Recommended Preparation:* Strong programming skills, (OOP and scripting),

knowledge of algorithms, statistics and probability theory Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

EE 596 Wavelets and Graphs for Signal Processing and Machine Learning
Units: 4 Multirate signal processing, wavelets and filter banks. Overcomplete and sparse signal representations. Graph signal processing. Applications to compression, sensing, time-frequency analysis, and machine learning. *Prerequisite:* EE 483 and (EE 441 or EE 510) Instruction Mode: Lecture Grading Option: Letter

EE 597 Wireless Networks
Units: 4 Terms Offered: FaSp Introduction to wireless networking technologies; fundamental architectural and design principles used at all protocol layers; optimization, performance evaluation and implementation using mathematical analysis, simulations, and experiments. *Prerequisite:* EE 450 and EE 503 *Recommended Preparation:* EE 467 or equivalent; familiarity with Matlab and C programming Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 598 Electrical Engineering Research Seminar
Units: 1 Max Units: 2.0 Introduction to research in electrical engineering. Topics vary by semester. May be repeated for up to one unit of credit for MS students, two units of credit for PhD students. Registration Restriction: Open only to Master's and Doctoral Students. Instruction Mode: Lecture Grading Option: Credit/No Credit

EE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 The course content will be selected each semester to reflect current trends and developments in the field of electrical engineering. Instruction Mode: Lecture Grading Option: Letter

EE 601 Advanced Semiconductor Device Physics
Units: 4 Terms Offered: Sp Fundamentals and limitations of nanoscale electronic and photonic semiconductor components. Engineering classical, mesoscale, and quantum electron and photon dynamics in advanced devices. *Recommended Preparation:* EE 471 or EE 539 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as MASC 601

EE 603 System Identification
Units: 4 Terms Offered: FaSp (Enroll in CE 603)

EE 604 Computational Methods in Applied Physics
Units: 4 Methods for solving physics-based problems with no analytic solution including eigen problems, scattering/linear-response problems, nonlinear wave propagation and stochastic systems. *Recommended Preparation:* Familiarity with differential equations and wave equations at the level of EE 370; computer programming experience at the level of EE 155L Instruction Mode: Lecture Grading Option: Letter

EE 607 Microelectromechanical Systems
Units: 4 Terms Offered: FaSp Exploration of the technology methods and physical principles of MEMS, and survey various MEMS of current interest. *Recommended Preparation:* Knowledge of microfabrication, electromagnetic fields and waves, and mechanics Instruction Mode: Lecture Grading Option: Letter

EE 612 Science and Practice of Nanotechnology
Units: 3 Terms Offered: Fa In-depth discussions of important topics in nanotechnology, including both the implementation and the underlying theory. *Prerequisite:* EE 330 or EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 619 Advanced Topics in Automatic Speech Recognition
Units: 3 Terms Offered: FaSpSm Advanced topics in automatic speech recognition, speaker recognition, spoken dialogue, conversational multimedia interfaces. *Recommended Preparation:* EE 519 and CSCI 544 and EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 626 Survey of Energy and Power for a Sustainable Future
Units: 3 Terms Offered: FaSp (Enroll in AME 577)

EE 631 Mixed-Signal Integrated Circuits
Units: 4 Fundamentals of sampling and discrete-time signals; analog to digital converters; digital to analog converters; switched-capacitor circuits. *Prerequisite:* EE 536a Instruction Mode: Lecture Grading Option: Letter

EE 632a Integrated Communication Systems
Units: 4 System- and transistor-level analysis and design of integrated circuits for wireless communications. Wireless communication concepts; radiofrequency transceiver architectures; low-noise amplifiers; mixers; oscillators; power amplifiers. Duplicates Credit in former EE 632 Instruction Mode: Lecture Grading Option: Letter

EE 632b Integrated Communication Systems
Units: 4 System- and transistor-level analysis and design of integrated circuits for wireless and wireline communications; phase- and delay-locked loops; frequency synthesizers; clock and data recovery. *Prerequisite:* EE 632a Instruction Mode: Lecture Grading Option: Letter

EE 635 Advanced Wireless Communications
Units: 3 Fundamentals of advanced wireless systems, including multi-antenna, cognitive, and cooperative systems as well as exploration of current standards in wireless networks in use today. *Prerequisite:* EE 535; *Recommended Preparation:* basic programming course. Instruction Mode: Lecture Grading Option: Letter

EE 637L Current and Future Computing Devices and Technology
Units: 4 State-of-the-art computing devices; current trends in device technologies; future directions. *Prerequisite:* EE 537 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 638 Applications of Machine Learning for Medical Data
Units: 4 Application of machine learning models and algorithms to medical applications, learning from data and classification of disorders. Overview of health data, collection with sensors, body area networks, brain image data and other publicly available medical applications data. *Prerequisite:* EE 660 or CSCI 561 or INF 552 Instruction Mode: Lecture Grading Option: Letter

EE 641 Deep Learning Systems
Units: 2 Terms Offered: Fa Neural networks for nonlinear regression, classification, reinforcement learning; back-propagation learning for multilayer perceptrons, convolutional and recurrent networks; applications in audio processing vision and autonomy. *Prerequisite:* EE 541 and EE 559 Instruction Mode: Lecture Grading Option: Letter

EE 642 Advanced Geometrical Optics
Units: 3 First order design of optical systems; origin of aberrations and their effects on wave propagation and imaging based on geometrical and physical optics. *Prerequisite:* EE 529. Instruction Mode: Lecture Grading Option: Letter

EE 645 Uncertainty Modeling and Stochastic Optimization
Units: 3 (Enroll in CE 645)

EE 648 Game Theory with Engineering Applications
Units: 4 Terms Offered: Irregular Basics of strategic games, Bayesian games, Dynamic games, Cooperative games, Mechanism design and auctions, Network economics, Resource sharing mechanisms in networks. *Recommended Preparation:* EE 503 Instruction Mode: Lecture Grading Option: Letter

EE 649 Stochastic Network Optimization
Units: 3 Terms Offered: FaSpSm Optimization of wireless and ad-hoc mobile networks; opportunistic scheduling, flow control; back-pressure routing; queue stability; energy-delay and utility-delay trade-offs. *Prerequisite:* EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 650 Advanced Topics in Computer Networks
Units: 3 Terms Offered: Irregular Protocol modeling: flow and congestion control, dynamic routing, distributed implementation; broadcast communication media and multiple access protocols; local networks, satellite networks, terrestrial radio networks. *Prerequisite:* EE 450 and EE 503; *Recommended Preparation:* EE 550 or CSCI 551. Instruction Mode: Lecture Grading Option: Letter

EE 652 Low-Power Wireless Networks
Units: 3 Terms Offered: Fa Implementation of low-power wireless protocols for medium access, scheduling, multi-hop routing, congestion control, localization, synchronization. IP stack for the Internet of Things. Wireless sensor network applications. *Prerequisite:* EE 450; *Recommended Preparation:* CSCI 402, strong programming skills, and experience with Linux. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-652

EE 653 Advanced Topics in Microarchitecture
Units: 3 Current research topics related to microprocessor architecture. Dynamically / statically scheduled processors, multithreading, chip multiprocessors, systems on a chip. Power, performance,

complexity, dependability issues. Impact of technology. *Prerequisite:* EE 557. Instruction Mode: Lecture Grading Option: Letter

EE 657 Parallel and Distributed Computing
Units: 3 Terms Offered: FaSpSm Scalable multiprocessor systems and clusters, virtual machine, service oriented architecture, network-based computing, peer-to-peer, grid and cloud based storage and computing, case studies. *Prerequisite:* EE 557; *Recommended Preparation:* EE 450. Instruction Mode: Lecture Grading Option: Letter

EE 658 Diagnosis and Design of Reliable Digital Systems
Units: 3 Terms Offered: Fa Fault models; test generation; fault simulation; self-checking and self-testing circuits; design for testability; fault tolerant design techniques; case studies. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-658

EE 659 Interconnection Networks
Units: 3 Terms Offered: Sp Theory, design and analysis of interconnection networks for multiprocessor systems. Study of direct and indirect topologies, deadlock-free routing, flow control, network interfaces, optical interconnects. *Prerequisite:* EE 557. Instruction Mode: Lecture Grading Option: Letter

EE 660 Machine Learning II: Mathematical Foundations and Methods
Units: 4 Terms Offered: Fa Supervised, semi-supervised, and unsupervised machine learning; domain adaptation and transfer learning. Feasibility of learning, model complexity, and performance (error) on unseen data. *Prerequisite:* EE 503 and EE 510 and EE 559 *Recommended Preparation:* Experience with Python at the level of EE 541. Familiarity with general machine learning methods including regression and classification and with computational complexity at the level of EE 538 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 664 Advanced Topics in Communication Theory
Units: 3 Modern communication theory for heterogeneous networks. Novel methods for communication network analysis and design. New theoretical tools: e.g. interference alignment, polar codes, and sparse approximation. *Prerequisite:* EE 564 *Recommended Preparation:* EE 535 and EE 565a, EE 565b. Instruction Mode: Lecture Grading Option: Letter

EE 665 Advanced Topics in Information Theory
Units: 3 Terms Offered: Fa Multi-terminal and network information theory. Network coding. Coding for special applications such as data storage. Applications of information theory to computational biology and data analytics. *Prerequisite:* EE 565 Instruction Mode: Lecture Grading Option: Letter

EE 669 Multimedia Data Compression
Units: 3 Terms Offered: FaSpSm Lossless compression, audio/speech coding, vector quantization, fractal compression, JPEG and JPEG-2000, video compression techniques and MPEG standards, video transmission over wired and wireless networks. *Recommended Preparation:* EE 503. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 674a Advanced Topics in Computer Vision
Units: 3 Terms Offered: Irregular (Enroll in CSCI 674a)

EE 674b Advanced Topics in Computer Vision
Units: 3 Terms Offered: Irregular (Enroll in CSCI 674b)

EE 675 Data Analysis and Control Techniques for Neurotechnology Design
Units: 4 Terms Offered: Sp Data analysis, machine learning and control-theoretic mathematical tools used in studying the brain and designing neurotechnologies such as brain-machine interfaces. *Prerequisite:* EE 503 *Recommended Preparation:* EE 441 Instruction Mode: Lecture Grading Option: Letter

EE 676 Advanced Computer Vision
Units: 4 (Enroll in CSCI 677)

EE 677 VLSI Architectures and Algorithms
Units: 3 VLSI models; measures of area, volume and time; mapping algorithms; systolic arrays; area time tradeoffs; applications to signal and image processing problems. *Recommended Preparation:* EE 457 and CSCI 570 Instruction Mode: Lecture Grading Option: Letter

EE 680 Computer-Aided Design of Digital Systems I
Units: 3 Terms Offered: Sp Synthesis; partitioning; placement; routing of digital circuits; integrated circuit design methods; simulation at the switch, gate, register transfer and system levels. *Prerequisite:* EE 581; *Recommended Preparation:* EE 577a. Instruction Mode: Lecture Grading Option: Letter

EE 681 Computer-Aided Design of Digital Systems II
Units: 3 Theory and techniques for design and analysis of digital logic; specification, formal models; hardware-descriptive languages; formal verification, high level synthesis; logic synthesis. Instruction Mode: Lecture Grading Option: Letter

EE 682 Law and Intellectual Property for Engineers
Units: 3 Terms Offered: Sp Detailed introduction to the modern American legal system with a special focus on intellectual-property doctrines. *Recommended Preparation:* EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 689 Computational Intelligence and Neural Learning
Units: 4 Terms Offered: Sp Computational intelligence techniques that include neural systems, deep learning, adaptive pattern classification, fuzzy function approximation, simulated annealing and evolutionary computing, and hybrid systems. *Recommended Preparation:* EE 483, EE 503 or equivalent, EE 510 Registration Restriction: United States Duplicates Credit in former EE 500 Instruction Mode: Lecture Grading Option: Letter

EE 690 Directed Research
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Laboratory study of specific problems by candidates for the degree Engineer in Electrical Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

EE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EE 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Endodontics

ENDO 501 Clinical Endodontics
Units: 1 Diagnosis and treatment procedures for basic clinical endodontics, including management of endodontic emergencies; relationship of endodontics to the various dental disciplines. Instruction Mode: Lecture Grading Option: Letter

ENDO 502 Advanced Endodontics
Units: 1 Theoretical principles for the treatment of advanced endodontic cases; alternative methods of endodontic therapy; introduction to interspecialty cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 521 Preclinical Endodontics
Units: 3 Theoretical principles of endodontic therapy related to pulpal and periapical disease; training in procedures of localizing, preparing, and filling the root canal of human teeth. Instruction Mode: Lecture Grading Option: Letter

ENDO 562a Clinic: Concentrated Early Endodontics
Units: 0 Early clinical experience including assigned clinic demonstration block. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ENDO 562b Clinic: Concentrated Early Endodontics
Units: 0 Early clinical experience including assigned clinic demonstration block. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ENDO 562c Clinic: Concentrated Early Endodontics
Units: 0 Early clinical experience including assigned clinic demonstration block. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ENDO 562d Clinic: Concentrated Early Endodontics
Units: 1 Early clinical experience including assigned clinic demonstration block. Instruction Mode: Lecture Grading Option: Letter

ENDO 563a Clinic: Endodontic Therapy
Units: 0, 1, 2 Clinical experience emphasizing diagnosis, treatment planning, and endodontic patient management. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ENDO 563b Clinic: Endodontic Therapy
Units: 0, 1, 2 Clinical experience emphasizing diagnosis, treatment planning, and endodontic patient management. Instruction Mode: Lecture Grading Option: Letter

ENDO 610 Clinical Advanced Endodontics
Units: 2 In-depth discussion of endodontic surgery, retreatment, and hemisection cases; includes clinical experience in advanced endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 701a Seminar: Biological Basis of Endodontic Therapy
Units: 1 Investigation of the theoretical and biological bases of clinical endodontic procedures. Instruction Mode: Lecture Grading Option: Letter

ENDO 701b Seminar: Biological Basis of Endodontic Therapy
Units: 1 Investigation of the theoretical and biological bases of clinical endodontic procedures. Instruction Mode: Lecture Grading Option: Letter

ENDO 701c Seminar: Biological Basis of Endodontic Therapy
Units: 1 Investigation of the theoretical and biological bases of clinical endodontic procedures. Instruction Mode: Lecture Grading Option: Letter

ENDO 701d Seminar: Biological Basis of Endodontic Therapy
Units: 1 Investigation of the theoretical and biological bases of clinical endodontic procedures. Instruction Mode: Lecture Grading Option: Letter

ENDO 702 Seminar: Advanced Clinical Endodontics
Units: 2 Course designed to train students in the management of simple and complex endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 703a Seminar: Review of Endodontic Literature
Units: 1 Critical review and analysis of classical and current endodontic literature. Instruction Mode: Lecture Grading Option: Letter

ENDO 703b Seminar: Review of Endodontic Literature
Units: 1 Critical review and analysis of classical and current endodontic literature. Instruction Mode: Lecture Grading Option: Letter

ENDO 703c Seminar: Review of Endodontic Literature
Units: 1 Critical review and analysis of classical and current endodontic literature. Instruction Mode: Lecture Grading Option: Letter

ENDO 703d Seminar: Review of Endodontic Literature
Units: 1 Critical review and analysis of classical and current endodontic literature. Instruction Mode: Lecture Grading Option: Letter

ENDO 704a Seminar: Surgical Endodontics
Units: 2 Indications, principles, and techniques of surgical endodontics. Instruction Mode: Lecture Grading Option: Letter

ENDO 704b Seminar: Surgical Endodontics
Units: 2 Indications, principles, and techniques of surgical endodontics. Instruction Mode: Lecture Grading Option: Letter

ENDO 705a Seminar: Endodontic Case Presentation
Units: 4 Student presentation of cases for critique and analysis. Instruction Mode: Lecture Grading Option: Letter

ENDO 705b Seminar: Endodontic Case Presentation
Units: 4 Student presentation of cases for critique and analysis. Instruction Mode: Lecture Grading Option: Letter

ENDO 710 Seminar: Endodontic Practice Management
Units: 2 Organizing, staffing, and evaluation of an endodontic practice. Modes and patterns of management including use of auxiliaries. Emphasis on endodontist general practitioner relationship; legal aspects of dental practice. Instruction Mode: Lecture Grading Option: Letter

ENDO 711 Alternatives in Endodontics
Units: 4 Alternative endodontic techniques presented by guest clinicians. Emphasis on endodontics and its relationship with periodontal, restorative, and surgical disciplines. Instruction Mode: Lecture Grading Option: Letter

ENDO 761a Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761b Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761c Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761d Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761e Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761f Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 790 Directed Research: Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Principles of planning, organizing, and executing a clinical or educational research project. Instruction Mode: Lecture Grading Option: Credit/No Credit

Environmental Engineering

ENE 200 Environmental Engineering Principles
Units: 4 Terms Offered: FaSpSm Analysis of water, air and land pollution, including hazardous waste; engineering of mitigation measures; water and wastewater treatment systems. *Prerequisite:* (CHEM 105aLg or CHEM 115aLg) and (MATH 126g or MATH 129) and (PHYS 151Lg or PHYS 161Lg) *Recommended Preparation:* CE 110 *Corequisite:* CHEM 105bL or CHEM 115bL Instruction Mode: Lecture Grading Option: Letter

ENE 201 Introduction to Applied Environmental Science and Engineering
Units: 4 Gateway to BS in Civil Engineering (Environmental Engineering), BS, Environmental Engineering, and Minor in Environmental Engineering. Fundamental concepts of environmental science and engineering. Pollution control and remediation for air, water and soil. Pollution remediation for developing countries. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-201

ENE 215 Energy Systems and Environmental Tradeoffs
Units: 4 Terms Offered: Fa Energy fundamentals; critical issues facing energy extraction, cultivation, transformation, transportation, consumption and disposal; environmental impacts. *Prerequisite:* PHYS 151Lg Instruction Mode: Lecture Grading Option: Letter

ENE 300 Contaminant Transport in the Environment
Units: 4 Terms Offered: Fa Fundamentals of the physical mechanisms controlling solute transport in environmental flows. *Prerequisite:* MATH 245 and (PHYS 151Lg or PHYS 161Lg) and (CE 309 or ENE 410) *Recommended Preparation:* Knowledge of environmental engineering principles on the level of ENE 200 Instruction Mode: Lecture Grading Option: Letter

ENE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ENE 400 Quantitative Sustainability
Units: 4 Terms Offered: Fa Concepts of quantitative sustainable design and engineering decision-making; economic and environmental sustainability assessments linked to design decisions under uncertainty; design of engineered

technologies. *Prerequisite:* ENE 215 Instruction Mode: Lecture Grading Option: Letter

ENE 410 Environmental Fluid Mechanics
Units: 4 Terms Offered: Sp Fluid Statics; equations of motion; continuity, momentum, energy principles; dimensional analysis; mixing, dispersion in environments and between environments; ground water flow; manifold diffusers; hydraulic transients. *Prerequisite:* MATH 245 Duplicates Credit in CE 309 and AME 309 Instruction Mode: Lecture Grading Option: Letter

ENE 415 Environmental Organic Chemistry
Units: 4 Terms Offered: Fa Qualitative and quantitative prediction of partitioning constants governing fate of organic chemicals in the environment; transformation pathways, reaction kinetics, and analysis of organic contaminants. *Corequisite:* ENE 300 and CE 363L Instruction Mode: Lecture Grading Option: Letter

ENE 426 Particulate Air Pollutants: Properties / Behavior / Measurement
Units: 4 Terms Offered: Sp Particulate air pollutants, their measurement and instrumentation methods and their effects on the environment and human health; optical properties and visibility degradation. *Prerequisite:* ENE 200 Duplicates Credit in former ENE 526 Instruction Mode: Lecture, Discussion Grading Option: Letter

ENE 428 Air Pollution Fundamentals
Units: 4 Terms Offered: Sp Quantitative overview of air pollution and the physical and chemical processes that describe its behavior. *Prerequisite:* MATH 245 and PHYS 151Lg and (CHEM 105bL or CHEM 115bL) *Recommended Preparation:* Environmental engineering principles on the level of ENE 200 Instruction Mode: Lecture, Discussion Grading Option: Letter

ENE 429 Air Pollution Control
Units: 3 Terms Offered: Sp Emission surveys; engineering controls of aerosols and gaseous contaminants at emission sources, disposition of contaminants. Field trips. *Prerequisite:* ENE 428; CE 309 or ENE 410. Instruction Mode: Lecture Grading Option: Letter

ENE 443 Environmental Chemistry
Units: 3 (Enroll in CE 443)

ENE 465 Water Supply and Sewerage System Design
Units: 4 Terms Offered: Sp (Enroll in CE 465)

ENE 486 Design of Solid and Hazardous Waste Engineering Systems
Units: 3 Terms Offered: Fa Engineering design of solid and hazardous waste facilities such as waste minimization, secured landfill, and hazardous waste treatment. *Prerequisite:* ENE 200 Instruction Mode: Lecture Grading Option: Letter

ENE 495 Seminars in Environmental Engineering
Units: 1 Terms Offered: FaSp Hazardous waste management, biodegradation of environmental pollutants, groundwater problems, waste minimization, energy resources, and air pollution control. Instruction Mode: Lecture Grading Option: Letter

ENE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Course content to be selected each semester from recent developments in environmental engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

ENE 502 Environmental and Regulatory Compliance
Units: 4 Terms Offered: Sp Federal and state environmental laws; environmental impact assessment techniques; permitting for industrial facility construction and operation. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

ENE 503 Microbiology for Environmental Engineers
Units: 3 (Enroll in CE 503)

ENE 504 Solid Waste Management
Units: 3 (Enroll in CE 504)

ENE 505 Energy and the Environment
Units: 4 Terms Offered: FaSp The environmental impacts of energy extraction, cultivation, transformation, transportation, and consumption. Instruction Mode: Lecture Grading Option: Letter

ENE 506 Ecology for Environmental Engineers
Units: 3 Terms Offered: Fa The role of environmental engineering in maintaining stability of freshwater, marine, and terrestrial ecosystems; macroscopic plant and animal forms as indicators of water quality. Instruction Mode: Lecture Grading Option: Letter

ENE 510 Water Quality Management and Practice
Units: 4 Terms Offered: Fa Surface and ground water quality and resources management; water reclamation and reuse; green stormwater infrastructure; sustainability and carbon footprint for water and wastewater systems. *Recommended Preparation:* CE 363L and CE 453 Instruction Mode: Lecture Grading Option: Letter

ENE 512 Environmental Fluid Mechanics
Units: 4 Terms Offered: Sp Application of the fundamentals on the physical laws governing fluid flow and analyzing transport of contaminant in the environment and the risks involved. *Recommended Preparation:* CE 309 or ENE 410 or AME 309 Instruction Mode: Lecture Grading Option: Letter

ENE 514a Advanced Sanitary Engineering Design
Units: 3 (Enroll in CE 514a)

ENE 514b Advanced Sanitary Engineering Design
Units: 3 (Enroll in CE 514b)

ENE 516 Hazardous Waste Management
Units: 3 Standards and regulations for the management of hazardous waste: identification, transportation, monitoring, storage, treatment, and disposal practices. Instruction Mode: Lecture Grading Option: Letter

ENE 517 Industrial and Hazardous Waste Treatment and Disposal
Units: 3 (Enroll in CE 517)

ENE 518 Environmental Systems Engineering and Management
Units: 3 Evaluating, implementing and managing effective environmental systems to prevent pollution, conserve energy and resources, reduce risks and achieve sustainability in business and industries. Instruction Mode: Lecture Grading Option: Letter

ENE 523 Physiochemical Processes in Environmental Engineering
Units: 4 Terms Offered: Fa (Enroll in CE 523)

ENE 527 Climate Change and Atmospheric Aerosols
Units: 4 Terms Offered: Fa Climate change; climate science fundamentals; Earth's energy balance and atmosphere; greenhouse gas dynamics; fundamentals of airborne particles; climate-aerosol interactions; particle-radiation and particle-cloud interactions. *Recommended Preparation:* ENE 428 Registration Restriction: Open only to seniors and graduate students Instruction Mode: Lecture Grading Option: Letter, Discussion Crosslisted as CE 527

ENE 535 Applied Air Quality Management
Units: 4 Terms Offered: Sp Air pollutants, emission levels, and air borne concentrations; Links between pollutant emissions, air quality measurements and health effects; Environmental management in private or public sectors. *Recommended Preparation:* Knowledge of general chemistry on the level of CHEM 105bL or CHEM 115bL; thermodynamics on the level of AME 310; and calculus on the level of MATH 226g or MATH 229 Instruction Mode: Lecture, Discussion Grading Option: Letter

ENE 553 Biological Processes in Environmental Engineering
Units: 3 (Enroll in CE 553)

ENE 560 Environmental Aspects of Oil and Gas Production
Units: 3 Environmental aspects of drilling for and producing oil and gas, and the necessary safety practices. Attention is given to the urban areas. Instruction Mode: Lecture Grading Option: Letter

ENE 562 Aquatic Chemistry
Units: 4 Terms Offered: Sp Quantitative prediction of chemical speciation in aquatic systems, including acid-base chemistry, precipitation / dissolution, complexation, oxidation/reduction and phase partitioning of organics. Applications to water treatment. *Recommended Preparation:* General Chemistry (CHEM 105aLg and CHEM 105bL); Differential and Integral Calculus (MATH 125g and MATH 129); Linear Algebra; Familiarity with Thermodynamics (such as PHYS 151Lg) Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE 562

ENE 563 Chemistry and Biology of Natural Waters
Units: 3 (Enroll in CE 563)

ENE 580 Applied Environmental Engineering Biotechnology
Units: 3 Fundamentals of bioremediation processes; bioremediation technologies for decontamination of air, water, and soil; global applications of bioremediation techniques. Instruction Mode: Lecture Grading Option: Letter

ENE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree.

Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENE 591 Civil and Environmental Engineering Research Colloquium
Units: 1 Max Units: 02 Terms Offered: FaSp (Enroll in CE 591)

ENE 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 596 Chemical Reactions in the Atmosphere
Units: 3 Terms Offered: Fa Chemical reactions and scavenging processes important in urban air pollution. Effects of solar irradiation on vehicle exhaust gases, oxides of nitrogen and sulfur. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-596

ENE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Terms Offered: FaSp Course content will be selected each semester to reflect current trends and developments in the field of environmental engineering. Instruction Mode: Lecture Grading Option: Letter

ENE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

English

ENGL 105x Creative Writing for Non-Majors
Units: 4 Max Units: 8.0 Terms Offered: FaSp Introductory workshop in writing poetry, short fiction and nonfiction for love of the written and spoken word. Instruction Mode: Lecture Grading Option: Letter

ENGL 112Lxg Data, Denial or Doom?: Talking about Climate Change
Units: 4 Terms Offered: Sp (Enroll in BISC 112Lxg)

ENGL 170g The Monster and the Detective
Units: 4 Terms Offered: FaSp Cultural images of disorder and chaos, and of the search for order and reason, from the eighteenth century to the present. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in ARLT 101g Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 172g The Art of Poetry
Units: 4 Introduction to the pleasures and power of poetry, exploring elements drawn from high-points of English poetry, and the lives and works of major poets. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in ARLT 101g Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 174g Reading the Heart: Emotional Intelligence and the Humanities
Units: 4 A study of emotional intelligence through literature, history and the arts with a focus on anger, happiness, love and empathy. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 176g Los Angeles: the City, the Novel, the Movie
Units: 4 An exploration of the culture, vibrancy, heritage, mythology, variety, and pathology of a city that was born in hopes and captured the world's imagination. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 230g Shakespeare and His Times
Units: 4 Close study of Shakespeare's plays and poems to introduce his language, stagecraft, literary "genius," social and literary contexts, precursors and rivals, and legacy. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 250gm The African Diaspora
Units: 4 Terms Offered: FaSp (Enroll in AMST 250)

ENGL 261g English Literature to 1800
Units: 4 Terms Offered: FaSpSm Intensive reading of major writers to 1800. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 262g English Literature since 1800
Units: 4 Terms Offered: FaSpSm Intensive reading of major writers, 1800–1950. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 263g American Literature
Units: 4 Terms Offered: FaSpSm Intensive reading of representative writers. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 270g Studying Narrative
Units: 4 Terms Offered: FaSpSm Introduction to major forms, styles and theories of narrative, with attention to characterization, plot, genres, ethics, empathy, perspective, audience and social conditions. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 280g Introduction to Narrative Medicine
Units: 4 Study of literary modes of narrative and their uses in medical understanding, character formation, social identity, and relations between mind and body. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 285m African American Popular Culture
Units: 4 Terms Offered: Sp (Enroll in AMST 285)

ENGL 290 Cultural Studies: Theories and Methods
Units: 4 Terms Offered: FaSpSm Introduction to the theories, methods, and history of cultural studies, with coverage of contemporary debates over censorship and the politics of authorship, seriality and originality. Instruction Mode: Lecture Grading Option: Letter

ENGL 297g Introduction to the Genre of Nonfiction
Units: 4 Terms Offered: FaSpSm Study of forms of nonfiction writing, focusing on craft and process: how it works and how to read, write and write about it. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 298g Introduction to the Genre of Fiction
Units: 4 Terms Offered: FaSpSm An introduction to the close reading of fiction and the understanding of the genre as an aesthetic and historical phenomenon. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 299g Introduction to the Genre of Poetry
Units: 4 Terms Offered: FaSp Historical survey of the traditions of lyric poetry from Shakespeare to the contemporary, examining the genre's multiple forms of literary, visual, and aural expression. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 300 Advanced Expository Writing
Units: 2, 3, 4 Intensive practice intended to develop a high level of competence in writing expository prose. Duplicates Credit in former ENGL 400 Instruction Mode: Lecture Grading Option: Letter

ENGL 301 The Rhetoric of Written Composition
Units: 4 Theories of rhetoric as they apply to written composition, with emphasis upon

pedagogical applications. The course is designed for but not limited to prospective teachers of English. Duplicates Credit in former ENGL 401 Instruction Mode: Lecture Grading Option: Letter

ENGL 302 Writing Narrative
Units: 4 Terms Offered: FaSpSm Introduction to the techniques and practice of writing narrative in fiction and literary non-fiction. Instruction Mode: Lecture Grading Option: Letter

ENGL 303 Introduction to Fiction Writing
Units: 4 Terms Offered: FaSp Introduction to the techniques and practice of writing prose fiction. Instruction Mode: Lecture Grading Option: Letter

ENGL 304 Introduction to Poetry Writing
Units: 4 Terms Offered: FaSp Introduction to the techniques and practice of writing poetry. Instruction Mode: Lecture Grading Option: Letter

ENGL 305 Introduction to Nonfiction Writing
Units: 4 Terms Offered: FaSp Introduction to the techniques and practice of lyric essay, memoir, personal narrative, and scientific, medical, nature, culinary and travel writing. Instruction Mode: Lecture Grading Option: Letter

ENGL 309 The English Language
Units: 4 Instruction in the major grammatical systems of the English language, with particular emphasis on their relevance to language activities in the elementary classroom. Duplicates Credit in former ENGL 409 Instruction Mode: Lecture Grading Option: Letter

ENGL 310 Editing for Writers
Units: 4 Practical course in relations between editing and the creative process in fiction, poetry, and exposition. Instruction Mode: Lecture Grading Option: Letter

ENGL 311 History and Grammar of Modern English
Units: 4 Terms Offered: FaSp History and grammar of modern English as described by current linguistics; comparison with traditional grammar; application of grammar to stylistic analysis. Duplicates Credit in former ENGL 410 Instruction Mode: Lecture Grading Option: Letter

ENGL 312 Analysis of Written Persuasion
Units: 4 Terms Offered: FaSp Persuasive discourse, including structure, intention, and figurative language; analysis of texts in various humanistic, scientific, and socio-scientific disciplines. Duplicates Credit in former ENGL 412 Instruction Mode: Lecture Grading Option: Letter

ENGL 341 Women in English Literature before 1800
Units: 4 English poetry, plays, novels and discursive prose by and about women from 1375 to 1800. Duplicates Credit in former ENGL 469 Instruction Mode: Lecture Grading Option: Letter

ENGL 342g Women in English and American Literature after 1800
Units: 4 Women as writers and as subjects, with special emphasis on feminist and liberationist traditions and on changing female images after 1800. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 470 Instruction Mode: Lecture Grading Option: Letter

ENGL 343m Images of Women in Contemporary Culture
Units: 4 Terms Offered: FaSp Representations of women and gender relations in contemporary literature and mass culture, using the tools of feminist, literary, and political theory. Duplicates Credit in former ENGL 476 Instruction Mode: Lecture Grading Option: Letter

ENGL 344gm Sexual/Textual Diversity
Units: 4 Terms Offered: FaSp Questions of gay and lesbian identity, expression and experience in a variety of literary and cultural forms; emphasis on sexual politics, equality and difference. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 478 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 344

ENGL 350g Literature of California
Units: 4 Novels, stories, essays, poems, and plays written in and about California from the Gold Rush to the present. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 351 Periods and Genres in American Literature
Units: 4 Max Units: 08 Terms Offered: FaSp A concentrated reading and criticism of the works of one period or one genre of American literature; for example, colonial literature, the American Renaissance, American poetry, American drama. Duplicates Credit in former ENGL 451 Instruction Mode: Lecture Grading Option: Letter

ENGL 352g Bookpacking
Units: 4 Max Units: 08 Terms Offered: SpSm Literary travel using novels to explore regional culture and unify the study of literature, history, geography, politics and social studies. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 355g Anglo-American Law and Literature
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Examination of legal problems and concepts in English and American literature. *Recommended Preparation:* CORE 102 or ARLT 100; WRIT 150. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 360 Modern Poetry
Units: 4 Study of poetry written in English from 1900 to 1945, with special emphasis on American modernists of the first two decades. *Recommended Preparation:* ENGL 262g, ENGL ENGL 263g Duplicates Credit in former ENGL 452 Instruction Mode: Lecture Grading Option: Letter

ENGL 361g Contemporary Prose
Units: 4 Study of prose written in English since 1945, principally fiction of the past two decades. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 455 Instruction Mode: Lecture Grading Option: Letter

ENGL 362g Contemporary Poetry
Units: 4 Terms Offered: FaSpSm Study of poetry written in English since 1945, with special emphasis on the last two decades. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 456 Instruction Mode: Lecture Grading Option: Letter

ENGL 363g Contemporary Drama
Units: 4 Selected British, Irish, and American drama from the post World War II period (1945 to the present). Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 463 Instruction Mode: Lecture Grading Option: Letter

ENGL 364 The Modern Novel
Units: 4 Terms Offered: FaSp Studies of the narrative experiments and innovations in fiction following the realist novel; emphasis on gender, empire and class and the pluralities of "modernisms." Duplicates Credit in former ENGL 467 Instruction Mode: Lecture Grading Option: Letter

ENGL 371g Literary Genres and Film
Units: 4 Terms Offered: FaSpSm Literary studies in the relationship between fiction and drama and their adaptation as films. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 471 Instruction Mode: Lecture Grading Option: Letter

ENGL 372 Literature and Related Arts
Units: 4 Max Units: 08 Terms Offered: FaSp An examination of how literature and related arts intersect in a particular cultural milieu. Selected topics. Duplicates Credit in former ENGL 472 Instruction Mode: Lecture Grading Option: Letter

ENGL 373g Literature and Society
Units: 4 Terms Offered: FaSp Theoretical and applied studies of literature in English as social activity and cultural production; its expression of, and influence upon, social values, concepts, and behavior. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 473 Instruction Mode: Lecture Grading Option: Letter

ENGL 374m Literature, Nationality and Otherness
Units: 4 Terms Offered: FaSp English literature written about or in the British colonies and their post-colonial nations, including African, Asian, Pacific, and American countries. Emphasis on texts by other than British and United States authors. Completion of general education literature requirement highly recommended. Duplicates Credit in former ENGL 474 Instruction Mode: Lecture Grading Option: Letter

ENGL 375 Science Fiction
Units: 4 Terms Offered: FaSp Investigation of the scope and possibilities of British and American science fiction as a genre, with some attention to its historical development. Instruction Mode: Lecture Grading Option: Letter

ENGL 376g Comics and Graphic Novels
Units: 4 Terms Offered: FaSpSm Introduction to issues in visual and popular culture, focused on critical and historical interpretation of words and images in comic books and graphic novels. Satisfies New General Education in Category B:

Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 379 History of Literary Criticism
Units: 4 Terms Offered: FaSp Philosophies of literary criticism from Plato to the end of the 19th century; the relationship between literary criticism and its contemporary literature. Duplicates Credit in former ENGL 479 Instruction Mode: Lecture Grading Option: Letter

ENGL 380 Modern Literary Criticism: Theory and Practice
Units: 4 Terms Offered: FaSp Analysis of philosophies and methods of modern schools of criticism; writing critical essays. Duplicates Credit in former ENGL 480 Instruction Mode: Lecture Grading Option: Letter

ENGL 381 Narrative Forms in Literature and Film
Units: 4 Terms Offered: FaSp Critical approaches to narrative form in literature and film; readings and films from several genres and periods, emphasis on gender, ethnic, and cultural studies. Duplicates Credit in former ENGL 481 Instruction Mode: Lecture Grading Option: Letter

ENGL 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ENGL 392 Visual and Popular Culture
Units: 4 Terms Offered: FaSp Course in the theory and practices of "popular culture," highlighting modern and contemporary culture, film, video and popular music, as well as narrative forms. Instruction Mode: Lecture Grading Option: Letter

ENGL 395 Junior Honors Seminar
Units: 4 Terms Offered: Sp Selected subjects; offered in spring only and restricted to honors students. Instruction Mode: Lecture Grading Option: Letter

ENGL 402 Narrative Composition
Units: 4 Max Units: 08 Intermediate practical workshop concentrating on the creation of narrative in fiction and literary nonfiction. *Prerequisite:* ENGL 302 or ENGL 305 *Recommended Preparation:* ENGL 261g, ENGL 262g, ENGL 263g Instruction Mode: Lecture Grading Option: Letter

ENGL 403 Nonfiction Writing
Units: 4 Max Units: 08 Terms Offered: FaSp A practical course in composition of prose nonfiction. *Prerequisite:* ENGL 303 or ENGL 305 Instruction Mode: Lecture Grading Option: Letter

ENGL 404 The Writer in the Community
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Apprenticeship with experienced writer-teachers, providing students with a pedagogical framework and practical experience for teaching creative writing in schools and community settings. Instruction Mode: Lecture Grading Option: Letter

ENGL 405 Fiction Writing
Units: 4 Max Units: 8.0 Terms Offered: FaSp A practical course in composition of prose fiction. *Prerequisite:* ENGL 303 or ENGL 305. Instruction Mode: Lecture Grading Option: Letter

ENGL 406 Poetry Writing
Units: 4 Max Units: 8.0 Terms Offered: FaSp A practical course in poetry writing. *Prerequisite:* ENGL 304. Instruction Mode: Lecture Grading Option: Letter

ENGL 407 Advanced Fiction Writing
Units: 4 Max Units: 8.0 Terms Offered: FaSp *Prerequisite:* ENGL 405. Instruction Mode: Lecture Grading Option: Letter

ENGL 408 Advanced Poetry Writing
Units: 4 Max Units: 8.0 Terms Offered: FaSp *Prerequisite:* ENGL 406. Instruction Mode: Lecture Grading Option: Letter

ENGL 420 English Literature of the Middle Ages (1100–1500)
Units: 4 Terms Offered: FaSp Selected studies in major figures, genres, and themes of Middle English literature to Malory, with special emphasis on Chaucer. *Prerequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 421 English Literature of the 16th Century
Units: 4 Selected studies in the non-dramatic literature of Renaissance England, with emphasis on Sidney, Spenser, and Shakespeare. *Prerequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 422 English Literature of the 17th Century
Units: 4 Selected studies of prose and poetry in the age of Bacon, Donne, Jonson, Herbert, Browne, Marvell, and Milton. *Prerequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 423 English Literature of the 18th Century (1660–1780)
Units: 4 Selected studies in poetry, prose, and fiction of such writers as Defoe, Dryden, Fielding, Richardson, Pope, Swift, and Johnson. *Prerequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 424 English Literature of the Romantic Age (1780–1832)
Units: 4 Selected studies in major writers, including Blake, Austen, Wordsworth, Coleridge, Byron, Mary Shelley, P.B. Shelley, and Keats. *Prerequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 425 English Literature of the Victorian Age (1832–1890)
Units: 4 Selected studies in the prose and poetry of such figures as Tennyson, Dickens, the Brontes, the Brownings, Hopkins, Arnold, Ruskin, and Newman. *Prerequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 426 Modern English Literature (1890–1945)
Units: 4 Studies in English literary modernism, including the prose of Conrad, Joyce, and Woolf and the poetry of Pound, Eliot, Yeats, and Auden. *Prerequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 430 Shakespeare
Units: 4 Terms Offered: FaSp Major history plays, comedies, and tragedies. Instruction Mode: Lecture Grading Option: Letter

ENGL 440 American Literature to 1865
Units: 4 Terms Offered: FaSp American poetry and prose to the Civil War with special attention to Irving, Cooper, Poe, Hawthorne, Emerson, Thoreau, Melville, and Whitman. *Corequisite:* ENGL 263. Instruction Mode: Lecture Grading Option: Letter

ENGL 441 American Literature, 1865 to 1920
Units: 4 Terms Offered: FaSp American poetry and prose with special attention to Twain, James, Dickinson, Henry Adams, Crane, and Dreiser. *Corequisite:* ENGL 263. Instruction Mode: Lecture Grading Option: Letter

ENGL 442 American Literature, 1920 to the Present
Units: 4 Terms Offered: FaSp American poetry, fiction, and drama since World War I with special attention to Eliot, Frost, Hemingway, Fitzgerald, O'Neill, Stevens, Faulkner, and Nabokov. *Corequisite:* ENGL 263. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-442

ENGL 444m Native American Literature
Units: 4 Terms Offered: FaSp Survey of Native American literature, including oral traditions and print genres, such as short story, poetry, novel, and autobiography, from 1700 to the present. *Recommended Preparation:* ENGL 263. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-444

ENGL 445m The Literatures of America: Cross-Cultural Perspectives
Units: 4 Introduction to African- American, Chicano, Asian American, and Native-American literatures — and to the literary diversity of American cultures. Instruction Mode: Lecture Grading Option: Letter

ENGL 446 African-American Poetry and Drama
Units: 4 Survey of black poetry and plays in America from the Emancipation to the present, with special emphasis on the new poets and dramatists of the current "Black revolution." Instruction Mode: Lecture Grading Option: Letter

ENGL 447m African-American Narrative
Units: 4 Development of the novel in African-American literature beginning with the anti-slavery fiction of William W. Brown and his pre-Emancipation contemporaries and concluding with the emerging novelists of the late sixties. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ETST-447

ENGL 448m Chicano and Latino Literature
Units: 4 Terms Offered: FaSp (Enroll in AMST 448)

ENGL 449m Asian American Literature
Units: 4 Terms Offered: FaSp (Enroll in AMST 449)

ENGL 454 Aesthetic Philosophy and Theory
Units: 4 (Enroll in COLT 454)

ENGL 461 English Drama to 1800
Units: 4 Terms Offered: FaSp Representative plays, especially those of the Elizabethan, Jacobean, and Restoration periods. *Corequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 462 British and American Drama 1800–1950
Units: 4 Terms Offered: FaSp Representative plays of England, Ireland, and the United States, especially those written after 1890. *Corequisite:* ENGL 262.

Instruction Mode: Lecture Grading Option: Letter

ENGL 465 The English Novel to 1800
Units: 4 Theory and practice of fiction in works of writers such as Defoe, Richardson, Fielding, Sterne, Burney, and Smollett. *Corequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 466 The 19th Century English Novel
Units: 4 Theory and practice of fiction in works of major writers such as Austen, Dickens, Thackeray, George Eliot, Meredith, and Hardy. *Corequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 475 Politics and the Novel
Units: 4 (Enroll in COLT 475) Instruction Mode: Lecture Grading Option: Letter

ENGL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ENGL 491 Senior Seminar in Literary Studies
Units: 4 Terms Offered: FaSpSm Selected problems in literary history and criticism. Instruction Mode: Lecture Grading Option: Letter

ENGL 492 Narrative Studies Capstone Seminar
Units: 4 Individual research, reading, writing and project development as a senior capstone experience in the study of narrative. Registration Restriction: Open only to seniors in Narrative Studies Instruction Mode: Lecture Grading Option: Letter

ENGL 495 Senior Honors Seminar
Units: 4 Terms Offered: Fa Advanced seminar involving extensive reading, research, and discussions. Selected subjects; offered in Fall only and restricted to Honors students. Instruction Mode: Lecture Grading Option: Letter

ENGL 496 Senior Honors Thesis
Units: 4 Terms Offered: Sp Seminar in workshop form to accompany completion of Senior Honors Thesis. Bi-weekly meetings to complete thesis according to contract. *Prerequisite:* ENGL 491. Instruction Mode: Lecture Grading Option: Letter

ENGL 497 Senior Seminar in Early Modern Studies
Units: 4 Terms Offered: Sp Intensive engagement with current research, problems, and methodologies in Early Modern discourses and cultures. Required capstone seminar for interdepartmental minor in early modern studies. Open only to seniors; open only to early modern studies minors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-497, AHIS-497

ENGL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Studies in the works of one or more authors, or in the development of a theme or genre. Instruction Mode: Lecture Grading Option: Letter

ENGL 501 History of Literary and Cultural Theory
Units: 4 The assumptions and practices of major theorists and theoretical schools from Plato to literary modernism. Instruction Mode: Lecture Grading Option: Letter

ENGL 502 Contemporary Literary and Cultural Theory
Units: 4 The assumptions and practices of major post-modern theorists and theoretical schools. Instruction Mode: Lecture Grading Option: Letter

ENGL 503 Theories of History, Ideology and Politics
Units: 4 The principal ways in which history, ideology, and politics have informed the study of literary and cultural discourse. Instruction Mode: Lecture Grading Option: Letter

ENGL 504 Theories of Race, Class and Gender
Units: 4 Max Units: 12 Terms Offered: FaSpSm The principal methods and assumptions by which race, class and gender have been studied in reference to literary and cultural discourse. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 504

ENGL 507 Rhetoric and Language
Units: 4 Examination of critical and linguistic theories; may include the changing structures of English discourse, cognitive poetics, and discourse analysis. Instruction Mode: Lecture Grading Option: Letter

ENGL 508 History, Theories and Practice of Cultural Studies
Units: 4 Max Units: 12.0 Terms Offered: FaSp Looking at specific case histories, this course introduces students to the basic methods, theories and activities in cultural studies. Instruction Mode: Lecture Grading Option: Letter

ENGL 510 Medieval English Literatures and Cultures
Units: 4 Max Units: 12.0 Investigations of chivalry and romance, allegory, drama, popular literature in the Middle Ages, the reception of medieval literature, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 520 Renaissance English Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in poetry and patronage, the popular tradition in literature and drama, the social and sexual dynamics of comedy, historical and cultural uses of genres, among other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 530 Restoration and 18th Century British Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in prose, poetry, drama, and culture of the period 1660–1800. Instruction Mode: Lecture Grading Option: Letter

ENGL 535 Literatures and Cultures of the Romantic Period
Units: 4 Max Units: 12.0 Studies in British literature and culture, from the 1790s to 1830s, including gender and genre, authorship and authenticity, "romance" and revolution, forms of belief and doubt, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 536 Literatures and Cultures of the Victorian Period
Units: 4 Max Units: 12.0 Studies in British literature and society, 1837–1901, including gender and genre, industrialism, science and technology, empire and race, new forms of media and narrative, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 540 19th Century British Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in the Romantics and Victorians, gender and genre, the new woman and the novel, authorship and the marketplace, science, imperialism, the crisis of narrative, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 550 20th Century British Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in literary modernism, critical scrutiny and moral seriousness, poetry and politics, the Irish revival, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 560 Early American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in the literature of discovery, exploration and conquest, the Puritan migration, literary genres in Colonial America, history and myth of American origins, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 563 Poetry and Prose Into Drama
Units: 4 Terms Offered: Fa (Enroll in THTR 501)

ENGL 570 18th Century American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in the rhetoric, literature, and language of the pre-revolutionary and revolutionary periods, narrative and polemical writing, the American Enlightenment, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 580 19th Century American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in canonic and non-canonic literature in the American Renaissance, cultural nationalism, the consequences of race, immigration, expansion, urbanization, science, and the marketplace, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 591 20th Century American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in rural and urban fictions, modernism, the shift from imagism and symbolism to confessional poetry, recovered writers, hemispheric traditions, literature and kindred arts, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 592 Contemporary British and American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in contemporary women and ethnic writers, "extra-literary" forms (journalism, autobiography), the theatre of the absurd, post-modern fabulations, and other modes and issues since World War II. Instruction Mode: Lecture Grading Option: Letter

ENGL 593 Practicum in Teaching English and Narrative Studies
Units: 2 Max Units: 08 Terms Offered: FaSpSm Practical principles for development of effective teaching within the disciplines of English, Creative Writing, and Narrative Studies. Intended for teaching assistants in English. Registration Restriction: Open only to English and Creative Writing majors Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 595 Literary Studies Across Cultures
Units: 4 Max Units: 12.0 Studies in Empire and Commonwealth literatures, post-colonialism, American hemispheric connections, African-American literary discourse, Asian American writers, dialects and the folk, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least on semester of enrollment in the graduate program. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Thematic, theoretical, or experimental studies in British and American literatures and cultures. Duplicates Credit in former ENGL 699. Instruction Mode: Lecture Grading Option: Letter

ENGL 600 Publication in Humanities Journals
Units: 4 Max Units: 8 Terms Offered: FaSp Development of academic strategies for preparing articles for publication in scholarly journals. Aspects of publication will include abstracts, introductions, argumentation, style and footnotes. Instruction Mode: Lecture Grading Option: Letter

ENGL 601 Introduction to Literary Editing and Publishing
Units: 4 Terms Offered: Fa Comprehensive introduction to the MA degree and its range of study, focusing on elements of the craft of editing and the literary marketplace. Instruction Mode: Lecture Grading Option: Letter

ENGL 602 Writers in the World: Text and Context
Units: 4 Terms Offered: Sp Editing and publishing within the tradition of literary and cultural influences upon a wide range of authors, readers and genres. Instruction Mode: Lecture Grading Option: Letter

ENGL 603 The Editorial Experience: The Craft of Publication
Units: 4 Terms Offered: Fa An intensive workshop in applied English, coordinating literary analysis with editing and publication, including relationships with authors; academic and trade presses; journals; editing and design. Instruction Mode: Lecture Grading Option: Letter

ENGL 604 The Nonfiction Experience: A Literary-Editorial Focus
Units: 4 Terms Offered: Fa Topics on literary and popular forms: profile portrait; science writing; food writing; place and travel; memoir; and personal essay; with venues for publication. Instruction Mode: Lecture Grading Option: Letter

ENGL 605 The History of Rhetoric
Units: 4 Max Units: 12.0 Studies in European and American rhetoric and their contexts. Instruction Mode: Lecture Grading Option: Letter

ENGL 607 Digital Publishing and Literary Writing for New Media
Units: 4 Terms Offered: Sp Discussion of literary texts combined with hands-on digital practice in composition, design and fabrication for electronic publication, including formal, technical and philosophical issues. Instruction Mode: Lecture Grading Option: Letter

ENGL 608 Publishing on Both Sides of the Transom
Units: 4 Terms Offered: Sp Editorial and publishing workshop with an intensive hands-on student project following the progress of a single piece of writing from manuscript to print. Instruction Mode: Lecture Grading Option: Letter

ENGL 609a Internship in Editing and Publishing: Eloquence and Ethics
Units: 2 Terms Offered: Fa Practical experience in the publishing world for acquiring skills and knowledge beyond the classroom. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 609b Internship in Editing and Publishing: Eloquence and Ethics
Units: 2 Terms Offered: Sp Practical experience in the publishing world for acquiring skills and knowledge beyond the classroom. *Prerequisite:* ENGL 609a Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 610 Theory and Criticism
Units: 4 Max Units: 12.0 Studies in meaning and meaning-making, form, comparative theory, theories of history and culture, theory in the classroom, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 612 History of the Book and Material Bibliography
Units: 4 Max Units: 12 Terms Offered: FaSp Book history and the use of primary source material in literary research. Grading Option: Letter

ENGL 620 Literature and Interdisciplinary Studies
Units: 4 Max Units: 12.0 Issues and theory of studying literature in relation to history, science, politics, psychology, religion, sociology, media, the visual arts, and other disciplines. Instruction Mode: Lecture Grading Option: Letter

ENGL 630 Studies in Gender
Units: 4 Max Units: 12.0 History and ideology of gender studies, feminist theory, gay and lesbian discourse, and other studies in feminisms and masculinities in relation to literature. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-630

ENGL 640 Individual Writers
Units: 4 Max Units: 12.0 Studies in major and minor, canonic and non-canonic writers. Instruction Mode: Lecture Grading Option: Letter

ENGL 650 Multicultural Literary Studies
Units: 4 Max Units: 12.0 Theories of race and ethnicity, cultural imperialism, discourse of power and class, literatures of the Americas, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 660 Studies in Genre
Units: 4 Max Units: 12.0 History, transformation, and theory of genre; studies in epic, lyric, drama, comedy, tragedy, the novel, biography, essay, and other forms. Instruction Mode: Lecture Grading Option: Letter

ENGL 678 Seminar in Film Theory and Medium Specificity
Units: 4 Max Units: max 8 (Enroll in CTCS 678)

ENGL 679 Seminar in Genre and/or Narrative Theory
Units: 4 Max Units: max 8 (Enroll in CTCS 679)

ENGL 693 Graduate Nonfiction Form and Theory
Units: 4 Max Units: 16 Terms Offered: FaSp Study of conventional and experimental works of creative nonfiction, from memoir to poetry, criticism and scholarship, focusing on issues of form, ethics, style and audience. Registration Restriction: Open only to English and Creative Writing doctoral students Instruction Mode: Lecture Grading Option: Letter

ENGL 694 Graduate Nonfiction Writing Workshop
Units: 4 Max Units: 16 Terms Offered: FaSp Intensive practicum in advanced level nonfiction writing, intended to develop high level creative compositional ability. Registration Restriction: Open only to doctoral students in English and Creative Writing Instruction Mode: Lecture Grading Option: Letter

ENGL 695 Graduate Fiction Form and Theory
Units: 4 Max Units: max 16 Terms Offered: FaSp Seminar. Studies in fiction form and function or critical theory. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

ENGL 696 Graduate Poetry Writing Workshop
Units: 4 Max Units: max 16 Terms Offered: FaSp Intensive practicum in advanced level poetry writing, intended to develop high level creative compositional ability. Open only to Creative Writing PhD degree candidates. Registration Restriction: Open only to doctoral English students Instruction Mode: Lecture Grading Option: Letter

ENGL 697 Graduate Fiction Writing Workshop
Units: 4 Max Units: max 16 Terms Offered: FaSp Intensive practicum in advanced level fiction writing, intended to develop high level creative compositional ability. Open only to Creative Writing PhD degree candidates. Registration Restriction: Open only to English doctoral students Instruction Mode: Lecture Grading Option: Letter

ENGL 698 Graduate Poetry Form and Theory
Units: 4 Max Units: 16 Terms Offered: FaSp Seminar. Studies in poetry form and function or critical theory. Registration Restriction: Open only to doctoral students

Instruction Mode: Lecture Grading Option: Letter

ENGL 700x Theories and Practices of Professional Development I
Units: 2 Terms Offered: FaSp A structured environment in which to craft a research project, write a dissertation prospectus, and define areas of professional expertise. *Recommended Preparation:* passage of screening exam. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 701x Theories and Practices of Professional Development II
Units: 2 Terms Offered: Fa This two-credit course helps ABD students craft their professional identities and placement materials as they make the transition from graduate school to their academic position. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENGL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENGL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENGL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENGL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Engineering

ENGR 100a Engineering Honors Colloquium
Units: 1 Recent developments in a highly technological society with emphasis on selected topics. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 100b Engineering Honors Colloquium
Units: 1 Recent developments in a highly technological society with emphasis on selected topics. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 100c Engineering Honors Colloquium
Units: 1 Recent developments in a highly technological society with emphasis on selected topics. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 100d Engineering Honors Colloquium
Units: 1 Recent developments in a highly technological society with emphasis on selected topics. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 101 Introduction to Engineering
Units: 3 Terms Offered: Fa Gateway to the majors and minors in engineering. Introduction to engineering disciplines. Historical and current trends in engineering; ethical and societal factors in engineering solutions. Hands-on design experiences; USC laboratory tours. Instruction Mode: Lecture Grading Option: Letter

ENGR 102 Engineering Freshman Academy
Units: 2 Introduction to the profession of engineering. Ethical, political and societal consequences of engineering innovations and the impact of engineering on everyday life. Team projects and guest lectures. Open to freshmen only. Instruction Mode: Lecture Grading Option: Letter

ENGR 150L Engineering Science and Systems: From Humans to Robots
Units: 3 Terms Offered: Fa Hands-on multidisciplinary engineering course that uses robotics as a theme to cover material from all areas of engineering. Laboratory; programming; team projects; end-of-semester exhibition. Open only to freshmen. *Recommended Preparation:* Basic programming experience (e.g., C, C++, C#, Java, Python). Registration Restriction: Open only to freshmen. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ENGR 265g Ethics, Technology and Value
Units: 4 Terms Offered: FaSp (Enroll in PHIL 265g)

ENGR 270 Ethics for Engineers
Units: 2 Provides students with innovative problem-solving skills and strategies to identify and solve contemporary ethical challenges in engineering and scientific contexts. Instruction Mode: Lecture Grading Option: Letter

ENGR 301 Technical Entrepreneurship
Units: 3 (Enroll in BUAD 301)

ENGR 305 Engineering Biology Matters
Units: 3 Terms Offered: Fa Engineering students will learn biological phenomena in the context of engineering principles and explore biological mechanisms and processes as analogies for designing engineered systems. *Recommended Preparation:* CHEM 105a, MASC 110. Instruction Mode: Lecture Grading Option: Letter

ENGR 345 Principles and Practices of Global Innovation
Units: 3 Terms Offered: FaSp A global class using the classroom-without-borders platform and learning-from-diversity pedagogy to study the dynamic life cycle of technology innovation in competitive global market with classmates abroad. Instruction Mode: Lecture Grading Option: Letter

ENGR 395ax Cooperative Education Work Experience
Units: 1 or 2 Max Units: 5.0 Supervised work experience in a professional environment related to a specific degree program, academic level, and career objective. Acceptance into Cooperative Education Program required. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ENGR 395bx Cooperative Education Work Experience
Units: 1 or 2 Max Units: 5.0 Supervised work experience in a professional environment related to a specific degree program, academic level, and career objective. Acceptance into Cooperative Education Program required. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ENGR 395cx Cooperative Education Work Experience
Units: 1 or 2 Max Units: 5.0 Supervised work experience in a professional environment related to a specific degree program, academic level, and career objective. Acceptance into Cooperative Education Program required. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ENGR 395dx Cooperative Education Work Experience
Units: 1 or 2 Max Units: 5.0 Supervised work experience in a professional environment related to a specific degree program, academic level, and career objective. Acceptance into Cooperative Education Program required. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 400 Engineering Honors Project
Units: 1, 2, 3 Max Units: 12.0 Terms Offered: FaSpSm Supervised interdisciplinary studies and projects. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 401x Communicating Science and Engineering to Children
Units: 3 Max Units: 6.0 Terms Offered: FaSp Engineering students communicate their knowledge, collaborate constructively with peers, and inspire underserved children to develop a curiosity and persistence for science and engineering. Registration Restriction: Open only to junior and senior engineering students. Instruction Mode: Lecture Grading Option: Letter

ENGR 410 Social Media for Scientists and Engineers
Units: 2 Terms Offered: FaSp An introduction to how social media and science intersect in a compelling manner to engage a variety of audiences. Instruction Mode: Lecture Grading Option: Letter

ENGR 461 Engineering Economics and Technology Development
Units: 4 Terms Offered: Sp Introduction to the theory and practice of engineering economics in the context of technology development. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

ENGR 471a Interdisciplinary Capstone Design
Units: 2 Terms Offered: Fa A culminating experience in applying technical skills they have acquired in their engineering course work to solve a design problem sponsored by an external customer. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture, Lab Grading Option: Letter

ENGR 471b Interdisciplinary Capstone Design
Units: 2 Terms Offered: Sp A culminating experience in applying technical skills they have acquired in their engineering coursework to solve a design problem sponsored by an external customer. *Prerequisite:* ENGR 471a Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture, Lab Grading Option: Letter

ENGR 493 Dean's Seminar in Entrepreneurship: Disruptive Technologies with an Entrepreneurial Mindset
Units: 2 Terms Offered: Fa Understand, evaluate and manage disruptive technologies in the context of starting and developing a new business. Lectures and discussions with a diverse array of successful business leaders and entrepreneurs. Registration Restriction: Open only to sophomores, juniors, seniors or first year graduate students in Engineering Duplicates Credit in former BUAD 493x Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Current developments in the field of engineering. Instruction Mode: Lecture Grading Option: Letter

ENGR 501x Engineering Writing and Communication for Master's Students
Units: 3 Terms Offered: FaSp Academic and discipline-specific writing skills. Emphasis on structure of discourse and writing process. Presentation and oral communication skills also addressed. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 502x Writing Skills for Engineering PhD Students
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Writing of engineering curriculum- and research-related projects for PhD students. Focus is on conference papers, dissertations and proposals, journal articles, and other forms. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 503x Oral Communication Skills for Engineering PhD Students
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Academic and professional presentation skills for PhD students. Preparation for qualifying exams, conference paper presentations, and other forms of oral communication. Use of visual aids and poster displays included. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 504x Fellowship Proposal Writing for Engineering PhD Students
Units: 2 Terms Offered: FaSp Preparation of essays and other materials for research fellowship applications. Open only to PhD engineering students. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 509 Patent Law for Scientists and Engineers
Units: 3 Terms Offered: Sp Tools for engineering and science graduate students to make informed decisions about obtaining and enforcing patent protection for their future inventions: validity, infringement, unenforceability. *Recommended Preparation:* EE 682 or ISE 565. Instruction Mode: Lecture Grading Option: Letter

ENGR 576 Invention and Technology Development
Units: 3 (Enroll in CE 576)

ENGR 595a Professional Writing and Communication for Internships
Units: 1 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 595b Professional Writing and Communication for Internships
Units: 0 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. *Prerequisite:* ENGR 595a Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 595c Professional Writing and Communication for Internships
Units: 0 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. *Prerequisite:* ENGR 595b Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 595d Professional Writing and Communication for Internships
Units: 0 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. *Prerequisite:* ENGR 595c Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 595z Professional Writing and Communication for Internships
Units: 0 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. *Prerequisite:* ENGR 595d Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 596 Internship in Engineering
Units: 1 Max Units: 3.0 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 597x Internship in Engineering with Professional Writing and Communication
Units: .5 Terms Offered: FaSpSm Practical work experience; professional communication and writing skills. Registration Restriction: Open only to master students in engineering Credit Restriction: Not available for graduate credit Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 598 Professional Internship Experiences
Units: 0 Terms Offered: FaSpSm Part-time or full-time practical work experience in a particular field of study. The internship must be located at an off-campus facility. *Prerequisite:* ENGR 597x Registration Restriction: Open only to master students in engineering Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 599 Special Topics
Units: 2, 3, 4 Current developments in the field of engineering; topics to be selected each semester. Instruction Mode: Lecture Grading Option: Letter

Environmental Studies

ENST 100g Introduction to Environmental Studies
Units: 4 Terms Offered: FaSp Gateway to the majors and minors in Environmental Studies. Provides students with an overview of how government agencies and societal institutions address (or fail to address) the interrelated social and scientific aspects of environmental problems and policies. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ENST 150gx Environmental Issues in Society
Units: 4 Terms Offered: Fa Exploration of the major social, political, economic, religious, and philosophical disagreements that exist between scholars, leaders, and citizens concerning today's most serious environmental issues and problems. Satisfies New General Education in C Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as IR-150

ENST 201 Introduction to Applied Environmental Science and Engineering
Units: 4 (Enroll in ENE 201)

ENST 270 Introduction to Environmental Law and Politics
Units: 4 Terms Offered: Sp (Enroll in POSC 270)

ENST 298aL Introduction to Scientific Diving
Units: 2 Terms Offered: Sp Extensive academic preparation in the physics, physiology, safety, and methodology for in-water scientific diving. *Recommended Preparation:* background in natural science and/or environmental studies Duplicates Credit in former ENST 298 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ARCG 298a

ENST 298bL Introduction to Scientific Diving
Units: 2 Terms Offered: Sp Extensive academic preparation in the physics, physiology, safety, and methodology for in-water scientific diving. *Prerequisite:* ENST 298a *Recommended Preparation:* background in natural science and/or environmental studies Duplicates Credit in former ENST 298 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ARCG 298b

ENST 310 Sustainable Fisheries Management
Units: 4 Terms Offered: Sp Examination of scientific, social, political, and economic factors of fisheries management, engaging students in key issues of coastal and marine sustainability. *Prerequisite:* ENST 100g *Recommended Preparation:* Any introductory Biology course Instruction Mode: Lecture Grading Option: Letter

ENST 320a Water and Soil Sustainability; Energy and Air Sustainability
Units: 4 Terms Offered: Fa Overview of issues related to water and soil sustainability including science, policy and business aspects. *Recommended Preparation:* ENST 100. Duplicates Credit in former ENST 420. Instruction Mode: Lecture Grading Option: Letter

ENST 320b Water and Soil Sustainability; Energy and Air Sustainability
Units: 4 Terms Offered: Sp Overview of issues related to water and soil sustainability including science, policy and business aspects. *Recommended Preparation:* ENST 100. Duplicates Credit in former ENST 430. Instruction Mode: Lecture Grading Option: Letter

ENST 323 Politics of Global Environment
Units: 4 (Enroll in IR 323)

ENST 335 Science, Health and the Environment
Units: 4 Terms Offered: Sp Exploration of environmentally transmitted human diseases; understanding the human/pathogen/environment nexus that leads to disease in human populations; disease transmission reduction. *Prerequisite:* BISC 103Lgx or BISC 120Lg Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC 335

ENST 344 Environmental Ethics
Units: 4 Terms Offered: Sp Explores issues concerning behavior of humans towards the nonhuman world. Examines a wide spectrum of ethical issues. *Prerequisite:* ENST 100 or ENST 150 Instruction Mode: Lecture Grading Option: Letter

ENST 347 Environmental Law
Units: 4 (Enroll in POSC 347)

ENST 352 Conservation Biology
Units: 4 Terms Offered: Sp (Enroll in BISC 352)

ENST 370 Marine and Coastal Environmental Policy
Units: 4 Terms Offered: Sp Survey of major environmental policies both international and domestic as they relate to fisheries, shipping, pollution, seaports and coastal management. *Recommended Preparation:* ENST 100, ENST 387. Instruction Mode: Lecture Grading Option: Letter

ENST 387 Economics for Natural Resources and the Environment
Units: 4 Terms Offered: Fa An introduction to the economic tools and issues that affect natural resource use and environmental management. Instruction Mode: Lecture Grading Option: Letter

ENST 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ENST 396 Directed Governmental and Political Leadership Internship
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: max 8 (Enroll in POSC 395)

ENST 410 Water and Energy Management in the Asia-Pacific Region
Units: 4 Terms Offered: Sp An exploration of how the essential resources of water and energy are managed in the Asia-Pacific region and the implications of such management. *Prerequisite:* ENST 320a, ENST 320b . Instruction Mode: Lecture Grading Option: Letter

ENST 412 Oceans, Climate, and the Environment
Units: 4 Terms Offered: FaSp (Enroll in GEOL 412)

ENST 413 Sustainable Aquaculture and Food Security
Units: 4 Terms Offered: Fa Assessing the potential for aquaculture, the fastest growing component of food production systems, to contribute to food security goals while maintaining environmental, social and economic sustainability. *Prerequisite:* ENST 100g Instruction Mode: Lecture Grading Option: Letter

ENST 422 Ecological Security and Global Politics
Units: 4 (Enroll in IR 422)

ENST 427 The Global Environment
Units: 4 Terms Offered: FaSpSm (Enroll in BISC 427)

ENST 432 Environment and Governance: International and National Policy
Units: 4 Terms Offered: Sm Exposes students to policy makers and major institutions that work closely with local decision makers towards developing environmental policy framework. Instruction Mode: Lecture Grading Option: Letter

ENST 436 Environmental Politics
Units: 4 (Enroll in POSC 436)

ENST 440 Environmental Risk Assessment
Units: 4 Terms Offered: Sp Assesses various potential environmental risks and examines how science, government, business, and industry measure and prepare for environmental risks. *Recommended Preparation:* ENST 100. Instruction Mode: Lecture Grading Option: Letter

ENST 442 Global Climate Change: Policy and Society
Units: 4 Terms Offered: Sp Examines climate change policy at the international, national, state, and local levels, and explores the role civil society plays in climate change politics. *Prerequisite:* ENST 320b or POSC 270 Instruction Mode: Lecture Grading Option: Letter

ENST 445 Earth Climate: Past, Present, and Future
Units: 4 Terms Offered: Fa Examination of the tools used to reconstruct past climate change and a thorough discussion of past climate changes on earth with an emphasis on the recent past. *Prerequisite:* MATH 118 or MATH 125 and ENST 320b; *Recommended Preparation:* any introductory GEOL course. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GEOL-445

ENST 456L Conservation Genetics
Units: 4 Terms Offered: Sp (Enroll in BISC 456)

ENST 466 Business and Environmental Sustainability
Units: 4 (Enroll in MOR 466)

ENST 470 Environmental Hydrogeology
Units: 4 Terms Offered: FaSpSm (Enroll in GEOL 470)

ENST 480 Integrated Ecosystem Management in Micronesia
Units: 4 Terms Offered: SpSm Field studies in ecosystem management tools used to investigate complex environmental problems in Micronesia. Historical, cultural, and scientific topics, direct observations of biological, physical, and chemical conditions. *Corequisite:* ENST 298a. Instruction Mode: Lecture Grading Option: Letter

ENST 483 Tropical Coastal Zone Sustainability
Units: 4 Terms Offered: Sm Field skills and management tools to investigate environmental problems in coastal zones; cultural and scientific topics; collection and analysis of environmental data. *Recommended Preparation:* ENST 100g Instruction Mode: Lecture Grading Option: Letter

ENST 485 Role of the Environment in the Collapse of Human Societies
Units: 4 Terms Offered: Sm Field studies in the roles of environmental problems in the collapse of ancient civilizations and analogous problems facing contemporary populations in those same places. *Recommended Preparation:* ENST 100. Instruction Mode: Lecture Grading Option: Letter

ENST 487 Resource and Environmental Economics
Units: 4 (Enroll in ECON 487)

ENST 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ENST 492 Directed Environmental Policy and Science Internship
Units: 2, 4 Max Units: 4 Terms Offered: FaSp Provides opportunities for professional development in environmental policy and science and prepares students for career or graduate school in environmental-related fields. Students are placed in internships and guided before and during the internship period. Students gain practical experience and learn how government and nongovernmental organizations pursue and implement environmental policy and science work. Registration Restriction: Open only to Juniors and Seniors in Environmental

Science and Health, and Environmental Studies majors Instruction Mode: Lecture Grading Option: Letter

ENST 495 Senior Seminar in Environmental Studies
Units: 4 Terms Offered: Sp Students form multidisciplinary teams and are asked to study and resolve a major environmental problem facing a particular region or target population. Instruction Mode: Lecture Grading Option: Letter

ENST 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Selected topics dealing with environmental issues and problems. Instruction Mode: Lecture Grading Option: Letter

ENST 500 Interdisciplinary Approaches to Environmental Studies
Units: 4 Terms Offered: Fa Students will develop advanced skills to address complex environmental issues that society faces today. Different approaches for studying environmental processes and resources will be examined. Instruction Mode: Lecture Grading Option: Letter

ENST 501 Environmental Science I
Units: 2 Terms Offered: Fa Exposes students to critical scientific principles, concepts, and issues related to pollution control, remediation, and ecology. *Corequisite:* ENST 502. Instruction Mode: Lecture Grading Option: Letter

ENST 502 Environmental Science Seminar I
Units: 1 Terms Offered: Fa A series of biweekly guest lectures on critical scientific principles, concepts, and issues related to pollution control, remediation, and ecology. Instruction Mode: Lecture Grading Option: Letter

ENST 503 Environmental Science II
Units: 2 Terms Offered: Sp A continuation of ENST 501. Exposes students to critical scientific principles, concepts, and issues related to pollution control, remediation, and ecology. *Prerequisite:* ENST 501; *Corequisite:* ENST 504. Instruction Mode: Lecture Grading Option: Letter

ENST 504 Environmental Science Seminar II
Units: 1 Terms Offered: Sp A continuation of ENST 502. A series of biweekly guest lectures on critical scientific principles, concepts, and issues related to pollution control, remediation, and ecology. Instruction Mode: Lecture Grading Option: Letter

ENST 505a Advanced Environmental Science Seminar
Units: 2 Terms Offered: FaSp Ties together science, technology, and finance with risk assessment and policy. Instruction Mode: Lecture Grading Option: Letter

ENST 505b Advanced Environmental Science Seminar
Units: 2 Terms Offered: FaSp Ties together science, technology, and finance with risk assessment and policy. Instruction Mode: Lecture Grading Option: Letter

ENST 510 Statistics for Environmental Analysis
Units: 4 This course introduces graduate students to the various quantitative techniques and methodological approaches used in pollution control, natural resources management, and environmental protection. Instruction Mode: Lecture Grading Option: Letter

ENST 520 Environmental Law and Policy
Units: 4 Terms Offered: Sp Introduces students to the central issues, concepts, and theories in environmental law and policy and analyzes present environmental laws and regulations. Instruction Mode: Lecture Grading Option: Letter

ENST 530 Environmental Risk Analysis
Units: 4 Terms Offered: Fa Analyzes various potential environmental risks and examines how science, government, and business measure and prepare for environmental risks. Instruction Mode: Lecture Grading Option: Letter

ENST 540 California Coastal Zone Science and Policy
Units: 4 Terms Offered: Sp Science and policy issues used to characterize and manage California coastal resources. Key issues include: coastal pollution, public health, ecosystem management, and marine reserves. *Recommended Preparation:* ENST 500. Instruction Mode: Lecture Grading Option: Letter

ENST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENST 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENST 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENST 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENST 595 Graduate Seminar in Environmental Studies
Units: 4 Terms Offered: Sp Addresses the obstacles to environmental policymaking and management by examining the interrelationships between science, technology, and social science. *Recommended Preparation:* ENST 500, ENST 501, ENST 502, ENST 503, ENST 504. Instruction Mode: Lecture Grading Option: Letter

ENST 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Subjects specifically relevant to an environmental studies field, sometimes conducted as intensive short courses. Instruction Mode: Lecture Grading Option: Letter

Design

DES 102 Design Fundamentals
Units: 4 Terms Offered: FaSp Introduction to the basic elements and processes of visual communication and design. Instruction includes studio projects, lectures and readings. Various media used. Duplicates Credit in former FADN 102 Instruction Mode: Lecture Grading Option: Letter

DES 105 Art and Design Studio I
Units: 4 Terms Offered: FaSp (Enroll in ART 105)

DES 106 Art and Design Studio II
Units: 4 Terms Offered: FaSp (Enroll in ART 106)

DES 110 Drawing for Art and Design
Units: 4 Terms Offered: FaSpSm (Enroll in ART 110)

DES 123xg The Design Challenge: Exploring the Design Process
Units: 4 Terms Offered: FaSpSm An overview of the creative design process and introduction to techniques to solve visual problems. Satisfies New General Education in Category A: The Arts Credit Restriction: Not available for credit for Roski majors Instruction Mode: Lecture Grading Option: Letter

DES 202 Design II
Units: 4 Terms Offered: FaSp Exploration of essential elements of traditional and digital design, including color and image-text integration, editing information, typography and sequencing. *Prerequisite:* DES 102 or FADN 102 *Corequisite:* DES 203 or FADN 203 Duplicates Credit in former FADN 202 Instruction Mode: Lecture Grading Option: Letter

DES 203 Digital Tools for Design
Units: 2 Terms Offered: FaSp Exploration of the processes of germination, ideation and application/execution in design integrated with computer usage. *Corequisite:* DES 202 Duplicates Credit in former FADN 203 Instruction Mode: Lecture Grading Option: Letter

DES 213 Digital Tools in 3D Design
Units: 2 Terms Offered: FaSp 3D digital modeling, rendering, digital capture and production methods for product, package and environmental design. *Prerequisite:* FADN 102 or DES 102 Instruction Mode: Lecture Grading Option: Letter

DES 230 3D Design: Materials and Tools
Units: 4 Terms Offered: FaSp Introduction to the study of 3-D Design. Includes a wide investigation of materials, tools, and techniques specific to dimensional design as they apply to package, product, and environmental design. *Prerequisite:* DES 102 or FADN 102 or ART 140 Duplicates Credit in former FADN 230 Instruction Mode: Lecture Grading Option: Letter

DES 302 Design III
Units: 4 Terms Offered: FaSp Advanced exploration of typography and image-text integration, including collaborative projects, pre-press and proofing techniques, narrative concepts and information architecture. *Prerequisite:* DES 202 or FADN 202 Duplicates Credit in former FADN 302 Instruction Mode: Lecture Grading Option: Letter

DES 303 Web Design
Units: 2 Terms Offered: FaSp A workshop-based course that focuses on software applications in design and web design. *Prerequisite:* DES 203 or FADN 203 Duplicates Credit in former FADN 303 Instruction Mode: Lecture Grading Option: Letter

DES 313 Graphic Design in Fashion
Units: 4 Terms Offered: FaSpSm An intensive studio and lecture course focusing on the applications of graphic design in fashion and related fields. *Prerequisite:* DES 102 or FADN 102 *Recommended Preparation:* DES 203 Duplicates Credit in

former FADN 313 Instruction Mode: Lecture Grading Option: Letter

DES 314 Illustration for Art and Design
Units: 2 Terms Offered: FaSp (Enroll in ART 314)

DES 322 Publication Design
Units: 4 Terms Offered: FaSp Application of layout, typography, design principles and image making in the design and production of books, magazines, zines and digital books. *Prerequisite:* (DES 202 or FADN 202) and (DES 203 or FADN 203) *Recommended Preparation:* DES 332a Instruction Mode: Lecture, Lab Grading Option: Letter

DES 323g Design Theory
Units: 4 Terms Offered: FaSp A comprehensive study of visual communication focusing on graphic design from 1900 to the present. An introduction to design thinking, language and principles including political and cultural implications. Satisfies New General Education in Category A: The Arts Duplicates Credit in former FADN 323 Instruction Mode: Lecture Grading Option: Letter

DES 330 3D Design: Objects and Space
Units: 4 Terms Offered: FaSp A continuation of DES 230 to produce finished models and prototypes of package, product and environmentally-based designs in actual and virtual space. *Prerequisite:* DES 230 or FADN 230 Duplicates Credit in former FADN 330 Instruction Mode: Lecture Grading Option: Letter

DES 332a Typography
Units: 2 Terms Offered: FaSp The study of visual communication through the use of letterforms from historical tradition to contemporary experimental rebellion. Duplicates Credit in former FADN 332a Instruction Mode: Lecture Grading Option: Letter

DES 332b Typography
Units: 2 Terms Offered: FaSp Continuation of DES 332a. *Prerequisite:* DES 332a or FADN 332a Duplicates Credit in former FADN 332b Instruction Mode: Lecture Grading Option: Letter

DES 333 New York Design Study Tour
Units: 2 Terms Offered: Sp Historical and contemporary aspects of the New York design world, including a one-week trip to New York City to visit design firms, studios and museums. Airfare and accommodations extra. By application only. Duplicates Credit in former FADN 333 Instruction Mode: Lecture Grading Option: Letter

DES 402 Advanced Design Projects
Units: 4 Max Units: 12 Terms Offered: FaSp Advanced information design within a flexible curriculum. Emphasis on team-oriented projects. *Prerequisite:* DES 302 or FADN 302 Duplicates Credit in former FADN 402 Instruction Mode: Lecture Grading Option: Letter

DES 413 Professional Practice in Design
Units: 4 Terms Offered: FaSp A summation of one's practice, with a focus on transitioning to a career as a professional designer. *Prerequisite:* DES 402 or FADN 402 Registration Restriction: Open only to Seniors in the Roski School of Art and Design Instruction Mode: Lecture Grading Option: Letter

DES 418 Independent Studies in Design
Units: 1, 2, 3, 4 Max Units: 12 Terms Offered: FaSpSm Independent research of specific topics under the direction of a faculty member. Administrative and faculty approval required. *Recommended Preparation:* appropriate 300-level course work Instruction Mode: Lecture Grading Option: Letter

DES 419 Professional Internship in the Arts
Units: 2 Max Units: 4 Terms Offered: FaSpSm (Enroll in ART 419)

DES 432 Special Projects in Design
Units: 2 Terms Offered: FaSp Students work on projects for outside clients, and receive instruction in professional practices, advanced design techniques, and sophisticated technology. By invitation or portfolio review only. Only open to upper division students. *Prerequisite:* DES 302 or FADN 302 Duplicates Credit in former FADN 432 Instruction Mode: Lecture Grading Option: Letter

DES 433 International Design Study Tour
Units: 2 Terms Offered: FaSp An immersive experience in the design culture of a global city or region that includes a short (two-week or less) international trip. Instruction Mode: Lecture Grading Option: Letter

DES 494a Senior Thesis
Units: 2 Terms Offered: FaSpSm Research and writing of a senior-level thesis or thesis project under the supervision of a faculty committee. Registration Restriction: Open only to senior BFA Design majors Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

DES 494b Senior Thesis
Units: 2 Terms Offered: FaSpSm Research and writing of a senior-level thesis or thesis project under the supervision of a faculty committee. *Prerequisite:* DES 494a Registration Restriction: Open only to senior BFA Design majors Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

DES 499 Special Topics
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

DES 503 Contemporary Issues in Design
Units: 4 Terms Offered: Fa An analytic seminar of topics, ideas and concepts in the contemporary design world. Instruction Mode: Lecture Grading Option: Letter

DES 513 Visiting Designers Forum
Units: 2 Max Units: 04 Terms Offered: Fa Professional practice of design featuring formal presentations by visiting designers. Instruction Mode: Lecture Grading Option: Letter

DES 514 Designers in Residence Forum
Units: 2 Max Units: 04 Terms Offered: Sp Seminar in the professional practice of design featuring formal presentations and mentoring opportunities by designers in residence. Instruction Mode: Lecture Grading Option: Letter

DES 520 Individual Studies
Units: 2 Max Units: 06 Terms Offered: FaSp Investigation of creative problems through various design media. Instruction Mode: Lecture Grading Option: Letter

DES 523 Design Theory
Units: 4 Terms Offered: FaSp A critical examination of issues, theories, movements and practices that are relevant to the contemporary professional designer. Instruction Mode: Lecture Grading Option: Letter

DES 530 Design Studio Co-Lab
Units: 2 Max Units: 06 Terms Offered: FaSp A critical examination of contextual issues, theories, movements and ideas that are relevant to the contemporary design practice in collaboration with a professional client. Instruction Mode: Lecture Grading Option: Letter

DES 540 Design Pedagogy
Units: 4 Terms Offered: Sp A critical examination and application of the issues, theories, and ideas that support the studio practice and teaching of contemporary design. Instruction Mode: Lecture Grading Option: Letter

DES 543 Design Study Tour
Units: 2 Terms Offered: FaSp Historical and contemporary aspects of urban design with visits to design firms, studios and museums in selected cities across the United States. Airfare and accommodations extra. Instruction Mode: Lecture Grading Option: Letter

DES 550 Advancement
Units: 2 Terms Offered: FaSpSm A preparatory workshop to prepare students advancing to candidacy. *Recommended Preparation:* Completion of 24 units of course work Registration Restriction: Open only to master students in the USC Roski School of Art and Design Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to master students in the USC Roski School of Art and Design Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 591 Field Internship Experience
Units: 2 Terms Offered: FaSpSm Supervised internship in a design firm, or with an independent designer, on projects and research specific to design practice. *Recommended Preparation:* Completion of first year of courses Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. *Recommended Preparation:* 30 units of course work Registration Restriction: Open only to master students in the USC Roski School of Art and Design Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Master's thesis *Prerequisite:* DES 594a *Recommended Preparation:* 30 units of coursework Registration Restriction: Open only to master students in the USC Roski School of Art and Design Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit upon acceptance of master's thesis.

Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 599 Special Topics
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Selected topics in the various specialty areas within design at the graduate level. Topic will vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

Finance and Business Economics

FBE 206 The Power of Personal Finance
Units: 2 Terms Offered: FaSp Develop knowledge and skills in areas of money management, budgeting, financial goal attainment, insurance, credit cards, and investments. Instruction Mode: Lecture Grading Option: Letter

FBE 299 Special Topics
Units: 2, 4 Max Units: 4 Terms Offered: FaSpSm Introduction to current developments in finance and business economics. Instruction Mode: Lecture Grading Option: Letter

FBE 391 Real Estate Finance and Investment
Units: 4 Terms Offered: FaSp Introduction to income-producing real estate from the perspective of finance, market analysis, capital markets, development and investment. Includes focus on analytical techniques and computer applications. *Prerequisite:* BUAD 215 or BUAD 306. Duplicates Credit in former FBE 365. Instruction Mode: Lecture Grading Option: Letter

FBE 400x Introduction to Real Estate Finance and Development
Units: 4 Terms Offered: Fa Case analysis examining economic and financial aspects of real estate decisions for non-business majors. Focuses on dynamics of financing, markets and the development process. Duplicates Credit in former FBE 200x. Instruction Mode: Lecture Grading Option: Letter

FBE 402 Government and Business
Units: 4 American mixed capitalism, welfare, market failure, and the role of government in business; regulation and the public utilities, antitrust policy, and current topics in regulation-deregulation. Instruction Mode: Lecture Grading Option: Letter

FBE 403 Introduction to the Legal Environment of Business
Units: 4 Terms Offered: FaSp Legal principles of business: litigation process, constitutional law, torts, product liability, crimes, contracts, sales and leases, intellectual property, international law, agency, employment law, and ethics. Duplicates Credit in the former BUAD 403. Instruction Mode: Lecture Grading Option: Letter

FBE 405 Behavioral Finance
Units: 4.0 Terms Offered: FaSp Theories and applications of financial decision-making, using insights from psychology and neuroscience. Impact of behavioral biases on market prices. In-class experiments will be conducted. *Prerequisite:* BUAD 215x or BUAD 306 Instruction Mode: Lecture Grading Option: Letter

FBE 416 Managerial Economics
Units: 4 Application of microeconomic theory to problems of the firm, quantification of demand and cost relationships; pricing policies. *Prerequisite:* BUAD 311; and BUAD 351 or ECON 203 or ECON 351. Instruction Mode: Lecture Grading Option: Letter

FBE 421 Financial Analysis and Valuation
Units: 4 Terms Offered: FaSp Develops and uses tools of financial analysis to evaluate the performance and assess the value of individual companies in an industry context. *Prerequisite:* ACCT 410x or BUAD 280 or BUAD 305 Registration Restriction: Open only to undergraduates Instruction Mode: Lecture Grading Option: Letter

FBE 423 Introduction to Venture Capital and Private Equity
Units: 4 Terms Offered: FaSp Introduction to venture capital and private equity. Topics include fundraising, valuation of new firms and venture capital securities, and exiting investments through public offerings. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 424 Financial Institutions and Capital Markets
Units: 4 Terms Offered: FaSp Money and capital markets; derivative markets; foreign exchange markets; investment banks and nonbank finance, financial crises; commercial banks, Federal Reserve and conduct of monetary policy. *Prerequisite:* (BUAD 351 and BUAD 352) or (ECON 203g and ECON 205g) or (ECON 351x and ECON 352x) Registration Restriction: Open only to Sophomores, Juniors and Seniors Duplicates Credit in former FBE 324 Instruction Mode: Lecture Grading Option: Letter

FBE 427 Real Estate Law
Units: 4 Terms Offered: FaSp Principles of law regarding real property transactions; buyer-seller, debtor-creditor, landlord-tenant relationships; environmental law and land use control; investments and syndication. Instruction Mode: Lecture Grading Option: Letter

FBE 428 Introduction to Employment Law
Units: 4 Terms Offered: FaSpSm Survey of current employment law topics including employment discrimination arising within modern workplaces. Legal and business strategies for managing diversity for organizational success. Instruction Mode: Lecture Grading Option: Letter

FBE 429 International Business Law
Units: 4 Terms Offered: FaSp Introductory course on the legal and regulatory environment of international business transactions. Instruction Mode: Lecture Grading Option: Letter

FBE 431 Financial Policies and Corporate Governance
Units: 4 Terms Offered: FaSp Presentation of the theory and institutional details of corporate finance, with emphasis on debt and dividend policies, governance/voting rights, and security issuance and retirement. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 432 Corporate Financial Strategy
Units: 4 Terms Offered: FaSp Linkage between financial theory and policy and corporate strategy, the role of financial managers in developing corporate strategy; applications of concepts and techniques using cases. *Prerequisite:* ACCT 410x or BUAD 280 or BUAD 305 Instruction Mode: Lecture Grading Option: Letter

FBE 433 Corporate Governance and CEO Pay
Units: 4 Terms Offered: Sp Explores how value is created (or destroyed) through incentive compensation and corporate governance. Focus on bonuses, stock options, executive compensation, and financing policies. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 435 Applied Finance in Fixed Income Securities
Units: 4 Terms Offered: Sp Emphasis on hedging tools necessary for portfolio managers. Introduction of all securities available in fixed income and provision of tools to analyze investments. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 436 Financial Management of Multinational Corporations
Units: 4 International scope and dimension of financial planning; working capital management; financing and investment decisions of multinational corporations. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms
Units: 4 Terms Offered: Fa Internal financial management of developing firms. Cash flow analysis; capital budgeting; sources of financing; risk analysis; measurement of profits; and mergers and acquisitions. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 440 Trading and Exchanges
Units: 4 Terms Offered: Sp Theories, practices and technologies of trading at exchanges and in dealer networks. Sources of liquidity, volatility, profitability and institutional change. Domestic and international public policy issues. Instruction Mode: Lecture Grading Option: Letter

FBE 441 Investments
Units: 4 Terms Offered: FaSp Theories and applications of investment decision-making; the behavior of security prices, portfolio theory, asset pricing models, market efficiency, bond valuation and term structure, derivative securities. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 443 Introduction to Forecasting and Risk Analysis
Units: 4 Terms Offered: Sp Introduction to econometric tools and versions of Capital Asset Pricing Models to estimate financial risk, stock market risk premia and to project economic activity. *Prerequisite:* (BUAD 215x or BUAD 306) and (BUAD 310g or BUAD 312g) Instruction Mode: Lecture Grading Option: Letter

FBE 453a Advanced Practicum in Investment Management
Units: 4 Terms Offered: Fa Application of investment management techniques in a laboratory setting. Stock selection, asset allocation, industry analysis, investment

thesis research; off-site visits; oral and written presentations. *Prerequisite:* BUAD 215x or BUAD 306 *Corequisite:* FBE 421 or FBE 441 Registration Restriction: Open only to students admitted to the Marshall Undergraduate Student Investment Fund program Instruction Mode: Lecture Grading Option: Letter

FBE 453b Advanced Practicum in Investment Management
Units: 4 Application of advanced investment management techniques in a laboratory setting. Bond portfolio management, quantitative stock screens, derivatives trading, portfolio optimization. Off-site visits and presentations. Open only to senior business majors. Instruction Mode: Lecture Grading Option: Letter

FBE 458 Law of Forming, Financing and Managing Businesses
Units: 4 Terms Offered: FaSpSm Law and ethics of agency, partnerships, corporations, limited liability companies, governmental regulation, mergers, creditor rights, secured transactions, bankruptcy, securities regulation and antitrust. Instruction Mode: Lecture Grading Option: Letter

FBE 459 Financial Derivatives
Units: 4 Terms Offered: Fa A rigorous introduction to the pricing and corporate use of financial derivatives — futures, options, forwards, and swaps — on stocks, exchange rates, bonds, and commodities. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 460 Mergers, Acquisitions and Restructuring
Units: 4 Terms Offered: FaSpSm Practical understanding of the major strategic, economic, financial, human resources, and governance issues of mergers, acquisitions, and restructuring. *Prerequisite:* BUAD 215x or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 462 International Trade, Finance and Commercial Policy
Units: 4 Terms Offered: FaSp Commercial policies, treaty relationships, examination of policies influencing world trade and finance, the international financial system, exchange rates. *Prerequisite:* (ECON 203g and ECON 205g) or (BUAD 351 and BUAD 352) or (ECON 351x and ECON 352x) Registration Restriction: Open only to sophomores, juniors, and seniors Instruction Mode: Lecture Grading Option: Letter

FBE 465 Real Estate Analysis and Computer Modeling
Units: 2 Terms Offered: FaSp Real estate valuation. Three approaches to valuation: Market comparison, income, and cost. Highest and best use analysis. State of the art real estate software. *Prerequisite:* FBE 391 or FBE 400 Instruction Mode: Lecture Grading Option: Letter

FBE 466 Management of Real Estate Development: Feasibility Studies
Units: 4 Terms Offered: Sp By means of a significant real-world case study chosen each term, the development process is examined from the interrelated perspectives of finance, market analysis, and design and construction technology. Team-generated development proposals are proposed and presented in a consulting environment that includes industry participants. *Prerequisite:* FBE 391 and FBE 470 or FBE 400. Instruction Mode: Lecture Grading Option: Letter

FBE 469 Mixed Use Development Process
Units: 4 Terms Offered: Sp (Enroll in RED 469)

FBE 470 Advanced Real Estate Analysis
Units: 4 Terms Offered: FaSp Mixed lecture/case approach covering market analysis, asset valuation, ownership structure, negotiation, asset management, corporate real estate, portfolio management, and affordable housing, appraisal and advanced financial modeling. *Prerequisite:* FBE 391. Duplicates Credit in former FBE 465. Instruction Mode: Lecture Grading Option: Letter

FBE 489 Real Estate Capital Markets
Units: 4 Terms Offered: Fa Topics in real estate capital markets including markets for debt and equity; residential and commercial mortgages and mortgage-backed securities; REITs; institutional sources of capital. *Prerequisite:* FBE 391 or FBE 400 Instruction Mode: Lecture Grading Option: Letter

FBE 491 Real Estate Finance Colloquium
Units: 2 Terms Offered: FaSp The roles of economics and finance in real estate. Lessons from history, the origin of real estate bubbles, how real estate markets work. Instruction Mode: Lecture Grading Option: Letter

FBE 495x Practicum in Business Issues (Internship)
Units: 1 Max Units: 12.0 Terms Offered: FaSpSm Combined classroom discussion and structured, supervised field application of business theories and practices within a part-time employment context. Open only to undergraduate students in Finance and Business Economics certificate. Registration Restriction: Open only to undergraduate students in Finance and Business Economics certificate. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 498 Special Topics
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: Irregular Current developments in the field of finance and business economics; topics to be selected each semester. (Graded CR/NC) *Prerequisite:* BUAD 215x or BUAD 306 Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Current developments in the field of finance and business economics; topics to be selected each semester. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 501 Investment Banking Fundamentals
Units: 1.5 Terms Offered: FaSpSm The role of an investment banking associate. Students will effectively function as a junior banker through a sell-side merger and acquisition (M & A) process. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 504 The FinTech Revolution: Disrupting Traditional Finance
Units: 1.5 Terms Offered: FaSp Emerging business models in finance including crowdfunding, marketplace lending, new payment solutions and wealth management automation. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

FBE 506 Quantitative Methods in Finance
Units: 3 Terms Offered: Fa The development of single and bivariate mathematical and statistical methods used in modern finance and economics and applications of these methods. Registration Restriction: Open only MS in Finance students Duplicates Credit in former FBE 506a and FBE 506b Instruction Mode: Lecture Grading Option: Letter

FBE 523 Venture Capital and Private Equity
Units: 3 Terms Offered: FaSp Advanced analysis of the economics of the private equity markets. Consider and value private securities in venture capital, initial public offerings, and leveraged buyouts. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 524 Money and Capital Markets
Units: 3 Terms Offered: Fa Review of financial institutions and markets, the determinants of interest rates, the impact of government regulation and policy on the financial system. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 525 Financial Institution Management, Strategy and Valuation
Units: 3 Terms Offered: Fa Application of economic and financial analytic techniques to the managerial problems of financial institutions and implications for financial firm strategy and valuation. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 526 Macroeconomic Analysis for Business
Units: 3 Terms Offered: Sp The economic environment of business: American economic and social goals and policies and their impact on business; growth, stability, and the new priorities; international forces influencing business. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

FBE 527 Entrepreneurial Finance: Financial Management for Developing Firms
Units: 3 Terms Offered: FaSp Internal financial management of developing firms. Cash flow analysis; capital budgeting; sources of financing; risk analysis; measurement of profits; and mergers and acquisitions. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 529 Financial Analysis and Valuation
Units: 3 Terms Offered: FaSp An applications-oriented course to develop the financial and accounting tools required to do financial planning valuation and

assessment of financial performance. *Prerequisite:* GSBA 521b or GSBA 548 Duplicates Credit in FIM 529 Instruction Mode: Lecture Grading Option: Letter

FBE 531 Corporate Financial Policy and Corporate Governance
Units: 1.5, 3 Terms Offered: FaSp Advanced analysis of the determinants of corporate capital structure and payout policies, allocation and value of corporate control, and security issuance and retirement. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 532 Corporate Financial Strategy
Units: 3 Terms Offered: FaSpSm Linkage between financial theory and policy and corporate strategy; the role of financial managers in developing corporate strategy; applications of concepts and techniques using cases. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 533 CEO Pay, Corporate Governance, and the Politics of Finance
Units: 3 Terms Offered: Sp Explores how value is created (or destroyed) in organizations, focusing on compensation and incentive systems and the causes and consequences of government (and populist) intervention. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 535 Applied Finance in Fixed Income Securities
Units: 1.5, 3 Terms Offered: FaSp The basic principles underlying fixed income securities and how these principles apply to the practical aspects of fixed income management. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 540 Hedge Funds
Units: 3 Terms Offered: FaSp Introduction to the investment strategies used by hedge funds, the quantitative tools and business plans used to implement them. *Prerequisite:* GSBA 521b or GSBA 548. *Recommended Preparation:* statistics and calculus. Instruction Mode: Lecture Grading Option: Letter

FBE 543 Forecasting and Risk Analysis
Units: 3 Terms Offered: SpSm Application of econometric tools and versions of capital asset pricing models to estimate financial risk and stock market risk premia for portfolio management. *Prerequisite:* FBE 506 or GSBA 506b or GSBA 524 or (GSBA 516 and GSBA 545) Instruction Mode: Lecture Grading Option: Letter

FBE 545 Applied Financial Modeling
Units: 3 Terms Offered: FaSp Hands-on Excel skills necessary to analyze complicated financial situations and to present the analysis in a coherent and professional manner. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

FBE 550 High Yield Bond Investing - Managing Credit Risk
Units: 1.5 Terms Offered: FaSp Review the structure of the high yield bond market. Develop a practical approach to assess credit risk and understand how deals are structured and priced. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 551 Quantitative Investing
Units: 3 Terms Offered: Fa Build, test and implement the types of models in use by quantitative asset managers. *Prerequisite:* FBE 555 Instruction Mode: Lecture Grading Option: Letter

FBE 553a Applied Portfolio Management
Units: 3 Terms Offered: Fa Application of portfolio management techniques in a laboratory setting. Stock selection, asset allocation, industry analysis, investment thesis research; off-site visits; oral and written presentations. *Prerequisite:* GSBA 521b or GSBA 548. *Corequisite:* FBE 555. Instruction Mode: Lecture Grading Option: Letter

FBE 553b Applied Portfolio Management
Units: 3 Terms Offered: Sp Application of advanced portfolio management techniques in a laboratory setting. Bond portfolio management, quantitative stock screens, derivatives trading, portfolio optimization. Off-site visits and presentations. *Prerequisite:* FBE 553a Instruction Mode: Lecture Grading Option: Letter

FBE 554 Trading and Exchanges
Units: 3 Terms Offered: Sp Theories, practices and technologies of trading at exchanges and in dealer networks. Sources of liquidity, volatility, profitability and institutional change. Domestic and international public policy issues. Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in FBE 440 Instruction Mode: Lecture Grading Option: Letter

FBE 555 Investment Analysis and Portfolio Management
Units: 3 Terms Offered: FaSp Analysis and management of common stocks and fixed income securities; development of modern portfolio theory and the efficient market hypothesis; organization of securities markets. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 557 Business Law and Ethics
Units: 3 Terms Offered: FaSpSm Business law of traditional and e-contracts, UCC, crimes, torts, employment, ethics, social responsibility, intellectual property, digital law, e-commerce, accountants' liability, property, estates, and government regulation. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

FBE 558 Law for Structuring, Financing, and Managing Businesses
Units: 3 Terms Offered: FaSp Legal environment of agency law, general and limited partnerships, limited liability companies, corporate formation and financing, corporate governance, securities law, acquisitions, bankruptcy, and business ethics. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 559 Management of Financial Risk
Units: 3 Terms Offered: FaSp Analysis of commodity, futures, and options contracts; theoretical and empirical approaches; spot and futures price relationships, speculation and hedging strategies; market efficiency. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 560 Mergers and Acquisitions
Units: 3 Terms Offered: Sp Practical application of the critical components of mergers and acquisitions: deal flow strategies, preliminary negotiations, deal structures, due diligence, valuation, post-merger integration, and regulations. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 563 Global Trade and Finance
Units: 3 Terms Offered: Sp Impact of trade globalization in goods, services and financial securities on business decisions; special attention to foreign currency markets, foreign investments and international portfolios investments. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 564 International Financial Management
Units: 3 Terms Offered: Sm Financial management of the multinational firm; legal entities and taxation abroad; risk in foreign operations; strategies in foreign exchange, money and capital markets and institutions. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 565 Economics of Urban Land Use: Feasibility Studies
Units: 3 Terms Offered: Sp Economic, market and financial analysis related to feasibility of real estate development; theory and case analysis. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 570 Advanced Topics in Real Estate Finance
Units: 3 Terms Offered: Fa Current topics in real estate finance including sources of equity and debt, the role of capital markets, REITs, conduits, portfolio analysis, and acquisition of distressed assets. Cases and analytic methods. *Prerequisite:* GSBA 521b or GSBA 548; *Recommended Preparation:* FBE 591. Instruction Mode: Lecture Grading Option: Letter

FBE 571 Introduction to Financial Analysis: Practicum
Units: 3 Terms Offered: FaSp This introductory financial analysis (tools, techniques) practicum, emphasizes practical application of asset valuation and portfolio management techniques for those with little previous experience. *Prerequisite:* GSBA 548 or GSBA 521b. Duplicates Credit in FBE 572 and FBE 573. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 572 Intermediate Financial Analysis: Practicum
Units: 3 Terms Offered: Sp This practicum emphasizes asset valuation, including applications of tools and inputs (including economics, accounting, and quantitative

techniques) in asset valuation for those with prior experience. *Prerequisite:* GSBA 548 or GSBA 521b. Duplicates Credit in FBE 571 and FBE 573. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 573 Advanced Financial Analysis: Practicum
Units: 3 Terms Offered: Sp This is an advanced practicum emphasizing portfolio management skills, including applied strategies (tools, inputs) in equity and fixed-income management for those with extensive prior experience. *Prerequisite:* GSBA 548 or GSBA 521b. Duplicates Credit in FBE 571 and FBE 572. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 588 Advanced Real Estate Law
Units: 3 Terms Offered: Sm Legal aspects of real estate transactions; partnerships, syndicates, and other ownership forms. Legal aspects of land use control, zoning and environmental impact reports. Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in RED 562 Instruction Mode: Lecture Grading Option: Letter

FBE 589 Mortgages and Mortgage-Backed Securities and Markets
Units: 3 Terms Offered: Fa Valuation and analysis of residential and commercial mortgages and mortgage-backed securities and related markets. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 591 Real Estate Finance and Investment
Units: 3 Terms Offered: FaSp Analysis of investment in and financing of real estate assets including projections, valuation, deal structure, contracts, portfolio and tax and entity considerations. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 592 Field Research in Finance or Business Economics
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the business practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 593 Independent Research in Finance or Business Economics
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 595 Internship in Finance or Business Economics
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job business experience in the student's area of interest. (Curricular Practical Training.) Graded CR/NC. *Recommended Preparation:* Completion of required MBA, MAcc, MBT, or MS Finance course work Registration Restriction: Open only to master students in accounting and business majors Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 596 Research Practicum in Finance or Business Economics
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member in the Finance and Business Economics Department on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 597 Consulting Project in Finance or Business Economics
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12 Terms Offered: FaSp Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. *Recommended Preparation:* Completion of required MBA, MAcc, MBT, or MS Finance course work Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Current developments in the field of Finance and Business Economics; topics to be selected each semester. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Current developments in the field of Finance and Business Economics; topics to be selected each semester. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Finance and Business Economics. Presentations by faculty, visiting researchers, and advanced students. Open only to Marshall PhD students. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 630 Fundamentals of Corporate Finance
Units: 1.5 Terms Offered: Sp Core theory and empirical evidence in corporate finance. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

FBE 631a Advanced Corporate Finance
Units: 1.5 Terms Offered: FaSp Advanced and frontier issues in corporate finance. A: financial intermediation, investment-cash flow sensitivity, internal capital markets, diversification, and business groups. *Prerequisite:* FBE 630 Registration Restriction: Open only to doctoral students Duplicates Credit in former FBE 631 Instruction Mode: Lecture Grading Option: Letter

FBE 631b Advanced Corporate Finance
Units: 1.5 Terms Offered: FaSp Advanced and frontier issues in corporate finance. B: mergers and divestitures, product market competition, corporate governance, and finance and development. *Prerequisite:* FBE 630 Registration Restriction: Open only to doctoral students Duplicates Credit in former FBE 631 Instruction Mode: Lecture Grading Option: Letter

FBE 633 Fundamentals of Asset Pricing
Units: 1.5 Terms Offered: Sp Financial Economics course that focuses on core theory and empirical evidence in asset pricing. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

FBE 634a Advanced Asset Pricing
Units: 1.5 Terms Offered: FaSp Advanced asset pricing in financial economics focusing on advanced empirical methods: (a) emphasis on quantitative models, (b) emphasis on GMM and regression. *Prerequisite:* FBE 633 Registration Restriction: Open only to doctoral students Duplicates Credit in former FBE 634 Instruction Mode: Lecture Grading Option: Letter

FBE 634b Advanced Asset Pricing
Units: 1.5 Terms Offered: FaSp Advanced asset pricing in financial economics focusing on advanced empirical methods: (a) emphasis on Quantitative models, (b) emphasis on GMM and regression. *Prerequisite:* FBE 634a Registration Restriction: Open only to doctoral students Duplicates Credit in former FBE 634 Instruction Mode: Lecture Grading Option: Letter

FBE 652 Financial Economics I
Units: 3 Terms Offered: Irregular Doctoral level seminar in financial economics; concentration on corporate finance theory and evidence. Instruction Mode: Lecture Grading Option: Letter

FBE 653 Financial Economics II
Units: 3 Terms Offered: Irregular Doctoral level seminar in financial economics; concentration on contingent claims and continuous time models. Instruction Mode: Lecture Grading Option: Letter

FBE 654 Ph.D. Seminar-Empirical Research Methods in Finance
Units: 3 Terms Offered: Irregular Empirical financial research methods are introduced. Applications are discussed and critiqued. Special attention is given to new statistical methods and to identifying fruitful research programs. Instruction Mode: Lecture Grading Option: Letter

FBE 655 Financial Economics III
Units: 3 Terms Offered: Sp Doctoral-level seminar in financial economics; concentration on the theory of corporate governance and incentives in organizations. Instruction Mode: Lecture Grading Option: Letter

FBE 670 Selected Topics in Finance Research
Units: 1.5 Max Units: 6 Terms Offered: FaSp Selected topics in finance research. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

FBE 699 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary finance and/or business economics. Registration Restriction: Open to doctoral students only. Instruction Mode: Lecture Grading Option: Letter

Food Industry Management

FIM 410 Leadership in the Food Industry
Units: 2 Terms Offered: Sp An integrated approach for executives in the food industry to understand different leadership styles, tools, and dynamics while working to further define and improve their own leadership skills. Registration Restriction: Open only to Food Industry Management students Instruction Mode: Lecture Grading Option: Letter

FIM 481 Marketing Management in the Food Industry
Units: 4 Terms Offered: Sp An integrated approach to marketing new and existing products and services within a strategic food industry management context. Registration Restriction: Open only to Food Industry Management students Instruction Mode: Lecture Grading Option: Letter

FIM 482 Communication Management in the Food Industry
Units: 4 Terms Offered: Sp Development of communication skills required to write well, to speak dynamically and persuasively, to cultivate relationships using interpersonal communication skills, and to implement organizational strategies. Registration Restriction: Open only to Food Industry Management students Instruction Mode: Lecture Grading Option: Letter

FIM 485 Financial Analysis and Valuation in the Food Industry
Units: 4 Terms Offered: Sp Development and use of financial analysis tools and valuation techniques to assess the performance and value of companies in the food industry. Registration Restriction: Open only to Food Industry Management students Instruction Mode: Lecture Grading Option: Letter

FIM 497 Strategic Management in the Food Industry
Units: 4 Terms Offered: Sp Introduction to the concepts, tools, and principles of strategy formulation and competitive analysis as applied to food industry management decision-making. Registration Restriction: Open only to Food Industry Management students Instruction Mode: Lecture Grading Option: Letter

FIM 529 Financial Analysis and Valuation in the Food Industry
Units: 2 Terms Offered: Fa The practical application and integration of finance and accounting concepts to valuing investment projects and companies in the food industry. Registration Restriction: Open only to students in the MS in Food Industry Leadership program. Duplicates Credit in FBE 529 Instruction Mode: Lecture Grading Option: Letter

FIM 550 Perspectives on the Food Industry
Units: 1 Terms Offered: Fa Current issues, new technologies, trends, government policy, emerging technologies and business models facing upstream, midstream, and downstream firms in the food industry. Registration Restriction: Open only to students in the MS in Food Industry Leadership program Instruction Mode: Lecture Grading Option: Letter

FIM 554 Leading Change in the Food Industry
Units: 1 Terms Offered: Sp Significant models of change processes; how and why they are used. Change management tools including organizational culture diagnosis, force field analysis, and social network analysis. Registration Restriction: Open only to students in the MS in Food Industry Leadership program Duplicates Credit in MOR 554 Instruction Mode: Lecture Grading Option: Letter

FIM 560 Decision Making in the Food Industry
Units: 1 Terms Offered: Sm Evaluate the nature, causes, and consequences of deviations from "optimal" choice. Leverage psychological insights about how the brain works to make better decisions. Registration Restriction: Open only to students in the MS in Food Industry Leadership program Duplicates Credit in MOR 560 Instruction Mode: Lecture Grading Option: Letter

FIM 564 Innovation in the Food Industry
Units: 1 Terms Offered: Sm Frameworks for innovating strategically to strengthen critical thinking skills to develop creative and innovative business solutions. Discover and create growth opportunities in the food industry. Registration Restriction: Open only to MS in Food Industry Leadership students Duplicates Credit in MOR 564 Instruction Mode: Lecture Grading Option: Letter

FIM 567 Influence and Power in the Food Industry
Units: 1 Terms Offered: Sm Explore frameworks to effectively wield power and influence. Develop individual competencies that enhance personal impact effectively and ethically. Registration Restriction: Open only to students in the MS in Food Industry Leadership program Duplicates Credit in MOR 567 Instruction Mode: Lecture Grading Option: Letter

FIM 569 Negotiation in the Food Industry
Units: 1 Terms Offered: Fa Evaluate the negotiation process via analytical frameworks and develop negotiation skills experientially to achieve business solutions within the food industry. Registration Restriction: Open only to Master of Science in Food Industry Leadership students Duplicates Credit in MOR 569 Instruction Mode: Lecture Grading Option: Letter

FIM 571 Leadership in the Food Industry
Units: 1 Terms Offered: Sm Analyze leadership styles and examine leadership behaviors and demands. Assess personal approach to leadership within the food industry. Registration Restriction: Open only to students in the MS in Food Industry Leadership program Duplicates Credit in MOR 571 Instruction Mode: Lecture Grading Option: Letter

FIM 574 Food Industry for the Future
Units: 1 Terms Offered: Sp Societal trends, innovative technologies, and novel business models, which provide various possibilities for food industry transformation. Registration Restriction: Open only to students in the MS in Food Industry Leadership program Duplicates Credit in MOR 564 Instruction Mode: Lecture Grading Option: Letter

FIM 591 Food Industry Leadership Capstone Project
Units: 3 Terms Offered: Sp Integrative team projects addressing unstructured business situations for actual clients. Application of analytical tools and critical thinking methods spanning multiple disciplines. Registration Restriction: Open only to students in the MS in Food Industry Leadership program Instruction Mode: Lecture Grading Option: Letter

Fixed Prosthodontics

FPRO 520 Preclinical Fixed Prosthodontics (ISP)
Units: 2 Basic fundamentals of fixed prosthodontics; preparation for clinical procedures in posterior PFM's, posterior mandibular FPD's and in restoring endodontically treated teeth. Instruction Mode: Lecture Grading Option: Letter

FPRO 521 Preclinical Fixed Prosthodontics I
Units: 3 Fundamentals and principles of posterior prosthodontic procedures, including diagnosis, biomechanic principles, and construction of fixed prosthodontic restorations. Instruction Mode: Lecture Grading Option: Letter

FPRO 522 Preclinical Fixed Prosthodontics II
Units: 3 Fundamentals of aesthetic restorations; fabrication of posterior and anterior porcelain-fused-to-metal restorations and anterior porcelain jacket crown; restoration of endodontically treated teeth. Instruction Mode: Lecture Grading Option: Letter

FPRO 561a Clinic: Fixed Prosthodontics I
Units: 0 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

FPRO 561b Clinic: Fixed Prosthodontics I
Units: 0 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

FPRO 561c Clinic: Fixed Prosthodontics I
Units: 0 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

FPRO 561d Clinic: Fixed Prosthodontics I
Units: 3 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: Letter

FPRO 562a Clinic: Fixed Prosthodontics II
Units: 0, 1, 2, 3 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

FPRO 562b Clinic: Fixed Prosthodontics II
Units: 0, 1, 2, 3 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: Letter

FPRO 601 Advanced Fixed Prosthodontics
Units: 4 Critical review and evaluation of the fixed prosthodontic literature; guided experience in the laboratory and clinical phases of fixed prosthodontic therapy. Instruction Mode: Lecture Grading Option: Letter

French

FREN 012x French 120 Language Practicum
Units: 1 Terms Offered: FaSp English grammar as it relates to French in order to improve students' French language skills; explicit pronunciation and intonation practice. Requires concurrent enrollment in either FREN 120 French I or MPVA 261 French Language and Diction. Credit Restriction: Not available for major or degree credit Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 015x French 150 Language Practicum
Units: 1 Terms Offered: FaSpSm English grammar as it relates to French in order to improve students' French language skills; explicit pronunciation and intonation practice. *Concurrent Enrollment:* FREN 150 Credit Restriction: Not available for degree credit Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 020x Course in Reading French
Units: 2 Terms Offered: FaSpSm For graduate students who wish help in meeting the French reading requirement for the PhD degree. Synoptic presentation of French grammar. Emphasis on development of reading skills. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 120 French I
Units: 4 Terms Offered: FaSpSm Introduction to current French.
Oral practice, listening and reading comprehension; grammar necessary for simple spoken and written expression. *Prerequisite:* No previous experience or appropriate placement score. Instruction Mode: Lecture Grading Option: Letter

FREN 122 French Basic Language in a Business Context
Units: 1 Terms Offered: FaSpSm Develops students first semester language skills with an emphasis on the business context. Introduces students to the French economy and select business practices. May be taken in the same semester as, or after completing, FREN 120 or MPVA 261. May not be taken with or after completing FREN 150. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 150 French II
Units: 4 Terms Offered: FaSpSm Continuation of FREN 120. *Prerequisite:* FREN 120 or MPVA 261 Instruction Mode: Lecture Grading Option: Letter

FREN 152 French Basic Language for the Professions
Units: 1 Terms Offered: FaSpSm Develops students linguistic, cultural and interpersonal competencies in professional contexts. Introduces students to the French economy, workplace and business practices, including job searches. The course is restricted to students who have taken FREN 150, placed in FREN 220, or are concurrently registered in FREN 150 or FREN 220. Students who have completed FREN 220 and above may not register for the course. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 202 Intensive French
Units: 8 Terms Offered: FaSp Combines FREN 150 and FREN 220 to allow students to complete both courses in the same semester at an accelerated pace. *Prerequisite:* FREN 120 Duplicates Credit in FREN 150, FREN 220 Instruction Mode: Lecture Grading Option: Letter

FREN 220 French III
Units: 4 Terms Offered: FaSpSm Continuation of FREN 150. Review of structural patterns of French; selected cultural and literary readings; conversation and composition. *Prerequisite:* FREN 150 or appropriate placement score. Instruction Mode: Lecture Grading Option: Letter

FREN 235x Intermediate Conversational French
Units: 2 Terms Offered: FaSp Designed for non-majors/minors interested in maintaining and developing French language competency. Builds vocabulary, ease of communication, and cultural knowledge through discussion of contemporary topics. Graded Credit/No Credit. Not available for credit to French majors. Not open to French majors. *Prerequisite:* FREN 202 or FREN 220 Registration Restriction: Not open to French majors Credit Restriction: Not available for credit to French majors Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 236x Professional Communication in French
Units: 2 Terms Offered: FaSp Professional communication skills and cultural competency as preparation for working in an international environment. *Prerequisite:* FREN 220. Instruction Mode: Lecture Grading Option: Letter

FREN 250 French IV
Units: 4 Terms Offered: FaSpSm Introduction to French literature through the study of texts and audiovisuals organized around a central theme; develops close-reading techniques and discursive skills; reviews French grammar. *Prerequisite:* FREN 202 or FREN 220 Instruction Mode: Lecture Grading Option: Letter

FREN 270gw Black Europe
Units: 4 Terms Offered: FaSp Study of African migration to Europe and the formation of 'black'/African communities in Europe, focusing on France and Italy. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ITAL 270

FREN 300 French Grammar and Composition
Units: 4 Terms Offered: FaSpSm Grammatical structure and vocabulary building with practical application to written composition. *Prerequisite:* FREN 250. Instruction Mode: Lecture Grading Option: Letter

FREN 305 Global Women's Narratives
Units: 2 Max Units: 04 Terms Offered: FaSp Experiential learning course organized around Francophone women's narratives, theory of narrative and testimony, and practice and publishing of interviews with women across global contexts. Instruction Mode: Lecture Grading Option: Letter

FREN 307g Public Memory and the Ghosts of History
Units: 4 Terms Offered: FaSp An exploration of cultural haunting in post-Revolutionary France, grounded in critical approaches to literature, with a focus on collective memory, loss and historical violence. *Prerequisite:* FREN 150 Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

FREN 309 Voices of Change: Writers, Filmmakers and Artists of Contemporary Senegal
Units: 4 Terms Offered: Sp Study and research into the role of culture in social and political change in Senegal. Emphasis on history, theories and practices of African cultural identity. Taught in French. *Prerequisite:* FREN 250 Instruction Mode: Lecture Grading Option: Letter

FREN 310 Media French
Units: 4 Terms Offered: FaSpSm Analysis of French media. Practice in sustained conversation. Emphasis on spoken sentence patterns. *Prerequisite:* FREN 250. Instruction Mode: Lecture Grading Option: Letter

FREN 315 Inside the Courts: the French Legal Language and Culture
Units: 4 Terms Offered: Sp Broaden understanding of differences between American and French cultures; acquire specialized vocabulary; develop ability to address legal issues in writing and orally. Taught in French. *Prerequisite:* FREN 300 Instruction Mode: Lecture Grading Option: Letter

FREN 318 Global Cyphers: Hip Hop Circles Around the World
Units: 4 Terms Offered: Irregular History and practices of hip hop popular culture in France. Emphasis on the African diaspora, transnationalism, and contemporary dynamics of race and post/colonialism. Taught in English. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 318

FREN 320g The French New Wave and its Legacy
Units: 4 Terms Offered: FaSp Film-making in France from the earliest experiments to current trends. Emphasis on the political, social, historical context of French films. Taught in English. Reading knowledge of French recommended. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

FREN 322 Translation Workshop
Units: 4 Terms Offered: FaSpSm In this introduction to the practice of translation, students will get hands-on experience translating texts and learning about translation as an "art" (theory and approaches). *Prerequisite:* FREN 300

Instruction Mode: Lecture Grading Option: Letter

FREN 330 Critical Writing in French
Units: 4 Terms Offered: FaSpSm Advanced composition through critical reading of literary texts; comprehensive analysis of difficult grammatical structures and stylistics. *Prerequisite:* FREN 300. Instruction Mode: Lecture Grading Option: Letter

FREN 340g Italian and French Cinema and Society
Units: 4 Terms Offered: Fa (Enroll in ITAL 340)

FREN 347g Race, Gender and Power in Francophone Literature
Units: 4 Terms Offered: FaSpSm Study of post-colonialism as a ferment for literary creation in the literature of French expression from Africa, the Caribbean and Canada. Conducted in French. *Corequisite:* FREN 330 Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

FREN 351 Introduction to Research in French and Francophone Cultures
Units: 4 Terms Offered: FaSp Introduction to research methods through the study of a specific topic in French and/or Francophone literature and culture. *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 357 Popular Music in France - Culture, Politics, Protest
Units: 4 Terms Offered: FaSp History and contemporary dynamics of popular musical culture in France, from chanson to EDM. Emphasis on the intersections between musical culture, political and social history. *Prerequisite:* FREN 300 *Corequisite:* FREN 330 Instruction Mode: Lecture Grading Option: Letter

FREN 360 Business and Technical French
Units: 4 Terms Offered: FaSp Specific vocabulary and formulae used in international commerce. Attention given to developing vocabulary and standard forms appropriate to individual career objectives. *Prerequisite:* FREN 300 Instruction Mode: Lecture Grading Option: Letter

FREN 368 French Foreign Policy: 1945 to the Present
Units: 4 Terms Offered: FaSpSm (Enroll in IR 368)

FREN 370gm Equality and Difference around the Enlightenment
Units: 4 Terms Offered: FaSpSm 18th - and 20th century debates around the idea of equality and the notion of difference. Relevance of the Enlightenment to contemporary discussions of identity, citizenship, and human rights. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

FREN 373g Remembering Loss, Writing Memory
Units: 4 Terms Offered: FaSp An exploration into how genocides and episodes of mass violence have been thought about, remembered and expressed in France and the Francophone world. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

FREN 375gmw Global Narratives of Illness and Disability
Units: 4 Terms Offered: Fa Study of difference as represented through French, Francophone and related narratives of disability and illness, with attention to race and gender. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizens in a Diverse World Instruction Mode: Lecture Grading Option: Letter

FREN 382 Paris Avant-Gardes
Units: 4 Exploration of experimental artistic collaborations between poets, novelists, art critics and artists of the Paris Avant-gardes in 19th and 20th century. Taught in French. Paris Semester. *Prerequisite:* FREN 330; *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 383 French Women Writers
Units: 4 Terms Offered: FaSp Major figures and their roles in French society and contributions to French literature. Conducted in French. *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-383

FREN 389 Islam in France
Units: 4 (Enroll in IR 389)

FREN 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

FREN 392 Seminar in Literary and Cultural Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Selected topics in French and Francophone literature and culture. Conducted in French. *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 393 Seminar in French Thought and Theory
Units: 4 Max Units: 08 Terms Offered: FaSp Introduction to important trends in recent French philosophy, political and social theory, psychoanalysis, ethnology, semiotics, and media studies. Emphasis to be determined by department. Conducted in English. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT 393

FREN 401 Studies in Early Modernity
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of representative works and major intellectual, cultural, and artistic trends from the early modern period (pre-1789). *Prerequisite:* FREN 330 Instruction Mode: Lecture Grading Option: Letter

FREN 402 Studies in Modernity
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of representative works and major intellectual, cultural, and artistic trends from the modern period (post-1789). *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 403 Studies in Colonialism and Postcolonialism
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of colonialism and postcolonialism in French and Francophone contexts. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 404 Studies in an Author
Units: 4 Terms Offered: FaSp Close readings in works of a single influential French or Francophone author. Focused study of style, creative developments, historical context. Conducted in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 410 Actualités Françaises
Units: 4 Terms Offered: Sp Present day French life through readings in French periodicals and viewing of French films and art exhibits. Non-majors prepare assignments in English. Conducted in French. Spring semester in Paris only. *Recommended Preparation:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 432 French Theatre
Units: 4 Terms Offered: Sp (Paris Semester only) A survey of French theatre from the 17th century to the present. Students read plays ranging from classical comedy and tragedy to modern movements. Live theatre performances will supplement class work. Taught in French. *Prerequisite:* FREN 330; *Recommended Preparation:* familiarity with French history since the Renaissance. Instruction Mode: Lecture Grading Option: Letter

FREN 445 Studies in Gender, Feminism and Sexuality
Units: 4 Terms Offered: FaSp Major feminist thinkers and writers viewed from the perspective of the evolution of gender and sexuality in contemporary France. Conducted in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-445

FREN 446 Contemporary French Thought
Units: 4 Max Units: 8 Terms Offered: FaSp Readings in structuralism, post-structuralism, feminism, and deconstruction. Conducted in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 448m France and Islam
Units: 4 Terms Offered: FaSp Historical and theoretical analyses of the complex history of Western perceptions of Islam, focusing on France. Taught in French. *Prerequisite:* FREN 330 *Recommended Preparation:* REL 137 for Religion majors and minors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 448, REL 448

FREN 449 Studies in French Civilization
Units: 4 Terms Offered: Sp (Paris Semester only) An analysis of the prestige of Paris, past and present, based upon close examination of literary texts and graphic materials, and visits to sites and monuments. *Recommended Preparation:* FREN 300. Instruction Mode: Lecture Grading Option: Letter

FREN 464 Colloquium: French Civilization
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics such as the press, educational institutions, French cinema today, and French colonial history. Conducted in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

FREN 499 Special Topics
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Selected topics in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 500 Pro-Seminar in French and Francophone Studies
Units: 4 Terms Offered: FaSp Introduction to the field of French and Francophone studies, including the history of the field, critical research methodologies and contemporary issues in the profession. Instruction Mode: Lecture Grading Option: Letter

FREN 501 Early Modernities
Units: 4 Terms Offered: FaSp Broad introduction to French culture from the late Middle Ages through the 18th century; investigation of works of literature, philosophy, and visual culture. Instruction Mode: Lecture Grading Option: Letter

FREN 503 Modernities
Units: 4 An intellectual genealogy of French modernity and modernism through the examination of canonical literary texts and theories. Instruction Mode: Lecture Grading Option: Letter

FREN 504 Studies in Francophone Literature and Thought
Units: 4 Topics in Francophone literature and intellectual history of Africa, Asia and the Americas. Emphasis on colonial history and political and aesthetic concerns. Instruction Mode: Lecture Grading Option: Letter

FREN 520 Studies in Diaspora and Transnationalism
Units: 4 Introduction to contemporary literature and thought on the dynamics of diaspora, transnationalism, and globalization. Instruction Mode: Lecture Grading Option: Letter

FREN 530 Studies in a Genre
Units: 4 Studies one of the genres in French literature (including novel, poetry, drama, and essay) in any historical period or periods. Instruction Mode: Lecture Grading Option: Letter

FREN 540 Studies in French Literature and Philosophy
Units: 4 Examines literary and philosophical works side by side in any historical period or periods in France. Instruction Mode: Lecture Grading Option: Letter

FREN 550 Studies in Literature and Other Media
Units: 4 Survey-like review of the interaction between verbal and other artistic media such as print, music, dance, theater, and painting and the visual arts. Instruction Mode: Lecture Grading Option: Letter

FREN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 592 Practicum in Teaching French
Units: 2 Terms Offered: Fa Introduction to the approaches and techniques of teaching French as a second language. Open only to master's and PhD students who will be assistant lecturers in French. Registration Restriction: Only open to Master and PhD students who will be Assistant Lecturers in French. Instruction Mode: Lecture Grading Option: CR/NC

FREN 603 Seminar on an Author
Units: 4 Examines the work of a significant French author along with its critical and theoretical assessments. Instruction Mode: Lecture Grading Option: Letter

FREN 604 Topics in Contemporary French Thought
Units: 4 Examines French thought from 1960 to the present day. Instruction Mode: Lecture Grading Option: Letter

FREN 695 Topics and/or Themes in French Literature
Units: 4 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

FREN 696 Topics and/or Themes in Francophone Literature
Units: 4 Max Units: 12.0 Advanced seminar with varying focus on the Francophone literature and culture of West Africa, North Africa, the Caribbean, Quebec and Southeast Asia. Instruction Mode: Lecture Grading Option: Letter

FREN 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

FREN 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

FREN 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

FREN 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

FREN 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Freshman Seminars

FSEM 100 Freshman Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp A seven-to-eleven week course offered for incoming freshmen; limited to 18 students. Instruction Mode: Lecture Grading Option: Credit/No Credit

FSEM 101 Freshman Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp A seven-to-eleven week course offered for incoming freshmen; limited to 18 students. Letter graded. Instruction Mode: Lecture Grading Option: Letter

FSEM 180 First Year College Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp A thematic seminar for entering students in the USC Dornsife College of Letters, Arts and Sciences, exploring an area of academic study, research, or creative work. Instruction Mode: Lecture Grading Option: Credit/No Credit

Geriatric Dentistry

GDEN 710 Knowledge Assessment for GDEN Students
Units: 1 Terms Offered: Sm Review of topics explored in the previous courses of the program, including lectures and practical demonstrations or simulations and examinations of overall discipline knowledge. *Prerequisite:* OFPM 722 and OFPM 725 and GDEN 713 and GDEN 715 Registration Restriction: Open only to Geriatric Dentistry students Duplicates Credit in GDEN 716 Instruction Mode: Lecture Grading Option: Letter

GDEN 711a Case Portfolio Preparation for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 711b Case Portfolio Preparation for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 711c Case Portfolio Preparation for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 711d Case Portfolio Preparation for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 711e Case Portfolio Preparation for GDEN Students
Units: .5, Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 712a Capstone Research Project for GDEN Students
Units: .5 Terms Offered: FaSpSm Production and defense of a research plan that demonstrates significant understanding of a topic in geriatric dentistry. *Prerequisite:* GDEN 733 Registration Restriction: Open only to GDEN students Duplicates Credit in OFPM 729a Instruction Mode: Lecture Grading Option: Letter

GDEN 712b Capstone Research Project for GDEN Students
Units: .5 Terms Offered: FaSpSm Production and defense of a research plan that demonstrates significant understanding of a topic in geriatric dentistry. *Prerequisite:* GDEN 712a Duplicates Credit in OFPM 729b Instruction Mode: Lecture Grading Option: Letter

GDEN 712c Capstone Research Project for GDEN Students
Units: .5 Terms Offered: FaSpSm Production and defense of a research plan that demonstrates significant understanding of a topic in geriatric dentistry. *Prerequisite:* GDEN 712b Registration Restriction: Open only to GDEN students Duplicates Credit in OFPM 729c Instruction Mode: Lecture Grading Option: Letter

GDEN 712d Capstone Research Project for GDEN Students
Units: .5 Terms Offered: FaSpSm Production and defense of a research plan that demonstrates significant understanding of a topic in geriatric dentistry. *Prerequisite:* GDEN 712c Duplicates Credit in OFPM 729d Instruction Mode: Lecture Grading Option: Letter

GDEN 713 Common Systemic Conditions in Older Patients
Units: 2 Terms Offered: FaSpSm Lectures on topics pertinent to the aging patient that highlight the differences between aging physiologic changes and disease-caused conditions most common to this demographic. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 714 Topics in Gerontology
Units: 2 Terms Offered: FaSpSm Gerontology topics for dentists including clinical assessment tools for aging patients, policy issues, myths, social supports, and consent and communication issues in the clinical setting. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 715 Geriatric Dentistry Issues
Units: 2 Terms Offered: FaSpSm Common geriatric dentistry topics including epidemiology of oral diseases, common dental diseases, their management and prevention protocols for older adult patients. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 716 Knowledge Assessment for GDEN Certificate Students
Units: 1 Terms Offered: Sm Review of topics explored in the certificate program, including lectures and practical demonstrations or simulations and examinations of overall discipline knowledge. Open only to certificate in Geriatric Dentistry students. (Duplicates credit in GDEN 710) *Prerequisite:* GDEN 711a and GDEN 711b and GDEN 713 and GDEN 714 and GDEN 715 and OFPM 722 and OFPM 725 Registration Restriction: Open only to certificate in Geriatric Dentistry students. Duplicates Credit in GDEN 710 Instruction Mode: Lecture, Quiz Grading Option: Letter

GDEN 722 Internal Medicine and Systemic Disease for Dental Residents
Units: 2 Terms Offered: FaSpSm (Enroll in OFPM 722)

GDEN 725 Epidemiology, Nutrition and Aging for Dental Residents
Units: 2 Terms Offered: FaSpSm (Enroll in OFPM 725)

GDEN 730 OFPM Case Portfolio Preparation for Dental Residents
Units: .5 Max Units: 01 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients with orofacial pain and oral lesions through online conferences in preparation, development and defense of portfolio of multiple cases. Registration Restriction: Open only to master and professional dental students in Geriatric Dentistry Duplicates Credit in GDEN 711a, GDEN 711b, GDEN 711c, GDEN 711d Instruction Mode: Lecture Grading Option: Letter

GDEN 731 GDEN Case Portfolio Preparation for Dental Residents
Units: .5 Max Units: 01 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients with complex medical conditions through online conferences in preparation, development and defense of portfolio of multiple cases. Registration Restriction: Open only to master and professional dental students in Geriatric Dentistry Duplicates Credit in GDEN 711a, GDEN 711b, GDEN 711c, GDEN 711d Instruction Mode: Lecture Grading Option: Letter

GDEN 732 Case Portfolio Defense for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients with complex medical conditions through online conferences in preparation, development and in person defense of portfolio of multiple cases. *Prerequisite:* GDEN 730 and GDEN 731 or (GDEN 711a and GDEN 711b and GDEN 711c and GDEN 711d) Registration Restriction: Open only to master and professional dental students in Geriatric Dentistry Duplicates Credit in GDEN 711e Instruction Mode: Lecture Grading Option: Letter

GDEN 733 Research Methodology
Units: 2 Terms Offered: FaSpSm A coordinated approach to understanding, critically assessing and applying the principles of scientific inquiry through the study of clinically relevant, discipline specific literature. Instruction Mode: Lecture Grading Option: Letter

Earth Sciences

GEOL 105Lg Planet Earth
Units: 4 Terms Offered: FaSpSm Geologic structure and evolution of planet earth. Principles of plate tectonics, rocks and minerals, processes of mountain building, continent and ocean formation, earthquakes, volcanism, development of landforms by running water and glaciers. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 107Lg Oceanography
Units: 4 Terms Offered: FaSp Physical, chemical, and geological character of the oceans and ocean basins. Origin of the oceans. Ocean processes and agents. Economic value of the oceans. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 108Lg Crises of a Planet
Units: 4 Terms Offered: FaSpSm Impact of civilization on planet earth, and impact of earth's natural evolution on society: earthquakes, volcanism, landslides, floods, global warming, acid rain, groundwater depletion and pollution; mineral and fossil fuel depletion, formation of the ozone hole. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 115L Exploring California's National Parks
Units: 4 Terms Offered: FaSpSm Overview of basic geologic principles and California geology taught through California's National Parks; additional focus on park history, policy, economics, and geologic hazards affecting parks. Lecture, 3 hours; laboratory, 2 hours. One all-day and one three-day field trip to a National Park required. Instruction Mode: Lecture, Required Lab Grading Option: Letter

GEOL 125Lg Earth History: A Planet and Its Evolution
Units: 4 Terms Offered: FaSpSm Basic principles of physics, chemistry, biology, and mathematics used in evaluating clues written in the rock record, and the processes that have shaped our planet. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 126Lg The History of Life on Earth: A View from the Museum
Units: 4 Terms Offered: FaSp Topically-driven exploration of evolution, environmental change, and the history of life on Earth via the fossil record with the Natural History Museum of Los Angeles as a laboratory. How the changing Earth and life co-evolved through time. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 130Lg The Nature of Scientific Inquiry
Units: 4 Terms Offered: FaSp Examination of the scientific process: what constitutes science; evolution of ideas about the nature of space, time, matter, and complexity;

paradigm shifts in the biological and earth sciences. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 145g Lies, Damn Lies and Statistics
Units: 4 Terms Offered: FaSp Quantitative reasoning tools to form reliable judgments from quantitative evidence, discerning truth from lies, science from pseudoscience. Application to contemporary scientific and social issues. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

GEOL 150Lg Climate Change
Units: 4 Terms Offered: FaSp Exploration of factors that influence climate and the scientific basis for concern about rising greenhouse gases, the threat to human society know as global warming. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 157Lg The Logic of Climate Change: From Data to Deeds
Units: 4 Terms Offered: Sp Quantitative underpinnings of the scientific case for man-made climate change. Analysis of climate data, examination of potential causes, attribution of causes, and civilizational consequences. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 160Lg Introduction to Geosystems
Units: 4 Terms Offered: FaSpSm Survey of natural geological/ environmental processes (systems) and variability active near the earth's surface in the region that houses most life (the biosphere). Satisfies New General Education in Category E: Physical Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 165g Metals and Life on Earth
Units: 4 Terms Offered: Fa The role of metals in life, from the origin of life to modern environmental problems. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Discussion Grading Option: Letter

GEOL 240Lg Earthquakes
Units: 4 Terms Offered: FaSpSm Causes of earthquakes and nature of large faults; earthquake hazard and risk; world's great earthquakes; understanding the Richter scale. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 241Lg Energy Systems
Units: 4 Terms Offered: FaSpSm Energy resources from a global perspective, including fossil fuels, nuclear, and renewable energy. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 290L Special Laboratory
Units: 1 Terms Offered: FaSp Laboratory component for GEOL 105, GEOL 107, GEOL 108, GEOL 125, GEOL 130, GEOL 150, or GEOL 240 for students with equivalent lecture credit from another institution. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 305L Introduction to Engineering Geology
Units: 4 Terms Offered: Sp Principles of geology with emphasis on structural geology, hydrogeology and geological hazards; basic geologic considerations in civil engineering practice; introduction to mineralogy and petrology. Field trip required. Duplicates Credit in GEOL 105 and GEOL 108. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 315L Minerals and Earth Systems
Units: 4 Terms Offered: Fa Minerals and their formation in Earth geosystems; includes discussions of mineral properties, crystal structures, uses and bio geochemical importance. *Recommended Preparation:* any introductory GEOL course. *Corequisite:* CHEM 105a or CHEM 115a; Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 316L Petrologic Systems
Units: 4 Terms Offered: Sp Formation and identification of igneous, metamorphic and sedimentary rocks; interpretation of tectonic and environmental settings based on rock type and chemistry. *Prerequisite:* GEOL 315. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 320L Surficial Processes and Stratigraphic Systems
Units: 4 Terms Offered: Fa Processes of erosion, sediment transport, and deposition that shape the land surface; landscape response to tectonism; recognition and interpretation of depositional environments in the stratigraphic record. *Corequisite:* GEOL 315. Duplicates Credit in former GEOL 334L, GEOL 451L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 321L Structural Geology and Tectonics
Units: 4 Terms Offered: Sp Field and theoretical aspects of rock deformation, analysis of structural systems, and stress and strain; orogenic belts and plate tectonics; introduction to field techniques and construction of geologic maps. *Recommended Preparation:* GEOL 320. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 351L Climate Systems
Units: 4 Terms Offered: FaSp Introduces systems behavior in the context of climate dynamics. Modules of instruction geared to climate system application to real world problems. *Prerequisite:* MATH 125. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 387ag Undergraduate Team Research
Units: 2 Terms Offered: FaSpSm Introduction to scientific inquiry, field research opportunities, and history of physical sciences; strategies, research methodologies, and writing skills for proposals, abstracts, papers, and professional development. *Recommended Preparation:* A GE course in Earth Science. b. Multidisciplinary, learner-centered, individual and team-based student research, abroad and in the U.S.; field data collection and interpretation, mentored by domestic and international scientists. Duplicates Credit in the former GEOL 385. Instruction Mode: Lecture Grading Option: Letter

GEOL 387bg Undergraduate Team Research
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm *Recommended Preparation:* A GE course in Earth Science. b. Multidisciplinary, learner-centered, individual and team-based student research, abroad and in the U.S.; field data collection and interpretation, mentored by domestic and international scientists. Duplicates Credit in the former GEOL 385. Instruction Mode: Lecture, Discussion Grading Option: Letter

GEOL 387cg Undergraduate Team Research
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm *Recommended Preparation:* A GE course in Earth Science. b. Multidisciplinary, learner-centered, individual and team-based student research, abroad and in the U.S.; field data collection and interpretation, mentored by domestic and international scientists. Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in the former GEOL 385. Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

GEOL 390 Special Problems
Units: 1, 2, 3, 4 Supervised individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GEOL 412 Oceans, Climate, and the Environment
Units: 4 Terms Offered: FaSp Fundamentals of climate including atmosphere and ocean. Topics include radiative energy balance, ocean-atmosphere linkages and approaches to study climate while building quantitative and qualitative skills. *Recommended Preparation:* GEOL 107Lg or GEOL 150Lg or GEOL 160Lg *Corequisite:* MATH 125g and (CHEM 105aLg or CHEM 103Lgx) Registration Restriction: Not open to freshmen Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST 412, BISC 412

GEOL 425L Data Analysis in the Earth and Environmental Sciences
Units: 4 Terms Offered: Fa Introduction to mathematical methods giving insight into earth and environmental data. Topics include probability and statistics, timeseries analysis, spectral analysis, inverse theory, interpolation. *Recommended Preparation:* MATH 126, familiarity with matrix algebra. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 427 The Global Environment
Units: 4 Terms Offered: FaSpSm (Enroll in BISC 427)

GEOL 432L Introduction to Field Techniques
Units: 2 Terms Offered: FaSpSm Introduction to field techniques used in a variety of Earth Science disciplines.

Field and digital techniques for map making including use of GIS, GPS, and digital tablets. Field analyses of rocks and rock structures. Map interpretation and digital processing of field data. Includes weekly labs and some weekend field trips. *Recommended Preparation:* GEOL 316L, GEOL 320L, GEOL 321L Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 433L Paleontology and Evolution in Deep Time
Units: 4 Terms Offered: Fa Origin and evolution of life; Precambrian life; evolutionary history of major groups during the Phanerozoic; mass extinctions; deep time and evolutionary processes. *Recommended Preparation:* any introductory GEOL course. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 440L Geophysics and Geoengineering
Units: 4 Terms Offered: Sp Plate tectonics, magnetic and gravity fields, earthquakes, seismic waves, reflection and refraction seismics, heat transport, mantle convection, deep Earth structure, data analysis. Includes field trip. *Prerequisite:* MATH 126; *Corequisite:* PHYS 135b or PHYS 152. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 441 Seismic Exploration Geophysics
Units: 4 Terms Offered: FaSp Seismic wave theory, ray theory, reflection, refraction, data processing, signal enhancement, field instrumentation and techniques on land and at sea; geological interpretation of seismic data. One field trip. Instruction Mode: Lecture Grading Option: Letter

GEOL 445 Earth Climate: Past, Present, and Future
Units: 4 (Enroll in ENST 445)

GEOL 450L Geosystems
Units: 4 Terms Offered: Fa Geosystems, such as mantle convection, active faults, climate, and the carbon cycle, will be studied using numerical models and concepts such as chaos, universality, emergence, and intermittency. *Prerequisite:* MATH 125; *Recommended Preparation:* MATH 126. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 460L Geochemistry
Units: 4 Terms Offered: Fa Composition, origin, and evolution of the earth; principles of physical chemistry applied to aqueous systems; reaction-diffusion modeling and problems in sedimentary geochemistry; global (bio)geochemical cycles and environmental problems. *Prerequisite:* CHEM 105b or CHEM 115b and MATH 126. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 465L Field Geology
Units: 4 Max Units: 8.0 Terms Offered: SpSm Ten days to four weeks of field study in an area of geological complexity, with preparatory instruction. *Recommended Preparation:* introductory earth science course, e.g., GEOL 105), GEOL 315. One or more of GEOL 316 , GEOL 320. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 470L Environmental Hydrogeology
Units: 4 Terms Offered: FaSpSm Concepts in hydrogeology and application to environmental problems. Topics include groundwater and surface water hydrology, chemistry, and contamination. Includes labs, guest lectures, and field trips. *Recommended Preparation:* GEOL 105, GEOL 160. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ENST-470

GEOL 474 Ecosystem Function and Earth Systems
Units: 4 (Enroll in BISC 474)

GEOL 483 Geobiology and Astrobiology
Units: 4 Terms Offered: Sp (Enroll in BISC 483)

GEOL 485L Tectonic Geomorphology
Units: 4 Terms Offered: FaSp Focuses on the analysis of landforms that develop and evolve in tectonically active settings through the interplay of tectonics, climate, and surface processes. *Recommended Preparation:* GEOL 320L, GEOL 321L Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

GEOL 491x Earth Sciences Internship
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8 Terms Offered: FaSpSm Local, national, and international internships providing earth sciences experience in a professional setting. Registration Restriction: Not available for graduate credit. Department permission required Instruction Mode: Lecture Grading Option: Letter

GEOL 494x Senior Thesis
Units: 2 Terms Offered: FaSp Writing of a thesis under individual faculty super vision. Instruction Mode: Lecture Grading Option: Letter

GEOL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in the earth sciences. Field trip required when appropriate to the topic. Instruction Mode: Lecture Grading Option: Letter

GEOL 500 Paleoecology
Units: 3 Terms Offered: FaSp Principles of paleoecology for marine and terrestrial settings; interrelationships between organisms and their environment in geologic time including evolutionary and conservation paleoecology. *Recommended Preparation:* GEOL 577L Instruction Mode: Lecture Grading Option: Letter

GEOL 501 Paleobiology
Units: 3 Terms Offered: Fa Concepts and methods for functional morphologic analysis of fossil marine invertebrates. Systematics theory and methodology, macro evolution, and broad biotic trends in the Phanerozoic. *Recommended Preparation:* GEOL 433. Instruction Mode: Lecture Grading Option: Letter

GEOL 505 Introductory Graduate Seminar in Earth Sciences
Units: 2 Terms Offered: Fa Lectures by Earth Sciences faculty about current research; introduction of new graduate students to the breadth of current research; applying for research funding; practicing effective research presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 510L Advanced Stratigraphic Field Methods
Units: 3 Terms Offered: Fa Stratigraphic field methods and computer-assisted data analysis. Field trips incorporating vertical and lateral facies analysis; collection of paleocurrent, fabric, paleomagnetic, photogeologic and compaction data. *Recommended Preparation:* GEOL 320L Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 511L Depositional Systems
Units: 3 Analysis of depositional systems, including conceptual methods of lithostratigraphy, biostratigraphy, chronostratigraphy, and paleoecology; description of major depositional environments. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 512 Introduction to Chemical and Physical Oceanography
Units: 4 Terms Offered: Fa (Enroll in OS 512)

GEOL 513 Practical Carbonate Chemistry
Units: 3 Terms Offered: FaSp In-depth review of carbonate chemistry, aqueous and solid phase; speciation, calculations of carbonate parameters, carbonate biogeochemistry, sedimentary diagenesis and sedimentary records. *Recommended Preparation:* Basic chemistry and principles of oceanography and sedimentology Instruction Mode: Lecture Grading Option: Letter

GEOL 514 Marine Geology
Units: 3 Terms Offered: Fa Origin and characteristics of ocean basins; marine sedimentary environments; shoreline classification and character; evolution of oceanic features. Instruction Mode: Lecture Grading Option: Letter

GEOL 515 Introduction to Atmospheric Science
Units: 3 Terms Offered: Fa Elementary physical principles underlying the behavior of Earth's atmosphere. Dry and moist thermodynamics, radiative transfer, conservation laws, fundamental dynamical balances, instability theory, cloud physics. *Recommended Preparation:* PHYS 161, PHYS 304. Instruction Mode: Lecture Grading Option: Letter

GEOL 520 Biosedimentology
Units: 3 Terms Offered: FaSpSm Ancient and recent bioturbation and microbial structures and their utilization in stratigraphic, paleoenvironmental, paleoecological, sedimentological and geochemical studies. *Recommended Preparation:* GEOL 320L and GEOL 433L Instruction Mode: Lecture Grading Option: Letter

GEOL 521L Advanced Structural Geology
Units: 3 Terms Offered: FaSp Advanced field and theoretical aspects of rock deformation, strain and stress analyses, and evolution of structural systems. Includes lab, field trip(s), and class project. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 525 The Science of Climate Change
Units: 4 Terms Offered: Sp Introduction to the fundamental aspects and the factors that influence ocean and atmospheric

behavior, and how the earth's climate has varied in the past. Instruction Mode: Lecture Grading Option: Letter

GEOL 530 Modern Perspectives on Crustal Dynamics
Units: 3 Max Units: 12 Terms Offered: FaSp Deformation mechanisms, strength and structure of the crust. Fractal scaling in structures and dynamic processes, Geodetic measurement of crustal deformation and spatio-temporal patterns of seismicity. Instruction Mode: Lecture Grading Option: Letter

GEOL 531 Plate Interactions: Geological Aspects
Units: 3, 2 years Terms Offered: Sp Principles and geometrics of plate tectonics; geologic characteristics of modern plate boundaries of divergent, convergent, transform type; ocean basin and orogen development from worldwide examples. Field trip. Instruction Mode: Lecture Grading Option: Letter

GEOL 532 Advanced Geologic Mapping
Units: 3 Terms Offered: Fa Principles of mapping geologically complex terranes of different structural style. Fieldwork will be coordinated with seminar review of diverse structural phenomena. Field trips. *Recommended Preparation:* GEOL 321, GEOL 465. Instruction Mode: Lecture Grading Option: Letter

GEOL 533L Continental Margin Arcs
Units: 3 Evolution of continental margin arcs, magmatic systems within arcs. Arcs as tectonic elements and "differentiation factories" leading to formation and removal of continental material. *Recommended Preparation:* GEOL 316, GEOL 321. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 534L Mechanics of Lithospheric Deformation
Units: 3 Terms Offered: Fa The mechanical description of deformational processes at both crustal and lithospheric scales, and the interpretation of geological and geophysical data in terms of these processes. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 535L Microstructures and Deformation Mechanisms
Units: 3, 3 years Terms Offered: Fa Examination of deformation mechanisms and resulting microstructures in rocks; chemical and textural equilibrium; physical and chemical processes during fluid flow; prophyroblast-matrix relationships; interpretation of kinematic indicators. Laboratory. *Prerequisite:* GEOL 321. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 536 Principles of Geomagnetism and Paleomagnetism
Units: 3, 2 years Terms Offered: Sp Historic geomagnetic field behavior, secular variation, rock magnetism, paleomagnetic techniques, magnetic polarity time scale, apparent-polar-wander paths, and applications to strati graphic and geotectonic studies. *Recommended Preparation:* GEOL 440. Instruction Mode: Lecture Grading Option: Letter

GEOL 537 Rock Mechanics
Units: 3, 2 years Terms Offered: Sp Elasticity, fracture, and flow properties of rocks and minerals; effects of temperature, pressure, petrology, fractures, and interstitial fluids. Experimental techniques and geological applications. Instruction Mode: Lecture Grading Option: Letter

GEOL 538 Tectonic Evolution of Western North America
Units: 3, 2 years Terms Offered: Sp Geosynclinal and orogenic development of western North America from the Precambrian to present, in the light of plate tectonics concepts. Field trips. *Recommended Preparation:* GEOL 321. Instruction Mode: Lecture Grading Option: Letter

GEOL 540 The Mantle System
Units: 3 Terms Offered: Sp Dynamics and structure of the deep earth and its relationship to earth evolution. *Recommended Preparation:* GEOL 440 and GEOL 534. Instruction Mode: Lecture Grading Option: Letter

GEOL 545 Modeling and Numerical Techniques for Marine Scientists
Units: 4 Terms Offered: Sp (Enroll in BISC 545)

GEOL 550 Chemical Equilibrium and Disequilibrium in Geology
Units: 3, 2 years Terms Offered: Sp Phase equilibria; phase diagrams; thermodynamics of aqueous and solid solutions; irreversible thermodynamics; kinetics, diffusion, and metasomatism, with applications to problems in petrology and geochemistry. *Prerequisite:* GEOL 460. Instruction Mode: Lecture Grading Option: Letter

GEOL 551 Introduction to Seismology
Units: 3, 2 years Terms Offered: Fa Basic elements of seismology for the study of the earth's interior and the tectonic process, utilizing observations of seismic waves. Instruction Mode: Lecture Grading Option: Letter

GEOL 552 Advanced Seismology
Units: 3 Advanced methods of theoretical seismology for studying the generation of seismic waves from natural and artificial sources and the propagation through realistic earth models. Instruction Mode: Lecture Grading Option: Letter

GEOL 553 Physics of Earthquakes
Units: 3, 2 years Terms Offered: Fa Basic physics of earthquakes and seismicity. Continuum elasticity; fracture mechanics; laboratory friction; damage rheology; physics of critical phenomena; spatio-temporal seismicity patterns; analysis of complex data sets. *Recommended Preparation:* GEOL 537 and/or GEOL 551. Instruction Mode: Lecture Grading Option: Letter

GEOL 555 Paleoceanography
Units: 3 Mesozoic and Cenozoic paleoceanography; analytical approaches applied to water mass history, paleocirculation, paleoproductivity, nutrient cycling, and paleotemperature reconstruction. Lecture, readings, and research project. *Recommended Preparation:* GEOL 412 or GEOL 512 and GEOL 460. Instruction Mode: Lecture Grading Option: Letter

GEOL 556 Active Tectonics
Units: 3 Terms Offered: Sp Aspects of deformation and associated seismicity at active plate margins around the world. Includes review of plate tectonics, seismology, geodesy, paleomagnetism, geodynamics, - Quaternary dating techniques, tectonic geomorphology, paleoseismology, and seismic hazard assessment. Two weekend field trips required. *Prerequisite:* GEOL 321. *Recommended Preparation:* GEOL 530, GEOL 531 Instruction Mode: Lecture Grading Option: Letter

GEOL 557 Numerical Modeling of Earth Systems
Units: 3 Terms Offered: Fa The quantitative modeling of ordinary and partial differential equations as they arise in geology, geophysics, climate modeling and related fields with practical, numerical focus. *Recommended Preparation:* GEOL 425, GEOL 534, and GEOL 540. Instruction Mode: Lecture Grading Option: Letter

GEOL 558 Inverse Theory in the Earth Sciences
Units: 3 Terms Offered: FaSp Short review of probability theory, and extensive coverage of linear inverse theory, including seismic imaging. Non-linear inverse problems and factor analysis. *Recommended Preparation:* GEOL 425. Instruction Mode: Lecture Grading Option: Letter

GEOL 560 Marine Geochemistry
Units: 3, 2 years Terms Offered: Sp Principles of chemical sedimentology and aquatic chemistry; diagenesis, authigenesis, and the geochemical cycle. *Prerequisite:* GEOL 460. Instruction Mode: Lecture Grading Option: Letter

GEOL 564 Isotope Geochemistry
Units: 3, 2 years Terms Offered: Sp Variations in the isotopic composition of elements in the earth's crust with applications to geological problems, including geochronology, geothermometry, ore genesis, and crustal evolution. Instruction Mode: Lecture Grading Option: Letter

GEOL 566 Geochemistry Seminar
Units: 1, 2, 3, 4 Current topics in geochemistry. Instruction Mode: Lecture Grading Option: Letter

GEOL 567 Stable Isotope Geochemistry
Units: 3 Theoretical basis; nuclide nomenclature, partition function ratios, mechanisms and rates of isotope exchange; mass spectrometry and extraction techniques; application of stable isotopes to geologic problems. Instruction Mode: Lecture Grading Option: Letter

GEOL 568L Metamorphic Petrology
Units: 3, 2 years Terms Offered: Fa An introduction to advanced study of metamorphic mineral assemblages with use of experimental and field data. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 569L Igneous Petrology
Units: 3, 2 years Terms Offered: Fa Study of igneous and meta-igneous rocks from the basis of experimental and field data and theoretical considerations. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 575 Organic Geochemistry
Units: 3 Terms Offered: Sp Advanced course on the fundamentals and frontiers

of organic geochemistry. Topics include biomarker and isotope geochemical approaches to reconstructing past marine, terrestrial environmental change. *Recommended Preparation:* CHEM 105a, CHEM 105b , CHEM 322a, CHEM 322b, GEOL 150, GEOL 412, or equivalent background. Instruction Mode: Lecture Grading Option: Letter

GEOL 577L Micropaleontology
Units: 3, 2 years Terms Offered: Fa Microscopic fossils, especially foraminifera, their classification, the common genera, morphology, evolutionary trends; laboratory and field techniques. *Recommended Preparation:* GEOL 433. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 585 Science of Hazard Prediction
Units: 3 Terms Offered: FaSp Advanced treatment of probabilistic forecasting of natural hazards: physical-process modeling, statistical forecasting, representations of uncertainty, proper scoring, testing and use in risk analysis and decision-making. *Prerequisite:* MATH 407 and MATH 408 Instruction Mode: Lecture Grading Option: Letter

GEOL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 593 Practicum in Teaching the Liberal Arts
Units: 2 Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Terms Offered: Irregular Special topics in the earth sciences. Field trip required when appropriate to the topic. *Prerequisite:* second-year graduate standing normally required. Instruction Mode: Lecture Grading Option: Letter

GEOL 601 Seminar in Sedimentary Geology
Units: 1, 2, 3 Max Units: 6.0 Terms Offered: Sp Analysis and discussion of current topics in sedimentary geology; topics will be chosen by students and faculty to focus on areas of recent advances. Instruction Mode: Lecture Grading Option: Letter

GEOL 609 Seminar in Earthquake Physics
Units: 3 Max Units: 06 Terms Offered: FaSp Current research on the physics governing earthquakes and faults, including results from continuum and fracture mechanics, statistical physics, lab experiments and seismological observations. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

GEOL 650 Recent Advances in Paleontology
Units: 3 Selected review of recent ideas in paleobiology, evolution, and paleoecology related to examining the current frontiers in paleontology. Instruction Mode: Lecture Grading Option: Letter

GEOL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

German

GERM 020x Course in Reading German
Units: 2 For graduate students who wish help in meeting the German reading requirement for the PhD degree. Emphasis on development of reading skills. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERM 025x Course in Reading German
Units: 2 Continuation of 020x. Reading selections appropriate to candidate's major field. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERM 101 German I
Units: 4 Introduction to modern German. Oral practice, listening and reading comprehension. Basic structures necessary for simple spoken and written expression. Instruction Mode: Lecture Grading Option: Letter

GERM 102 German II
Units: 4 Continuation of German I. Introduction to German culture. *Prerequisite:* GERM 101. Instruction Mode: Lecture Grading Option: Letter

GERM 201 German III, Conversation and Composition
Units: 4 Intermediate German. Increasing emphasis on listening and speaking skills and a review of basic structures of German. Discussion of cultural aspects. *Prerequisite:* GERM 102. Instruction Mode: Lecture Grading Option: Letter

GERM 221 Conversational German IV
Units: 4 Conversational German in a variety of topical settings and vocabulary domains. *Prerequisite:* GERM 201. Instruction Mode: Lecture Grading Option: Letter

GERM 310 Business German I
Units: 4 Terms Offered: Sp Introduction to German business language structure including correspondence and oral communication. In German. *Prerequisite:* GERM 201. Instruction Mode: Lecture Grading Option: Letter

GERM 311 Business German II
Units: 4 Terms Offered: Fa Continuation of GERM 310. Terminology and style of commercial and legal texts, analyzed and applied in oral and written work. In German. *Prerequisite:* GERM 201. Instruction Mode: Lecture Grading Option: Letter

GERM 320 Composition and Conversation on Contemporary Affairs
Units: 4 Practice in oral and written German, emphasizing contemporary cultural and social developments in the German-speaking countries of Europe. In German. *Prerequisite:* GERM 221. Instruction Mode: Lecture Grading Option: Letter

GERM 325 Composition and Conversation in Cultural History
Units: 4 Practice in oral and written German, emphasizing the cultural history of the German-speaking countries of Europe. In German. *Prerequisite:* GERM 221. Instruction Mode: Lecture Grading Option: Letter

GERM 330 Introduction to Literary Studies
Units: 4 Review of essential literary terms, concepts, and critical methods through analysis and discussion of selected primary and secondary works. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 335 Applied German Drama
Units: 4 Max Units: 8.0 Works of a German playwright in their social and cultural context, leading to a dramatization of one of the works. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 340 German Prose Fiction from Goethe to Thomas Mann
Units: 4 Examines German prose fiction from the late 18th to the early 20th centuries, with particular emphasis on how narrative texts are constructed. In English. Instruction Mode: Lecture Grading Option: Letter

GERM 346 German Folklore and Popular Culture
Units: 4 Survey and analysis of folklore and cultural phenomena, including tales, legends, and myths; folk and popular music; beliefs and customs. In English. Instruction Mode: Lecture Grading Option: Letter

GERM 351 Colloquium on Drama
Units: 4 German drama from the 18th century, with emphasis on modernism (since Büchner) and the 20th century avant garde styles: Expressionist, Epic, Grotesque, Documentary, and Sprechtheater. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 352 Colloquium on Poetry
Units: 4 Definition and analysis of lyric genre through a study of major poets, such as Goethe, Schiller, Heine, Rilke, and Hofmannsthal; poetic traditions from the 17th century to the present. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 353 Colloquium on Prose
Units: 4 Study of German prose from the 18th century to the present; emphasis on narrative and thematic perspectives in relation to social change and on modernism since Kafka. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 360g 20th Century German Prose: Texts and Films
Units: 4 Aesthetic and historical analysis of major German 20th century novels, complemented by brief study of cinematic adaptation of each text. Texts in English; films with subtitles. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

GERM 370 Literature and Culture in Vienna at the Turn of the Century
Units: 4 Literature, culture, and society in Vienna 1890–1925; works by figures such as Schnitzler, Hofmannsthal, Kafka, Musil, Kraus, Schönberg, Kokoschka, Freud, Wittgenstein, and others. In English. Instruction Mode: Lecture Grading Option: Letter

GERM 372g Literature and Culture in Berlin in the 1920s
Units: 4 Literature, culture, and society through works by figures such as Kaiser, Toller, Brecht/Weill, Piscator, Th. Mann, Doeblin, Lukacs, Heidegger, etc. Films: Caligari, Metropolis, Berlin, M, Blue Angel. In English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

GERM 375g The German Exile Experience
Units: 4 Terms Offered: FaSp Surveys the work of German intellectuals, writers, artists, and scientists in U.S. exile during the time of the Nazi government in the 1930s and 1940s. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

GERM 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GERM 410 Profile of German Literature I
Units: 4 Survey of major trends in German literature within their historical and cultural contexts from the beginnings to the Baroque period. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 420 Profile of German Literature II
Units: 4 Survey of major trends, figures, and authors in German literature and culture of the 18th and 19th centuries within the European context. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 430 Age of Goethe
Units: 4 Background and significance of the period; lyrics, major dramatic and prose works from 1770–1832; Storm and Stress; Classicism; Goethe and Schiller. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 440 Women's Literature in Germany I
Units: 4 Reading and analysis of medieval texts from German-speaking countries, written by and about women: science, love, poetry, letters, drama, mysticism, romance. Conducted in German. Instruction Mode: Lecture Grading Option: Letter

GERM 460 Expressionism to the Present
Units: 4 Representative authors and works since 1910; World War I, Expressionism, New Objectivity, World War II; literature after 1945: East and West, Swiss and Austrian. Instruction Mode: Lecture Grading Option: Letter

GERM 465 Germany East and West
Units: 4 Study of the ideological, economic, social, and cultural differences between East and West Germany between 1945 and 1990 and their impact on today's unified Germany. In English. Instruction Mode: Lecture Grading Option: Letter

GERM 466 The German Speaking Nations
Units: 4 Focus on the culture, history, and society of Austria, East and West Germany, and Switzerland. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 470 Advanced Composition and Stylistics
Units: 4 Development of competence in written expression; fundamentals of style in expository writing. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

GERM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Intensive study of selected topics or regions. Instruction Mode: Lecture Grading Option: Letter

Gerontology

GERO 200 Gerontology: The Science of Adult Development
Units: 4 Terms Offered: FaSp Introduction to adult development through the lifespan; biological, psychological, and social processes; gerontology as a career for the future. Instruction Mode: Lecture Grading Option: Letter

GERO 310 Physiology of Aging
Units: 4 Terms Offered: Fa Effects of normative aging processes on homeostatic mechanisms and how these changes relate to development of disorder and disease in later life. Instruction Mode: Lecture Grading Option: Letter

GERO 311 Medical Issues of Older Persons: An Introduction to Geriatrics
Units: 4 Terms Offered: Sp Clinical cases for understanding changes occurring with normal aging, health behaviors that modify age-dependent diseases and history, prevention and treatment of age-related diseases and disorders. Instruction Mode: Lecture Grading Option: Letter

GERO 315g A Journey into the Mind
Units: 4 Terms Offered: Sp Introduction to the brain and mind. A unique multimedia approach to stress how knowledge about the mind is gained from scientific and clinical investigations. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture Grading Option: Letter

GERO 320g Psychology of Adult Development
Units: 4 Terms Offered: FaSpSm How psychologists study thinking, memory, emotions, personality, and behavior, and how people change in these throughout adulthood to old age. *Recommended Preparation:* PSYC 100Lg Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

GERO 321 Introduction to Psychology and Aging
Units: 4 Terms Offered: FaSp An introduction to the core curriculum in the study of Gerontology. Research perspectives on adult development and aging; methodological issues; personality and relationship issues; general mental and emotional components of aging; research methods. Duplicates Credit in GERO 320g Instruction Mode: Lecture Grading Option: Letter

GERO 330 Society and Adult Development
Units: 4 Terms Offered: FaSp How social relationships affect adults of different ages; the changing contract across generations; interaction of culture, race, family and social values with adult development. Instruction Mode: Lecture Grading Option: Letter

GERO 340 Policy, Values, and Power in an Aging Society
Units: 4 Terms Offered: FaSp How Americans' political values affect public policy. Studies of landmark legislation to explore the social contract between generations and role of governments in social welfare. Instruction Mode: Lecture Grading Option: Letter

GERO 350 Administrative Problems in Aging
Units: 2 or 4 Terms Offered: Fa Analysis of the skills, approaches and issues involved in the planning, development, and implementation of programs directed at meeting the needs of older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 353g Social and Behavioral Foundations of Health and Aging
Units: 4 Terms Offered: Fa Explore social and behavioral foundations of health, longevity, and medicine, in the context of an increasingly diverse and long-lived

population. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture

GERO 380m Diversity in Aging
Units: 4 Exploring diversity in the older population and variability in the human aging process. Instruction Mode: Lecture Grading Option: Letter

GERO 385 Transitions in Adulthood
Units: 2 or 4 An exploration of the critical issues and transitions in the adult years, including careers, relationships, parenthood, and major turning points for personal development. Instruction Mode: Lecture Grading Option: Letter

GERO 390 Special Problems
Units: 1-4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GERO 402 Housing for the Elderly: Policy, Programs, and Design
Units: 2 An overview of housing policies, programs and design for the elderly, including analysis and evaluation of past, current and proposed government programs. Instruction Mode: Lecture Grading Option: Letter

GERO 411L Physiology, Nutrition, and Aging
Units: 2 or 4 Explores nutritional needs and the physiological, psychological, and sociological relationships to nutrition. Laboratory experiments in assessment and evaluation. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GERO 412L Exercise and Aging: Principles and Programs
Units: 2 or 4 Physiological, psychological, and sociological aspects of exercise. Laboratory involvement in assessment and evaluation of fitness. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GERO 414 Neurobiology of Aging
Units: 4 Terms Offered: Fa Age-related changes in nervous system structure and function; relationship of brain changes to changes in cognitive function and perception; Alzheimer's and Parkinson's diseases. Instruction Mode: Lecture Grading Option: Letter

GERO 415 Neuroaffective Disorders of Aging
Units: 4 Terms Offered: Sp Methods of studying, evaluating, and treating cognitive, psychiatric, and behavioral problems associated with medical conditions of old age. Instruction Mode: Lecture Grading Option: Letter

GERO 416 Health Issues in Adulthood
Units: 4 Terms Offered: Sp Physiological, psychological, and social health problems of adults as they are impacted by health choices throughout life. Instruction Mode: Lecture Grading Option: Letter

GERO 417 Imaging of Human Aging in Health and Disease
Units: 4 Terms Offered: Sp An introduction to the use of imaging techniques to study human senescence and its related diseases. Instruction Mode: Lecture Grading Option: Letter

GERO 435m Women and Aging: Psychological, Social and Political Implications
Units: 4 Terms Offered: FaSpSm Problems and resources of the middle-aged and older woman in a changing society; including discrimination, stereotypes, employment, social interaction, etc. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-434

GERO 437 Social and Psychological Aspects of Death and Dying
Units: 2 or 4 Terms Offered: FaSp Introduction and critical survey of the current issues, concepts, and research of the social and psychological aspects of death and dying. Instruction Mode: Lecture Grading Option: Letter

GERO 440 Biodemography of Aging
Units: 4 Consideration of the biological and social-cultural factors that govern the evolution of life spans and the life of humans and selected animal models *Prerequisite:* BISC 120 or BISC 121 *Recommended Preparation:* recommended preparation: statistics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC 440

GERO 452 Economic Issues and the Aged
Units: 2 or 4 Analysis of economic factors associated with the aged; implications for individuals, society, and the economy; lifecycle economics, retirement, income maintenance, and social security. Instruction Mode: Lecture Grading Option: Letter

GERO 461 Seminar in Molecular and Computational Biology
Units: 2 Terms Offered: FaSpSm (Enroll in BISC 461) Grading Option: Letter

GERO 470 Aging and Business
Units: 4 Terms Offered: Fa An introduction to the dynamic roles of business in an aging society focusing on workplace issues, marketing to mature consumers, and careers for business gerontologists. Instruction Mode: Lecture Grading Option: Letter

GERO 475 Ethical Issues in Geriatric Health Care
Units: 4 Biomedical ethical issues that are encountered in working with geriatric patients. Examination of ethical theory and the application of theory to clinical settings. Instruction Mode: Lecture Grading Option: Letter

GERO 481 Case Management for Older Adults
Units: 4 Terms Offered: Fa Overview of the concepts, characteristics, skills, and clinical issues of case management in a variety of settings serving older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 483 Global Health and Aging
Units: 4 Terms Offered: Fa Overview of the impact aging populations will have on global institutions from a variety of perspectives. Examination of public health policy issues. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HP-483

GERO 485 Clinical Management of Infectious Diseases in Older Adults
Units: 2 Introduce students to a comprehensive investigation into infectious diseases that affects diverse aspects of our lives. Instruction Mode: Lecture Grading Option: Letter

GERO 487 The Life Course, Health and the Arts, 1900-2020
Units: 4 Terms Offered: FaSp Explore lifespan health, diversity and aging via examination of visual arts, music, environmental design, fashion, film and media, literature, physical movement, spoken word and food. Instruction Mode: Lecture Grading Option: Letter

GERO 488 Food, Culture, Disease and Longevity in Italy and in the Mediterranean
Units: 4 Terms Offered: SpSm Examines the historical, political, economic, social, and artistic past of food in the Mediterranean, particularly in Italy from Roman times to the present. Instruction Mode: Lecture Grading Option: Letter

GERO 489 Finding the Key to a Long, Happy Life in Nicoya, Costa Rica
Units: 4 Terms Offered: Sm Immersion into lifestyles shown to improve quality of life and extend lifespan by studying populations in "Blue Zone" communities throughout the world. Instruction Mode: Lecture Grading Option: Letter

GERO 490x Directed Research
Units: 1-8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

GERO 491 Practicum
Units: 2-8 Max Units: 8.0 Terms Offered: FaSpSm Supervised experience in one or more community agencies. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 492 Senior Seminar
Units: 4 Terms Offered: Sp An in-depth integration of major research and professional themes in the study of human development and aging. Instruction Mode: Lecture Grading Option: Letter

GERO 493p Longevity and Death among Ancient and Modern European Populations (Italy)
Units: 2 Terms Offered: SpSm The discoveries of ancient humans and bodies that have been preserved illuminate the connection between diet, health, and disease. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 494 Emotion-Cognition Interactions and Aging
Units: 4 Terms Offered: Sm Covers the paradox of emotion in aging, as well as how stress and emotion influence cognition and the brain across the lifespan. Instruction Mode: Lecture Grading Option: Letter

GERO 495 Practicum in Geriatric Care
Units: 4 Terms Offered: FaSpSm Supervised experience in a geriatric health care setting which allows students to put theories and ideas into practice. Graded CR/NC. Lecture, discussion, and fieldwork. Instruction Mode: Lecture Grading Option: Letter

GERO 496 Introduction to Clinical Geriatrics
Units: 4 Medical problems of older adults emphasizing common geriatric syndromes,

chronic illness, and alternative approaches to primary health care of older persons and their families. Upper division standing. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture

GERO 497a Honors Seminar
Units: 2 Terms Offered: FaSpSm Advanced study of empirical approaches in gerontology. Preparation, progress, presentation, and evaluation of Senior Honors Thesis research. *Prerequisite:* standing in Gerontology Honors Program. Instruction Mode: Lecture Grading Option: Letter

GERO 497b Honors Seminar
Units: 2 Terms Offered: FaSpSm Advanced study of empirical approaches in gerontology. Preparation, progress, presentation, and evaluation of Senior Honors Thesis research. *Prerequisite:* standing in Gerontology Honors Program. Instruction Mode: Lecture Grading Option: Letter

GERO 497c Honors Seminar
Units: 2-4 Terms Offered: FaSpSm Advanced study of empirical approaches in gerontology. Preparation, progress, presentation, and evaluation of Senior Honors Thesis research. *Prerequisite:* standing in Gerontology Honors Program. Instruction Mode: Lecture Grading Option: Letter

GERO 498 Nutrition, Genes, Longevity and Diseases
Units: 4 Terms Offered: Sm Examines the role of nutrition and genes and the impact each has on longevity and diseases, particularly diseases related to aging. Offered in Genoa, Italy. Instruction Mode: Lecture Grading Option: Letter

GERO 499 Special Topics
Units: 2-4 Max Units: 8.0 Terms Offered: FaSpSm Examination of special topics in the area of gerontology. Instruction Mode: Lecture Grading Option: Letter

GERO 500 Perspectives on a Changing Society: An Introduction to Aging
Units: 4 Terms Offered: Fa Analysis of physical, mental, and social age-related changes as well as implications of population aging trends for individuals and society. Instruction Mode: Lecture Grading Option: Letter

GERO 501 Applied Legal and Regulatory Issues in Aging
Units: 4 Terms Offered: Fa Analysis of shifting legal and regulatory issues affecting the delivery of aging services. Instruction Mode: Lecture Grading Option: Letter

GERO 502 Marketing and Shifts in Consumer Decision Making
Units: 4 Terms Offered: Fa Branding, marketing, and consumer behavior through examination of established, transitioning and emerging aging services and organizations. Instruction Mode: Lecture Grading Option: Letter

GERO 504 Current Issues in Aging Services Management
Units: 4 Terms Offered: Sp Basic skills needed for an executive working in an aging services environment. Recommended for entry level administrators and managers. Instruction Mode: Lecture Grading Option: Letter

GERO 505 Housing and Community Policies and Programs
Units: 4 Terms Offered: FaSp Examination of the behavioral and social consequences of design and the environment to create a more satisfying physical environment for both frail and active older adults. Instruction Mode: Lecture Grading Option: Letter

GERO 506 Technological Innovations in Aging (Gerontechnology)
Units: 4 Terms Offered: Sp Reflections on shifts in preferences for aging in place and the market ramifications of innovations in science and technology on older consumers and service providers. Instruction Mode: Lecture Grading Option: Letter

GERO 507 End of Life Care
Units: 4 Terms Offered: Sp Examination of programs related to end of life care. Cultural competencies in working with a diverse population on end of life issues. Instruction Mode: Lecture Grading Option: Letter

GERO 508 The Mind and Body Connection through the Lifespan
Units: 4 Terms Offered: FaSpSm An introduction to mind-body processes involved in healthy aging. Examines the interplay of emotions, beliefs, and behaviors in shaping health-relevant biological processes. Instruction Mode: Lecture Grading Option: Letter

GERO 509 Mindful Aging: Spirituality, Gratitude, and Resilience
Units: 4 Terms Offered: Sp Fosters vital imaginative connections to transform one's understanding and experience of the aging process from within, in order to re-envision the aging process as a spiritual journey. Instruction Mode: Lecture Grading Option: Letter

GERO 510 Physiology of Development and Aging
Units: 4 Terms Offered: Sp Examination of lifespan physiology of human development, growth, and aging; major emphasis in the physiology of the later years and implications for health maintenance. Instruction Mode: Lecture Grading Option: Letter

GERO 511 Fundamentals of Clinical Nutrition Screening and Assessment
Units: 4 Terms Offered: Sp Examines tools and resources used to evaluate the nutrition status of individuals across the lifespan including biochemical, anthropometric and subjective global assessment. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

GERO 512 Communicating Nutrition and Health
Units: 2 Terms Offered: Fa Overview of current understanding of the dietary and nutritional needs of individuals across their lifespan. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

GERO 513 Fundamentals of Nutrition: Macronutrients
Units: 2 Terms Offered: Fa Principles of metabolism of macronutrients (carbohydrates, lipids and proteins) and human nutrition; life stages, disease states, consumption, digestion, absorption, transport and storage of macronutrients. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

GERO 514 The Art of Geriatric Symptom Management
Units: 4 Terms Offered: Fa Explore issues related to common aging related symptoms/ syndromes, patient and caregiver factors and alternative methods for symptom management. Instruction Mode: Lecture Grading Option: Letter

GERO 515L Food Production and Food Service Management
Units: 4 Terms Offered: FaSp A study of principles and procedures for food systems including techniques of food preparation, development, modification and evaluation of recipes, menus and products. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GERO 516 Introduction to Genomic Science for Biologists
Units: 4 Terms Offered: FaSp Broad introduction to genomics for students with a biology background, including overviews of 'wet' genomics techniques, available public databases and useful analytical tools. *Prerequisite:* BISC 120Lg and BISC 220Lg Instruction Mode: Lecture Grading Option: Letter

GERO 517L Advanced Therapeutic Nutrition
Units: 4 Terms Offered: Fa Application of nutrition science, physiology, biochemistry, and metabolism to evaluate critically ill patients and plan nutrition intervention and monitoring. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GERO 518 Current Topics in Clinical Nutrition
Units: 4 Terms Offered: Sp Discuss various factors that affect nutrition and aging. Topics include allergies in nutrition, food toxins, weight factors, and prevention and treatment of multiple organ systems. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

GERO 519 Recent Advances in Neurobiology and Endocrinology of Aging
Units: 2 or 4 Theories of the biology of aging and the effects of age on functional integrity of the total organism. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC-519

GERO 520 Life Span Developmental Psychology
Units: 2 or 4 Terms Offered: FaSm Behavior from adulthood to old age; study of major components of behavior such as perception, cognitive processes, personality, intergenerational relationships, sexuality, and life styles. Instruction Mode: Lecture Grading Option: Letter

GERO 522 Counseling Older Adults and Their Families
Units: 2 or 4 Terms Offered: Sp Theory and application of assessment and intervention techniques with older adults and their families. Topics include: treatment modalities, psychopathology, ethical and legal issues, brain disorders. Instruction Mode: Lecture Grading Option: Letter

GERO 530 Life Span Developmental Sociology
Units: 4 Terms Offered: Sp Life span perspective on the sociological theories of marriage and the family, inter-generational relationships, work and retirement, and other forms of social organization. Instruction Mode: Lecture Grading Option: Letter

GERO 540 Social Policy and Aging
Units: 4 Terms Offered: Fa Major legislation and programs; examination and analysis of policy-making and political processes affecting development and implementation of programs for older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 541 Health Care Delivery Models: Comparative Approaches
Units: 4 Examination of current trends and future prospects of finance and reimbursement systems. Topics include major legislation and programs such as Medicare and Medicaid. Instruction Mode: Lecture Grading Option: Letter

GERO 550 Administration and System Management in Programs for Older Adults
Units: 4 Terms Offered: Sp Application of theories of administration and system management to public and volunteer programs and services for older adults including residential institutions and community programs. Instruction Mode: Lecture Grading Option: Letter

GERO 551 Applied Policy Skills in Aging
Units: 4 Terms Offered: Sp An overview and application of techniques and approaches used in the definition and analysis of policy problems in aging. *Prerequisite:* GERO 540. Instruction Mode: Lecture Grading Option: Letter

GERO 552 Human Resources and Aging
Units: 4 Terms Offered: FaSp Addresses legal issues and liability arising out of the employer-employee relationship, and how to identify and act proactively to minimize such risk. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

GERO 554 Evaluation: Incorporating Evidence-Based Practices
Units: 4 Terms Offered: Sp Examination of the evaluation of health and service delivery in aging services industries. Instruction Mode: Lecture Grading Option: Letter

GERO 555 Integrating Gerontology: A Multidisciplinary Approach
Units: 4 Terms Offered: Sp Aging (commonalities and distinctions) as addressed by biologists, psychologists, and sociologists. Topics include research perspectives, normative aging, functional decline and disability, and aging and society. Instruction Mode: Lecture Grading Option: Letter

GERO 557 Geriatric Care Management
Units: 4 Terms Offered: Sp Overview of concepts, issues, and approaches to geriatric care management. Includes analysis and practice of a variety of care management clinical skills. Instruction Mode: Lecture Grading Option: Letter

GERO 560 Fundamentals of Nutrition: Micronutrients
Units: 4 Terms Offered: Sp Explore the role of micronutrients, vitamins, minerals and phytonutrients in human nutrition, including digestion, absorption, metabolism, and major biological, physiological and metabolic roles. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

GERO 561 Introduction to Aging and Normal Changes with Aging
Units: 4 Terms Offered: FaSp Introduces medical and health care professionals to the interdisciplinary field of gerontology. Examines the world's changing demography; effects of aging on physical, psychological and social changes; aging process, ethical issues, aging stereotypes. Instruction Mode: Lecture Grading Option: Letter

GERO 562 Diseases of Aging with Emphasis on Cardiovascular Disease and Diabetes
Units: 4 Terms Offered: FaSp An introduction to the diseases of aging with an emphasis on cardiovascular disease and diabetes. Instruction Mode: Lecture Grading Option: Letter

GERO 563 Geronpsychology
Units: 4 Terms Offered: FaSp Understanding geronpsychology and cognition in advanced age; psychosocial theories of aging and psychodynamic models. Instruction Mode: Lecture Grading Option: Letter

GERO 564 Multiple Chronic Conditions and Older Adults
Units: 4 Terms Offered: FaSp Complexities of treating older persons with multiple chronic diseases and conditions. Instruction Mode: Lecture Grading Option: Letter

GERO 565 Novel Technologies in Aging and Assisted Living
Units: 4 Terms Offered: FaSp Focuses on the understanding of technology use with older adults. Examines telemedicine and e-health technologies as well as ethical considerations. Instruction Mode: Lecture Grading Option: Letter

GERO 566 Cognitive Decline: Alzheimer's Disease and Dementia and Advances in Imaging
Units: 4 Terms Offered: FaSp Covers cognitive decline for people with Alzheimer's Disease or other forms of dementia. Imaging technology to identify and find treatment options. Instruction Mode: Lecture Grading Option: Letter

GERO 567 Prevention of Chronic Diseases through Nutrition, Physical Activity and Lifestyle Changes
Units: 4 Terms Offered: FaSp Nutrition, psychical engagement and social interaction. Interventions, assessments, screening protocols and guidelines for nutrition in older adults. Instruction Mode: Lecture Grading Option: Letter

GERO 568 Adaptive Age-Friendly Environments and Injury Prevention
Units: 4 Terms Offered: FaSpSm Covers adaptive, age-friendly environment and injury prevention for older adults. Adaptations in household safety, assistive technology, ergonomics and universal design principles. Instruction Mode: Lecture Grading Option: Letter

GERO 569 Healthcare Leadership and Administration
Units: 1 Terms Offered: FaSpSm Application of basic management concepts in a healthcare setting; achieving patient care goals and objectives via team caregiving. Instruction Mode: Lecture Grading Option: Letter

GERO 574 Leadership and Management in Senior Living
Units: 3 Terms Offered: FaSpSm Management and leadership in senior living organizations. Managerial techniques as well as leadership styles will be analyzed and reviewed. Instruction Mode: Lecture Grading Option: Letter

GERO 575 Marketing Senior Living
Units: 3 Terms Offered: FaSpSm Current practices in marketing senior living and associated services. Examines behaviors and preferences of older adults and their families. Explores new media platforms. Instruction Mode: Lecture Grading Option: Letter

GERO 576 Finance and Senior Living
Units: 3 Terms Offered: FaSpSm Unique aspects of senior living financial structures, revenue management and accounting principles. Instruction Mode: Lecture Grading Option: Letter

GERO 577 Food Service and Senior Living
Units: 2 Terms Offered: FaSpSm Addresses the food services components of senior living. Covers pricing, menu design and nutrition. Instruction Mode: Lecture Grading Option: Letter

GERO 578 Revenue Management for Senior Living
Units: 2 Terms Offered: FaSpSm Understanding of revenue sources for senior living. Develop skills and approaches to managing sustainable strategies. Instruction Mode: Lecture Grading Option: Letter

GERO 579 Branding Senior Living
Units: 2 Terms Offered: FaSpSm Marketing models aimed to provide services for senior living. Analyze various institution's models for marketing, communicating and technological influence to brand a facility. Instruction Mode: Lecture Grading Option: Letter

GERO 585 The Aging Family
Units: 2 or 4 Terms Offered: Sm Family processes and structure in families with aged persons will be reviewed, including marital and family therapy and intervention strategies. Instruction Mode: Lecture Grading Option: Letter

GERO 589 Case Studies in Leadership and Change Management
Units: 4 Terms Offered: Fa Examination of case studies of issues affecting the aging services industries and the role industry leaders play in reacting to change. Instruction Mode: Lecture Grading Option: Letter

GERO 590 Directed Research
Units: 1-12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 591 Field Practicum
Units: 1-12 Max Units: 12.0 Terms Offered: FaSpSm Supervised experiential learning in one or more organizations that serve

older adults; includes a regularly scheduled seminar. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 592 Multidisciplinary Research Seminar in Aging
Units: 2 Max Units: 8.0 Terms Offered: FaSp Multidisciplinary perspectives on current research in gerontology, including physiology, neurobiology, health and medicine, psychology, sociology, and public policy. Topics will change each semester. Instruction Mode: Lecture Grading Option: Letter

GERO 593 Research Methods
Units: 4 Terms Offered: Fa An introduction to research methods and their application to gerontology including problem formation, research design, data collection, descriptive and analytic statistics, interpretation, and report preparation. Instruction Mode: Lecture Grading Option: Letter

GERO 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 599 Special Topics
Units: 2-4 Max Units: 8.0 Terms Offered: FaSpSm Examination of special topics in the area of gerontological study. Instruction Mode: Lecture Grading Option: Letter

GERO 600 Geroscience: Molecular and Cellular Biology
Units: 4 Terms Offered: Fa Emphasizes the molecular and cellular biology of aging and age-related pathology and other aspects of basic aging research, including evolutionary biology, demography, epidemiology and bioinformatics. Instruction Mode: Lecture, Discussion Grading Option: Letter

GERO 601 Molecular Genetics of Aging
Units: 4 Terms Offered: Sp Explores concepts of molecular and genetic regulation of healthy aging, lifespan, and age-related diseases. Instruction Mode: Lecture, Discussion Grading Option: Letter

GERO 602a Seminar on Discoveries in Biogerontology
Units: 2 Terms Offered: FaSp Critical analyses of primary scientific data and interpretations presented in the literature. Duplicates Credit in former GERO 602. Instruction Mode: Lecture Grading Option: Letter

GERO 602b Seminar on Discoveries in Biogerontology
Units: 2 Terms Offered: FaSp Critical analyses of primary scientific data and interpretations presented in the literature. Duplicates Credit in former GERO 602. Instruction Mode: Lecture Grading Option: Letter

GERO 603 Research Integrity
Units: 2 Terms Offered: Fa Explores scientific integrity, mentoring, scientific record keeping, authorship, peer review, animal and human experimentation, conflict of interest, data ownership and intellectual property, and genetic technology. Instruction Mode: Lecture Grading Option: Letter

GERO 605 Research and Journal Club Presentation Workshop
Units: 2 Terms Offered: Fa Intensive training in journal club and research talk presentations for graduate students in the Biology of Aging PhD program. Registration Restriction: Open only to doctoral students in Biology of Aging Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 606 Bioinformatics
Units: 2 Terms Offered: FaSp A bioinformatics lab using a published RNA-seq data set as a testbed for students to learn coding principles, genomic biology and applied genomic statistics. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture, Lab Grading Option: Letter

GERO 610 The Aging Society
Units: 4 Terms Offered: Sp The interaction of demographic and economic processes, with emphasis on how the contemporary nature of these interactions influence public policy response to an aging population. Instruction Mode: Lecture Grading Option: Letter

GERO 613 Health and Aging
Units: 4 Terms Offered: Sp Examination of changes in health related to age, changes in health in populations over time, and the key health issues facing older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 614L Laboratory Rotations in the Biology of Aging
Units: 4 Max Units: 12 Terms Offered: FaSpSm Mandatory organized laboratory rotation. Allows students to participate in laboratory activities. Designed to help select dissertation adviser and research. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

GERO 616 Mass Spectrometry
Units: 2 Terms Offered: FaSp Introduction to mass spectrometry and its application to gerontology. Problem formation; research design and data collection; descriptive and analytical statistics; interpretation and report preparation. Registration Restriction: Open only to doctoral students in Biology of Aging Instruction Mode: Lecture Grading Option: Letter

GERO 620 Psychology of Aging
Units: 4 Terms Offered: Fa Overview of topics in the psychology of aging. Includes research and theory bearing on cognitive, personality, adaptive, and social processes throughout the adult life span. Open only to doctoral students. *Recommended Preparation:* undergraduate course work in psychology. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

GERO 626 Current Research in Alzheimer's Disease and Related Dementias
Units: 2 Terms Offered: FaSp Lectures from researchers at the forefront of research in Alzheimer disease and related disorders. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

GERO 628 Theories of Aging
Units: 4 An examination of the nature and adequacy of existing explanations of aging. Focus will be on psychological, sociological, and biological paradigms, and on the epistemology of theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-628

GERO 640 Data Analysis Strategies
Units: 4 Terms Offered: FaSpSm Hands-on experience in developing and testing hypotheses using various types of databases, data management and analysis strategies and written presentation of findings. *Recommended Preparation:* GERO 593. Instruction Mode: Lecture Grading Option: Letter

GERO 645 Politics and Policy Processes in an Aging Society
Units: 4 Terms Offered: Fa Dynamics of the policy-making process in the context of aging policy in the United States; focus on the political system and its social dynamics. Instruction Mode: Lecture Grading Option: Letter

GERO 655 Research Training Grant Proposal Development in Gerontology
Units: 4 Terms Offered: Fa Integrative grant writing and development of collaborative, interdisciplinary projects in gerontology as studied by biomedical, psychological, and social scientists. Instruction Mode: Lecture Grading Option: Letter

GERO 666 Free Radical Chemistry, Biology, and Medicine
Units: 4 Terms Offered: Fa Explores the chemical and physical chemical nature of free radicals and related reactive species. Examines the roles of antioxidants and how they work. *Recommended Preparation:* Course work in biology and chemistry. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSCI-633

GERO 690 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Directed research for PhD candidates. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 790 Research
Units: 1-12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction

Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

General Education Seminar

GESM 110g Seminar in the Arts
Units: 4 Terms Offered: FaSpSm The multifaceted history of the creative act, its analysis, production, and context as a representation of human experience. Satisfies New General Education in Category A: The Arts Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 111g Seminar in the Arts
Units: 4 Terms Offered: FaSp The multifaceted history of the creative act, its analysis, production, and context as a representation of human experience. Offered by a USC professional school. Satisfies New General Education in Category A: The Arts Registration Restriction: Open only to freshmen Duplicates Credit in GESM 110 Instruction Mode: Lecture Grading Option: Letter

GESM 120g Seminar in Humanistic Inquiry
Units: 4 Terms Offered: FaSpSm Interpretation and analysis of works of the imagination, exploring language, thought, and cultural traditions in relation to one another. Satisfies New General Education in Category B: Humanistic Inquiry Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 121g Seminar in Humanistic Inquiry
Units: 4 Terms Offered: FaSp Critical appreciation of various forms of human expression, evaluating works of literature, philosophy, and the arts to enable informed opinions about ideas and values. Offered by a professional school. Satisfies New General Education in Category B: Humanistic Inquiry Registration Restriction: Open only to freshmen Duplicates Credit in GESM 120 Instruction Mode: Lecture Grading Option: Letter

GESM 130g Seminar in Social Analysis
Units: 4 Terms Offered: FaSpSm Individual and collective human action as it shapes and is shaped by economic organizations, political institutions, and broad social and cultural settings. Satisfies New General Education in Category C: Social Analysis Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 131g Seminar in Social Analysis
Units: 4 Terms Offered: FaSp The causes and consequences of social phenomena; quantitative and qualitative methods of the social sciences; how people behave and influence the world through cultural forms. Offered by a professional school. Satisfies New General Education in Category C: Social Analysis Duplicates Credit in GESM 130 Instruction Mode: Lecture Grading Option: Letter

GESM 140g Seminar in the Life Sciences
Units: 4 Terms Offered: FaSpSm Scientific understanding of a full range of living systems from molecules to ecosystems, prokaryotes to humans, past and present. (Satisfies GE-D, Life Sciences). Satisfies New General Education in Category D: Life Sciences Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 141g Seminar in the Life Sciences
Units: 4 Terms Offered: FaSp Scientific understanding of living systems from molecules to ecosystems; how data is generated and interpreted; how scientific discovery spurs technological growth and impacts society. Offered by a professional school. Satisfies New General Education in Category D: Life Sciences Registration Restriction: Open only to freshmen Duplicates Credit in GESM 140 Instruction Mode: Lecture Grading Option: Letter

GESM 150Lg Seminar in the Physical Sciences
Units: 4 Terms Offered: FaSpSm Analysis of natural phenomenon through quantitative description and synthesis; the processes by which scientific knowledge is obtained, evaluated, and placed in social context. (Satisfies GE-E, Physical Sciences) Satisfies New General Education in Category E: Physical Sciences Registration Restriction: Open only to freshmen. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GESM 151Lg Seminar in the Physical Sciences
Units: 4 Terms Offered: FaSp Natural phenomena analyzed through quantitative description and synthesis to demonstrate how scientific knowledge is obtained, evaluated and made socially relevant. A separate lab is required. Offered by a professional school. Registration Restriction: Open only to freshmen Duplicates Credit in GESM 150 Instruction Mode: Lecture, Required Lab Grading Option: Letter

GESM 160g Seminar in Quantitative Reasoning
Units: 4 Terms Offered: FaSpSm Analysis and manipulation of data and information related to quantifiable objects, symbolic elements, or logic; formal reasoning, abstract representation, and empirical analysis. (Satisfies GE-F, Quantitative Reasoning). Satisfies New General Education in Category F: Quantitative Reasoning Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 161g Seminar in Quantitative Reasoning
Units: 4 Terms Offered: FaSp Logical or statistical inference, probability, or mathematical analysis used as tools to evaluate hypotheses, claims, questions, or problems within a formal mode of thought. Offered by a professional school. Satisfies New General Education in Category F: Quantitative Reasoning Registration Restriction: Open only to freshmen Duplicates Credit in GESM 160 Instruction Mode: Lecture Grading Option: Letter

General Practice Residency

GPR 601 Hospital Dentistry I
Units: 1 Terms Offered: FaSpSm Residents learn the nature of performing dentistry within a hospital setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 603a Dental Ethics
Units: .5, Terms Offered: FaSpSm Residents prepare for ethical dilemmas which may occur when they are practicing dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 603b Dental Ethics
Units: .5, Terms Offered: Fa Residents prepare for ethical dilemmas which may occur when they are practicing dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 603c Dental Ethics
Units: .5, Terms Offered: Sp Residents prepare for ethical dilemmas which may occur when they are practicing dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 603d Dental Ethics
Units: .5, Terms Offered: SpSm Residents prepare for ethical dilemmas which may occur when they are practicing dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 604a Practice Management
Units: .5, Terms Offered: FaSm Residents learn the tools and principles of running or working in a private practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 604b Practice Management
Units: .5, Terms Offered: FaSpSm Residents learn the tools and principles of running or working in a private practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 604c Practice Management
Units: .5, Terms Offered: FaSpSm Residents learn the tools and principles of running or working in a private practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 604d Practice Management
Units: .5, Terms Offered: FaSpSm Residents learn the tools and principles of running or working in a private practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 605a Review of General Dentistry Literature
Units: 1 Terms Offered: FaSpSm Residents learn how to research various topics and to critically review each article in order to practice evidence-based dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 605b Review of General Dentistry Literature
Units: 1 Terms Offered: FaSpSm Residents learn how to research various topics and to critically review each article in order to practice evidence-based dentistry.

Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 605c Review of General Dentistry Literature
Units: 1 Terms Offered: FaSpSm Residents learn how to research various topics and to critically review each article in order to practice evidence-based dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 605d Review of General Dentistry Literature
Units: 1 Terms Offered: FaSpSm Residents learn how to research various topics and to critically review each article in order to practice evidence-based dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 611a Emergency Medicine
Units: .5, Terms Offered: FaSm Residents utilize medical knowledge to detect and identify early signs of medical emergencies. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 611b Emergency Medicine
Units: .5, Terms Offered: FaSm Residents utilize medical knowledge to detect and identify early signs of medical emergencies. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 611c Emergency Medicine
Units: .5, Terms Offered: FaSm Residents utilize medical knowledge to detect and identify early signs of medical emergencies. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 611d Emergency Medicine
Units: .5, Terms Offered: FaSm Residents utilize medical knowledge to detect and identify early signs of medical emergencies. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 622 Forensic Dentistry
Units: 1 Terms Offered: FaSpSm Introduction to Forensic Odontology. Residents to learn the principles of Dental Forensics. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 701 Treating Medically Compromised Dental Patients
Units: 1 Terms Offered: FaSpSm Residents learn of various medical problems, how they relate to dental treatment and how to manage patients with various medical problems. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 702 General Dentistry Overview
Units: 1 Terms Offered: FaSpSm Residents demonstrate the most appropriate and ideal restorative treatment utilizing various dental materials. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 705a Periodontal Treatment Procedures
Units: .5, Terms Offered: FaSpSm Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 705b Periodontal Treatment Procedures
Units: .5, Terms Offered: FaSpSm Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 705c Periodontal Treatment Procedures
Units: .5, Terms Offered: FaSpSm Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 705d Periodontal Treatment Procedures
Units: .5, Terms Offered: FaSpSm Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 706a Treatment Planning
Units: 1 Terms Offered: Sm Residents lead seminars with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 706b Treatment Planning
Units: 1 Terms Offered: Fa Residents lead seminars with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 706c Treatment Planning
Units: 1 Terms Offered: Sp Residents lead seminars with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 706d Treatment Planning
Units: 1 Terms Offered: Sp Residents lead seminars with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 710a Oral and Maxillofacial Surgery
Units: 1 Terms Offered: FaSpSm More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 710b Oral and Maxillofacial Surgery
Units: 1 Terms Offered: FaSpSm More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 710c Oral and Maxillofacial Surgery
Units: 1 Terms Offered: FaSpSm More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 710d Oral and Maxillofacial Surgery
Units: 1 Terms Offered: FaSpSm More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 711a Implantology
Units: 1 Terms Offered: FaSpSm Residents recognize the importance of implant dentistry and various implant systems and their restorative options. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 711b Implantology
Units: 1 Terms Offered: FaSpSm Residents recognize the importance of implant dentistry and various implant systems and their restorative options. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 722 Occlusion, TMJ Dysfunction, Orofacial Pain
Units: 1 Terms Offered: FaSpSm Residents review the important role that Occlusion plays in General Dentistry and neuromuscular problems of the head and neck. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 733a Advanced and Maxillofacial Prosthodontics
Units: .5, Terms Offered: FaSpSm Residents train to treat patients requiring various types of removable and fixed prosthetics, including Maxillofacial prostheses. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 733b Advanced and Maxillofacial Prosthodontics
Units: .5, Terms Offered: FaSpSm Residents train to treat patients requiring various types of removable and fixed prosthetics, including Maxillofacial prostheses. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 733c Advanced and Maxillofacial Prosthodontics
Units: .5, Terms Offered: FaSpSm Residents train to treat patients requiring various types of removable and fixed prosthetics, including Maxillofacial prostheses. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 733d Advanced and Maxillofacial Prosthodontics
Units: .5, Terms Offered: FaSpSm Residents train to treat patients requiring various types of removable and fixed prosthetics, including Maxillofacial prostheses. Instruction Mode: Lecture Grading Option: Credit/No Credit

Global Policy, Planning and Development

GPPD 500a Global Policy Challenges and Solutions
Units: 2 Consideration of current public policy issues through informed discourse and debate; analysis and policy arguments. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 500b Global Policy Challenges and Solutions
Units: 2 Consideration of current public policy issues through informed discourse and debate; analysis and policy arguments *Prerequisite:* GPPD 500a Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 510 Economic Foundations for Public Policy
Units: 3 Microeconomic foundations; analysis of public sector problems; markets; producer and consumer theory; private and social efficiency. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 520 Leadership in Public-Private Partnerships
Units: 2 Issues across public/private partnerships; leadership and followership in cross-sector settings; organizational and institutional designs; problem solving, negotiation and conflict resolution. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 530 Art and Craft of Public Policy Analysis
Units: 1 Foundations of public policy as a profession, and develops basic skills in policy analytic reasoning, policy design, normative analysis and ethics, and argumentation. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 540 Comparative Institutions and Policy Context
Units: 3 Theoretical and empirical foundations on how institutions affect policy performance; comparative institutional analysis and framework; approaches to organizing public action. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 550 Quantitative Methods for Public Policy
Units: 3 Economic theory and statistical inference methods to estimate the relationship between economic, social and political variables; foundations of data-based argumentation, specifically in regards to public policy in an international context. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 560 Methods for Policy Evaluation
Units: 3 Methods utilized in the analysis of public policy choices; ex ante and ex post analysis; cost-benefit analysis; decision and risk analysis; applied social science methods. Registration Restriction: Open only to Master of Global Public Policy majors. Instruction Mode: Lecture Grading Option: Letter

GPPD 570 Institutions and Policy Processes
Units: 3 Policy formulation and implementation in a comparative context and in the context of an East-West dichotomy. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 580 Policy Challenges in International Development
Units: 3 Overview of the overarching issues of problem definition of "development" and the policy implications of new ideas for development as it faces a new set of challenges in an increasingly globalized, complex, and interconnected world. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 600a Public Policy Capstone
Units: 1 Terms Offered: Sp Hands-on experience in policy analysis. Participants learn to work on a specific, client oriented public policy issue, assess policy alternatives, and write an official report. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 600b Public Policy Capstone
Units: 2 Terms Offered: Sm Hands-on experience in policy analysis. Participants learn to work on a specific, client oriented public policy issue, assess policy alternatives, and write an official report. Registration Restriction: Open only to Master of Global Public Policy majors. Instruction Mode: Lecture Grading Option: Letter

Greek

GR 120 Greek I
Units: 4 Terms Offered: FaSp Essentials of classical Greek grammar and vocabulary. Instruction Mode: Lecture Grading Option: Letter

GR 150 Greek II
Units: 4 Terms Offered: FaSp Essentials of classical Greek grammar and vocabulary, continued. Basic reading skills. *Prerequisite:* GR 120. Instruction Mode: Lecture Grading Option: Letter

GR 220 Greek III
Units: 4 Terms Offered: FaSp Reading Greek literature. Introduction to reading and translation of classical Greek prose and poetry. Extensive grammar review. *Prerequisite:* GR 150. Instruction Mode: Lecture Grading Option: Letter

GR 345 Greek Tragic Poets
Units: 4 Selected plays of Aeschylus, Sophocles, and Euripides. Instruction Mode: Lecture Grading Option: Letter

GR 353 Plato
Units: 4 Readings from the Republic or other dialogues. Instruction Mode: Lecture Grading Option: Letter

GR 354 Greek Historians
Units: 4 Selections from such representative historians as Herodotus and Thucydides. Instruction Mode: Lecture Grading Option: Letter

GR 355 Aristophanes
Units: 4 A study of at least three comedies. Instruction Mode: Lecture Grading Option: Letter

GR 362 Homer and the Greek Epic
Units: 4 Selections from the Iliad and/or Odyssey. Problems of oral composition and transmission. Instruction Mode: Lecture Grading Option: Letter

GR 365 Greek Lyric Poetry
Units: 4 Readings from Archilochus, Sappho, Alcaeus, Pindar, and other lyric poets. *Prerequisite:* GR 220. Instruction Mode: Lecture Grading Option: Letter

GR 375 Plutarch
Units: 4 Readings of selected works by the Greek author Plutarch. *Prerequisite:* GR 220. Instruction Mode: Lecture Grading Option: Letter

GR 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GR 450 Readings in Greek Literature
Units: 4 Max Units: 12.0 Readings in various authors and genres of Greek literature. *Prerequisite:* 300-level Greek course. Instruction Mode: Lecture Grading Option: Letter

GR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

GR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

Graduate Studies

GRSC 596 Internship for Curricular Practical Training
Units: 1 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Graduate standing. Instruction Mode: Lecture Grading Option: Credit/No Credit

GRSC 610 The Innovation Process: Development, Diffusion and Leadership
Units: 4 Terms Offered: Fa Exploration of general principles and evolution of innovation, theoretical perspectives on the innovation process, organizing and leadership for innovation, and practical tools for innovation development, diffusion, market acceptance, and business planning. Instruction Mode: Lecture Grading Option: Letter

GRSC 615 Disciplinary Perspectives on Innovation
Units: 4 Terms Offered: Fa A deeper understanding of the innovation process via a survey of various disciplines' approaches to the subject. Instruction Mode: Lecture Grading Option: Letter

GRSC 791 Directed Research
Units: 2 Terms Offered: FaSpSm Directed Studies in Academic Innovation. Instruction Mode: Lecture Grading Option: Credit/No Credit

GRSC 800a Studies for the Qualifying Examination
Units: 0 Terms Offered: FaSpSm Studies for the Qualifying Examination. Students may enroll once they have completed all other degree requirements. Instruction Mode: Lecture Grading Option: Credit/No Credit

GRSC 800b Studies for the Qualifying Examination
Units: 0 Terms Offered: FaSpSm Studies for the Qualifying Examination. Students may enroll once they have completed all other degree requirements. *Prerequisite:* GRSC 800a Instruction Mode: Lecture Grading Option: Credit/No Credit

GRSC 800z Studies for the Qualifying Examination
Units: 0 Terms Offered: FaSpSm Studies for the Qualifying Examination. Students may enroll once they have completed all other degree requirements. *Prerequisite:* GRSC 800b Instruction Mode: Lecture Grading Option: Credit/No Credit

GRSC 810 Studies for Master's Examination
Units: 0 Terms Offered: FaSpSm *Prerequisite:* completion of all course work for the master's degree. Permission of the Graduate School. Instruction Mode: Lecture Grading Option: Non-Graded

GRSC 850a The Professoriate: Preparing for the Future
Units: 2 Terms Offered: FaSp Preparation for academic careers: various methodologies and approaches to teaching, learning, assessment, and research; statements of research and teaching philosophies; creation of online academic portfolio. Instruction Mode: Lecture Grading Option: Non-Graded

GRSC 850b The Professoriate: Preparing for the Future
Units: 2 Terms Offered: FaSp Preparation for academic careers: various methodologies and approaches to teaching, learning, assessment, and research; statements of research and teaching philosophies; creation of online academic portfolio. Instruction Mode: Lecture Grading Option: Credit/No Credit

Graduate School of Business Administration

GSBA 501 The Role of the Manager
Units: 3 Terms Offered: FaSp Fundamental roles of a manager and skill sets necessary to performing these roles. Open only to online MBA students. Registration Restriction: Open only to online MBA students. Instruction Mode: Lecture Grading Option: Letter

GSBA 502 Management Communication for Leaders
Units: 3 Terms Offered: Fa Integrates leadership theory and practice with communication skills to improve individual, team, and organizational performance. Emphasizes interpersonal, presentation, and writing skills; teamwork; and value-based leadership. Duplicates Credit in GSBA 523, GSBA 542 and the former GSBA 502ab. Open only to master's students. Instruction Mode: Lecture Grading Option: Letter

GSBA 503 Contemporary Issues in Competitive Global Strategy
Units: 1.5 Terms Offered: Sp Concepts and tools that help frame strategic issues in a multi-industry and global context. Craft strategies, position businesses and assets, and define firm boundaries. Registration Restriction: Open only to master's degree students Duplicates Credit in the former GSBA 580b and GSBA 582a Instruction Mode: Lecture Grading Option: Letter

GSBA 504a Operations Management
Units: 1.5 Terms Offered: Fa Formulation, modeling, analysis, and optimization of business decision problems; survey of concepts and techniques necessary to manage the operations function of a firm. Duplicates Credit in GSBA 534 and former GSBA 504. Instruction Mode: Lecture Grading Option: Letter

GSBA 504b Operations Management
Units: 1.5 Terms Offered: Fa Formulation, modeling, analysis, and optimization of business decision problems; survey of concepts and techniques necessary to manage the operations function of a firm. Duplicates Credit in GSBA 534 and former GSBA 504. Instruction Mode: Lecture Grading Option: Letter

GSBA 505 Fundamentals of Business
Units: 10 Terms Offered: FaSpSm Fundamentals of financial accounting, microeconomics, statistics, analytics and communication. *Prerequisite:* GSBA 501. Registration Restriction: Open only to online MBA students. Duplicates Credit in GSBA 506a, GSBA 506b, GSBA 510, GSBA 511, GSBA 516, GSBA 524, and GSBA 545. Instruction Mode: Lecture Grading Option: Letter

GSBA 506a Applied Managerial Statistics
Units: 1.5 Terms Offered: FaSpSm Principles of probability theory and classical statistics applied to business decision problems; survey analysis, estimation and prediction methods, evaluation, and control techniques. Duplicates Credit in GSBA 524, GSBA 516, GSBA 545. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 506b Applied Managerial Statistics
Units: 1.5 Terms Offered: FaSpSm Principles of probability theory and classical statistics applied to business decision problems; survey analysis, estimation and prediction methods, evaluation, and control techniques. Duplicates Credit in GSBA 524, GSBA 516, GSBA 545. Instruction Mode: Lecture Grading Option: Letter

GSBA 507 Organizational Behavior
Units: 2 Terms Offered: Sp Study of human thought, motives, and behaviors in business settings. Explore how organizational structures and decisions can help to determine how human beings will respond. Registration Restriction: Open only to master students Duplicates Credit in GSBA 522a, GSBA 522b, GSBA 532, GSBA 533 and GSBA 543 Instruction Mode: Lecture Grading Option: Letter

GSBA 509 Marketing Management
Units: 1.5 Terms Offered: Fa Development of analytical, strategic, and planning skills. Application within an integrated strategic framework to the development of a comprehensive marketing plan for a product, service, and/or organization. Registration Restriction: Open only to master students Duplicates Credit in the former GSBA 509ab, GSBA 528 and GSBA 546 Instruction Mode: Lecture Grading Option: Letter

GSBA 510 Accounting Concepts and Financial Reporting
Units: 1.5, 2, 3 Terms Offered: Fa Information systems for public reporting and for management decision-making; theory of asset and income measurement; interpretation and uses of accounting data and financial statements; analysis of cases. Instruction Mode: Lecture Grading Option: Letter

GSBA 511 Microeconomics for Management
Units: 1.5, 3 Terms Offered: Fa Microeconomic theory with business applications; consumer demand, production theory, cost theory, and market theory; decision-making within the firm under different market and regulatory environments. Instruction Mode: Lecture Grading Option: Letter

GSBA 513 Interpersonal and Team Communication
Units: 1 Terms Offered: Sp Develop interpersonal effectiveness and leadership capacity when working within, across and outside an organization. Registration Restriction: Open only to master students Duplicates Credit in GSBA 502, GSBA 523, GSBA 523 and GSBA 542 Instruction Mode: Lecture Grading Option: Letter

GSBA 514 Leadership Communication Styles and Strategies
Units: 1 Terms Offered: Sm In-depth focus on managerial communication motivation and styles. Implications of leadership communication strategy and practice. Evaluate strategies and emerging tools to facilitate collaboration. Duplicates credit in GSBA 502, GSBA 523, GSBA 523, and GSBA 542. Registration Restriction: Open only to master students Duplicates Credit in GSBA 502, GSBA 523, GSBA 523, GSBA 542 Instruction Mode: Lecture Grading Option: Letter

GSBA 515 Communicating Professional Presence
Units: 1 Terms Offered: Sp Acquire the skills necessary to exhibit the elusive quality of professional presence. Exhibit credible competence. Handle impromptu speaking. Presentation messaging. Duplicates credit in GSBA 502, GSBA 523, GSBA 523, and GSBA 542. Registration Restriction: Open only to master students Duplicates Credit in GSBA 502, GSBA 523, GSBA 523, GSBA 542 Instruction Mode: Lecture Grading Option: Letter

GSBA 516 Essentials of Data Analysis and Modeling
Units: 1.5 Terms Offered: Fa Data collection, data analysis, and critical understanding of the role of data in making business decisions. Ways to quantify uncertainty and model decision problems. Duplicates Credit in GSBA 506a, GSBA 506b and GSBA 524. Instruction Mode: Lecture Grading Option: Letter

GSBA 518 Accounting Control Systems
Units: 3 Terms Offered: FaSpSm Accumulation and interpretation of accounting data by management; profit planning; analysis of operations; systems for control of production and distribution costs; cost and profit centers for decentralized control. *Recommended Preparation:* GSBA 510 Duplicates Credit in ACCT 509, ACCT 535, GSBA 536 Instruction Mode: Lecture Grading Option: Letter

GSBA 519a Strategic Formulation for Competitive Advantage
Units: 1.5 Terms Offered: FaSm Analyses of environments and competition, the basis of competitive strategy, strategy models, and the achievement of sustainable competitive advantage. Duplicates Credit in GSBA 529

and GSBA 540. Instruction Mode: Lecture Grading Option: Letter

GSBA 519b Strategic Formulation for Competitive Advantage
Units: 1.5 Terms Offered: FaSm Analyses of environments and competition, the basis of competitive strategy, strategy models, and the achievement of sustainable competitive advantage. Duplicates Credit in GSBA 529 and GSBA 540. Instruction Mode: Lecture Grading Option: Letter

GSBA 520 Business Fundamentals for Non-Business Professionals
Units: 3, 4 Terms Offered: FaSp An overview of concepts, tools and principles of business management to develop a general management point of view. Open only to non-business graduate students. Registration Restriction: Open only to non-business graduate students. Instruction Mode: Lecture Grading Option: Letter

GSBA 521a Corporate Finance
Units: 1.5 Terms Offered: Fa Basic principles of corporate finance; theory and application; management of short-term and long-term assets; financial instruments and markets; financial policy applications. *Recommended Preparation:* GSBA 510. Duplicates Credit in GSBA 548 and the former GSBA 521. Instruction Mode: Lecture Grading Option: Letter

GSBA 521b Corporate Finance
Units: 1.5 Terms Offered: Fa Basic principles of corporate finance; theory and application; management of short-term and long-term assets; financial instruments and markets; financial policy applications. *Recommended Preparation:* GSBA 510. Duplicates Credit in GSBA 548 and the former GSBA 521. Instruction Mode: Lecture Grading Option: Letter

GSBA 522a Managerial Perspectives
Units: 1.5 Terms Offered: FaSp Managerial careers, development of critical executive and managerial abilities, and the dynamics of organizational environment and systems as they impact managerial progression and work. Graded IP. Registration Restriction: Open only to master students Duplicates Credit in GSBA 507, GSBA 533 and GSBA 543 Instruction Mode: Lecture Grading Option: In Progress to Letter

GSBA 522b Managerial Perspectives
Units: 1.5 Terms Offered: FaSp Managerial careers, development of critical executive and managerial abilities, and the dynamics of organizational environment and systems as they impact managerial progression and work. Duplicates Credit in GSBA 507, GSBA 533 and GSBA 543 Instruction Mode: Lecture Grading Option: Letter

GSBA 523 Communication for Management
Units: 2, 3 Terms Offered: FaSp Internal and external communication, research methods; reports for decision-making; oral presentations and briefings; strategies to assure communication; field studies. Duplicates Credit in GSBA 502, GSBA 542 and the former GSBA 502ab. Instruction Mode: Lecture Grading Option: Letter

GSBA 523T Communication for Accounting and Tax Professionals
Units: 3 Communication strategies to ensure effective communication to internal and external business audiences at all levels; business writing and presentations; electronic communication; communicating ethics in business. Open only to accounting, business taxation, law/business, and taxation majors. Duplicates Credit in GSBA 502, the former GSBA 502b, GSBA 523 and GSBA 542. Instruction Mode: Lecture Grading Option: Letter

GSBA 524 Data Science for Business
Units: 2, 3 Terms Offered: Fa Principles of probability theory and classical statistics applied to business decision problems; survey analysis, estimation and prediction methods, evaluation, and control techniques. Registration Restriction: Open only to master students Duplicates Credit in GSBA 506a, GSBA 506b, GSBA 516, GSBA 545 Instruction Mode: Lecture Grading Option: Letter

GSBA 525 Introduction to Management and Strategy
Units: 1 Terms Offered: Fa Introduction to the concepts, tools, and first principles of strategy formulation and competitive analysis. Registration Restriction: Open only to MBA.PM students Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 527 Structured Analysis for Unstructured Problems
Units: 1, 1.5 Terms Offered: Fa Development and application of critical thinking principles and creative problem-solving skills to solve difficult business and societal problems. Instruction Mode: Lecture Grading Option: Letter

GSBA 528 Marketing Management
Units: 3 Terms Offered: FaSpSm Marketing is treated as a managerial decision-making process. Emphasis is given to understanding the concepts, tools, and techniques that comprise a comprehensive marketing strategy. Registration Restriction: Open only to master students Duplicates Credit in GSBA 509, the former GSBA 509ab, and GSBA 546 Instruction Mode: Lecture Grading Option: Letter

GSBA 529 Strategic Formulation for Competitive Advantage
Units: 3 Terms Offered: FaSpSm Analyses of environments and competition, the bases of competitive strategy, strategy models, and the achievement of sustainable competitive advantage. Duplicates Credit in GSBA 519a, GSBA 519b and GSBA 540 Instruction Mode: Lecture Grading Option: Letter

GSBA 533 Organizational Behavior and Leadership
Units: 1.5 Terms Offered: FaSp Maximize organizational effectiveness through managing team and individual processes. Topics may include ethics, decision making, motivation, power and influence, organizational culture and change, negotiation. Registration Restriction: Open only to graduate students Duplicates Credit in GSBA 507, GSBA 522a, GSBA 522b, GSBA 543 Instruction Mode: Lecture Grading Option: Letter

GSBA 534 Operations Management
Units: 2, 3 Terms Offered: FaSpSm Formulation, modeling, analysis, and optimization of business decision problems; survey of concepts and techniques necessary to manage the operations function of the firm. *Recommended Preparation:* GSBA 506b or GSBA 524 or GSBA 516 and GSBA 545. Duplicates Credit in GSBA 504a, GSBA 504b. Instruction Mode: Lecture Grading Option: Letter

GSBA 535 Opportunity Recognition and Implementation
Units: 9.5 Terms Offered: FaSpSm Thematic exploration of entrepreneurship and key aspects of new venture development. Contract law, analytics, negotiations, and communication. *Prerequisite:* GSBA 505 Registration Restriction: Open only to Marshall Online MBA students Duplicates Credit in BAEP 549, BAEP 550, BAEP 551, GSBA 550a and GSBA 550b. Instruction Mode: Lecture Grading Option: Letter

GSBA 536 Accounting for Management Decision Making
Units: 2 Terms Offered: Sp The development, presentation and understanding of accounting information useful to managers. Techniques and best practices which, combined with accounting information, support enhanced management decision-making. Registration Restriction: Open only to master students Duplicates Credit in ACCT 509, ACCT 535, GSBA 518, GSBA 537 Instruction Mode: Lecture Grading Option: Letter

GSBA 537 Managing Inside the Firm
Units: 9.5 Terms Offered: FaSpSm Thematic exploration of managerial accounting, employment law, operations management and organizational behavior. Application of analytics and communication to optimize internal operations. *Prerequisite:* GSBA 505 Registration Restriction: Open only to online MBA students Duplicates Credit in GSBA 504, GSBA 504a, GSBA 504b, GSBA 518, GSBA 522a, GSBA 522b, GSBA 532 , GSBA 533, GSBA 534, GSBA 536, GSBA 543 Instruction Mode: Lecture Grading Option: Letter

GSBA 538 Managing Outside the Firm
Units: 9.5 Terms Offered: FaSpSm Thematic exploration of operations management, corporate finance, marketing, and microeconomics. Coordinating production processes, marketing strategies, and corporate financial plans in order to maximize growth. *Prerequisite:* GSBA 505, GSBA 509 Registration Restriction: Open only to online MBA students. Duplicates Credit in GSBA 506a, GSBA 506b, GSBA 509, GSBA 509a, GSBA 509b, GSBA 511, GSBA 521a, GSBA 521b, GSBA 528, GSBA 534, and GSBA 548. Instruction Mode: Lecture Grading Option: Letter

GSBA 539 Business Environment and Leadership
Units: 9.5 Terms Offered: FaSpSm Thematic exploration of finance, macroeconomics, international business, corporate strategy, and marketing strategy. *Prerequisite:* GSBA 505. Registration Restriction: Open only to online MBA students. Duplicates Credit in GSBA 519a, GSBA 519b, GSBA 521a, GSBA 521b, GSBA 529, GSBA 540, GSBA 548, GSBA 580a, and GSBA 580b. Instruction Mode: Lecture Grading Option: Letter

GSBA 540 Contemporary Issues in Competitive Strategy
Units: 1.5 Terms Offered: FaSp Introduces the role industry and competitive analysis serves in an organization. Topics covered include global competition, innovation, the

use of standards, competence, and building organizational capabilities to sustain competitive advantage. Duplicates Credit in GSBA 519a, GSBA 519b and GSBA 529. Instruction Mode: Lecture Grading Option: Letter

GSBA 541 Foundations of Your Professional Value
Units: .5 Terms Offered: Fa Foundational knowledge to discover, identify and leverage the professional value each person brings to today's job market. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 542 Communication for Management
Units: 1.5 Terms Offered: Fa Internal and external communication, research methods, reports for decision-making, oral presentations and briefings, strategies to assure communication; field studies. Duplicates Credit in GSBA 502, GSBA 523, GSBA 523T and the former GSBA 502ab. Instruction Mode: Lecture Grading Option: Letter

GSBA 543 Managerial Perspectives
Units: 3 Terms Offered: Sp Managerial careers, development of critical executive and managerial abilities, and the dynamics of organizational environment and systems as they impact managerial progression and growth. Registration Restriction: Open only to master students Duplicates Credit in GSBA 507, GSBA 522a, GSBA 522b, GSBA 533 Instruction Mode: Lecture Grading Option: Letter

GSBA 544 The Firm in the Global Economy
Units: 1.5 Terms Offered: Fa The economic environment of business and the forces influencing the firm. Duplicates Credit in GSBA 549 Instruction Mode: Lecture Grading Option: Letter

GSBA 545 Data Driven Decision Making
Units: 1.5 Terms Offered: Fa Data analysis technologies for business decision making; principles and techniques of statistical inference for business problem solving; foundations of data-driven regression and time series analytics. Duplicates Credit in GSBA 506ab and GSBA 524. Instruction Mode: Lecture Grading Option: Letter

GSBA 546 Strategic Marketing Management
Units: 2 Terms Offered: Sp Principles of marketing in a global marketplace. Skills and knowledge required to effectively conduct comprehensive and insightful analyses and develop effective marketing strategies. Registration Restriction: Open only to master students Duplicates Credit in GSBA 509 and GSBA 528 Instruction Mode: Lecture Grading Option: Letter

GSBA 548 Corporate Finance
Units: 2, 3 Terms Offered: FaSpSm Modern theory of corporate investment and financing decisions. Registration Restriction: Open only to graduate students Duplicates Credit in GSBA 521a and GSBA 521b Instruction Mode: Lecture Grading Option: Letter

GSBA 549 The Firm in the National and International Economy
Units: 3 Terms Offered: Sp The economic environment of business and international forces influencing the firm. Duplicates Credit in former GSBA 526 and GSBA 544. Instruction Mode: Lecture Grading Option: Letter

GSBA 550a Entrepreneurship
Units: .5 Terms Offered: Fa Fundamentals of entrepreneurship. Understanding the new venture creation process. Duplicates Credit in BAEP 549 and BAEP 550 and BAEP 551 Instruction Mode: Lecture Grading Option: In Progress to Letter

GSBA 550b Entrepreneurship
Units: 1 Terms Offered: Sp Fundamentals of entrepreneurship. Understanding the new venture creation process. *Prerequisite:* GSBA 550a Duplicates Credit in BAEP 549 and BAEP 550 and BAEP 551 Instruction Mode: Lecture Grading Option: Letter

GSBA 552 Problem Solving and Decision Making: An Integrative Approach
Units: 2 Terms Offered: Fa An integrative, multi-disciplined and immersion-based approach to addressing unstructured business situations and imperfect data using a variety of analytical tools and critical thought processes. Instruction Mode: Lecture Grading Option: Letter

GSBA 555 Management and Organization of the Creative Industries
Units: 3 Terms Offered: Sp How creative industries (motion pictures, television, publishing, radio, music, arts, games) operate and are organized. Critical discussion of pressing issues that these industries face. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

GSBA 560 The Perspective of Top Management
Units: 2 Terms Offered: Fa Using cases, students are introduced to top management issues of executive leadership, environmental and strategic analysis, use of financial statements, organizational assessment and design, technology management and decision support systems. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 561 Evaluating Market Performance
Units: 9 Terms Offered: Fa Evaluation of the firm by the market forces that affect its success; financial accounting and reporting; competitive market analysis; external communication; microeconomics; labor, customer and financial markets, statistical and decision analysis, financial and organization measures of effectiveness. Instruction Mode: Lecture Grading Option: Letter

GSBA 562 Management of Operations
Units: 11 Analysis of operations management and business functions; managerial accounting; finance; marketing; production; data processing and information systems; human resources management. Instruction Mode: Lecture Grading Option: Letter

GSBA 562a Management of Operations
Units: 1 Terms Offered: Fa Analysis of operations management and business functions; managerial accounting; finance; marketing; production; data processing and information systems; human resources management. Duplicates Credit in GSBA 562. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 562b Management of Operations
Units: 10 Terms Offered: Sp Analysis of operations management and business functions; managerial accounting; finance; marketing; production; data processing and information systems; human resources management. Duplicates Credit in GSBA 562. Instruction Mode: Lecture Grading Option: Letter

GSBA 563 Technology and Information Systems Management
Units: 6 Impact of technology on organizations; new product development; investment decisions and capital budgeting; decision support systems, expert systems; information technology; organizational design; management of information systems. Instruction Mode: Lecture Grading Option: Letter

GSBA 563a Technology and Information Systems Management
Units: 2 Terms Offered: Sp Impact of technology on organizations; new product development; investment decisions and capital budgeting; decision support systems, expert systems; information technology; organizational design; management of information systems. Duplicates Credit in GSBA 563. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 563b Technology and Information Systems Management
Units: 4 Terms Offered: Sp Impact of technology on organizations; new product development; investment decisions and capital budgeting; decision support systems, expert systems; information technology; organizational design; management of information systems. Duplicates Credit in GSBA 563. Instruction Mode: Lecture Grading Option: Letter

GSBA 564 Functional Strategies and Implementation
Units: 2 Terms Offered: Sm Developing functional strategies and interdependence to achieve organizational goals; negotiations, conflict resolution; communication strategies; organizational effectiveness; implementation and change strategies; self-assessment and individual presentations. Instruction Mode: Lecture Grading Option: Letter

GSBA 570 The Role of the Senior Executive
Units: 2 Terms Offered: Fa Introduction to strategic management; executive leadership; environmental analysis; international context; financial growth strategies; social, legal and macroeconomic issues; role of CEO with boards, media and other publics; business ethics, strategic planning project. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 571 Environmental Analysis: Establishing Competitive Advantage
Units: 9 Terms Offered: Fa Development of strategic planning processes; analysis of economic, social, political environment; forecasting; futures research; macroeconomics; international economics; technological developments; multinational management simulation; field projects.

Instruction Mode: Lecture Grading Option: Letter

GSBA 572 Strategic Planning for Growth
Units: 11 Formulation and implementation of strategies in different organizational and environmental contexts; financial growth strategies; comparative management; impact of taxation; technology strategies; product development and new market strategies. Instruction Mode: Lecture Grading Option: Letter

GSBA 572a Strategic Planning for Growth
Units: 3 Terms Offered: Fa Formulation and implementation of strategies in different organizational and environmental contexts; financial growth strategies; comparative management; impact of taxation; technology strategies; product development and new market strategies. Duplicates Credit in GSBA 572. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 572b Strategic Planning for Growth
Units: 8 Terms Offered: Sp Formulation and implementation of strategies in different organizational and environmental contexts; financial growth strategies; comparative management; impact of taxation; technology strategies; product development and new market strategies. Duplicates Credit in GSBA 572. Instruction Mode: Lecture Grading Option: Letter

GSBA 573 Managing Strategic Change and Implementation
Units: 6 Management of the strategic change process for the total organization including implementing growth strategies, use of consultants, corporate governance, implementation in a multinational environment, leadership and power, use of technology, innovation, corporate cultures, executive succession, corporate relations. Instruction Mode: Lecture Grading Option: Letter

GSBA 573a Managing Strategic Change and Implementation
Units: 5 Terms Offered: Sp Management of the strategic change process for the total organization including implementing growth strategies, use of consultants, corporate governance, implementation in a multinational environment, leadership and power, use of technology, innovation, corporate cultures, executive succession, corporate relations. Duplicates Credit in GSBA 573. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 573b Managing Strategic Change and Implementation
Units: 1 Terms Offered: Sm Management of the strategic change process for the total organization including implementing growth strategies, use of consultants, corporate governance, implementation in a multinational environment, leadership and power, use of technology, innovation, corporate cultures, executive succession, corporate relations. Duplicates Credit in GSBA 573. Instruction Mode: Lecture Grading Option: Letter

GSBA 574 The Executive of the Future
Units: 2 Terms Offered: Sm Forecasting future environments; the role of the executive in the future, changing organizations; executive development; personal development goal setting. Instruction Mode: Lecture Grading Option: Letter

GSBA 580 The Global Context of Business - PRIME
Units: 2 Terms Offered: Sp Impact of political, economic, and cultural factors on business performance and industry structure in a global context. PRIME. Requires international travel. Registration Restriction: Open only to full time MBA students Duplicates Credit in GSBA 580c, GSBA 582b, and the former GSBA 582 Instruction Mode: Lecture Grading Option: Letter

GSBA 581 Technology Innovation and Management
Units: 1.5 Terms Offered: Sm The synergistic use of technology innovation and management to improve organizational performance, enhance competitiveness, and create leadership opportunities. Duplicates Credit in former GSBA 581a and former GSBA 581b Instruction Mode: Lecture Grading Option: Letter

GSBA 582 The Global Context and International Business
Units: 1.5 Terms Offered: Sp Impact of political, economic, social/cultural and institutional factors on business performance and industry structure in a global context. GLOBE. Requires international travel. *Recommended Preparation:* MBA.PM core courses Registration Restriction: Open only to MBA.PM students Duplicates Credit in GSBA 582b and GSBA 580c Instruction Mode: Lecture Grading Option: Letter

GSBA 583 The Global Context of Business (IELP)
Units: 2 Terms Offered: Fa The economic and political realities of cross-border commerce in the 21st century. IELP. Requires international travel. *Recommended Preparation:* IBEAR MBA first term required courses Registration Restriction: Registration restricted to students in the International MBA program Instruction Mode: Lecture Grading Option: Letter

GSBA 584a International Business Consulting Project
Units: 2 Terms Offered: SpSm IBEAR team consulting projects addressing international business problems. Projects culminate in written and oral presentations to corporate clients. Registration Restriction: Open only to IBEAR MBA students Instruction Mode: Lecture Grading Option: In Progress to Letter

GSBA 584b International Business Consulting Project
Units: 1 Terms Offered: FaSp Continuation of GSBA 584a. *Prerequisite:* GSBA 584a Registration Restriction: Open only to IBEAR MBA students Instruction Mode: Lecture Grading Option: Letter

GSBA 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 592 Field Research in Business
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the business practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. *Recommended Preparation:* completion of required MBA, MAcc., or MBT course work. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 593 Independent Research in Business
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4, Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Open only to master's students. Registration Restriction: Open only to masters students. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 595 Internship in Business
Units: 0.5, 1, 1.5, 2 Max Units: 9.0 Terms Offered: FaSpSm Supervised on-the-job business experience in the student's area of interest. (Curricular Practical Training.) *Recommended Preparation:* Completion of required MBA, MAcc., or MBT course work. Registration Restriction: Open only to master students in Accounting and Business majors Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 596 Research Practicum in Business
Units: 0.5-2, Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member on an ongoing research project. *Recommended Preparation:* completion of courses required for the MBA, MAcc., MBT, or PhD Registration Restriction: Open only to masters and doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 597 Consulting Project in Business
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Registration Restriction: Open only to Master and Doctoral Students. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Selected topics reflecting current trends and recent developments in business administration. Graded CR/NC. Registration Restriction: Online registration open to only graduate accounting and business majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Selected topics reflecting current trends and recent developments in business administration. Emphasis on cross-disciplinary inquiry. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

GSBA 602 Selected Issues in Economic Theory I
Units: 3 Terms Offered: Fa Methodology and research perspectives of economics; contribution of the economics paradigm to accounting, management, finance, marketing, and decision sciences. *Recommended Preparation:* admission to doctoral program in business administration or department approval. Instruction Mode: Lecture Grading Option: Letter

GSBA 603 Causal Inference Research Methods
Units: 3 Terms Offered: Sp Contemporary approaches to causal inference in observational data for applied research in the social sciences. *Recommended Preparation:* one semester of graduate level econometrics and knowledge of STATA and R Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

GSBA 604 Regression and Generalized Linear Models for Business Applications
Units: 3 Terms Offered: Sp Theory and application of linear regression models; role of substantive theory in statistical model building; model specification, estimation, diagnostic checking; the general linear hypothesis. Instruction Mode: Lecture Grading Option: Letter

GSBA 610 Seminar in Business Research
Units: 3 Max Units: 9.0 Terms Offered: Irregular Critical analysis of research studies in the functional areas of business; practice in formulating and conducting research; presentation of original research of publishable quality (may be repeated for credit up to 9 units). Instruction Mode: Lecture Grading Option: Letter

GSBA 611 Seminar in Research Methodology
Units: 3 Terms Offered: FaSpSm Conceptual foundations of research methodology; survey and research design; measurement theory; advanced techniques of statistical investigation; data analysis using computer packages; preparation of research reports. Instruction Mode: Lecture Grading Option: Letter

GSBA 612 Selected Issues in Economic Theory II
Units: 3 Terms Offered: Sp Further investigation of selected topics in methodology and research perspectives of economics. Topics vary in response to new developments and current trends in the field. *Prerequisite:* GSBA 602. Instruction Mode: Lecture Grading Option: Letter

GSBA 625 Experimental Design and Analysis for Behavioral Science
Units: 3 Terms Offered: Fa Introduction to design, implementation and analyses of experiments. Designing experimental procedures (manipulations, measurements). Analyzing ANOVAs with manipulated and measured factors, mediation, reliability and discrimination analyses. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

GSBA 690 Tutorial on the Research Process
Units: 3 Max Units: 9.0 Terms Offered: Sp Gain an understanding of the research process, identify/generate a research question, collect and organize data, predict results, and critically write and present the results. *Recommended Preparation:* GSBA first year PhD course work. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GSBA 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GSBA 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GSBA 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GSBA 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Global Security

GSEC 501 Foundations of Global Security
Units: 4 A survey of theories and challenges relating to International Relations and security studies broadly defined from WWI to present conflicts including human, environmental and economic concepts. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 502 Global Governance and Globalization
Units: 4 Exploring competing perspectives on globalization and global governance, the sources and consequences of global power and authority, and the key actors, institutions, regimes and norms. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 503 Economic Analysis and Global Policy Issues
Units: 4 Focuses on economic globalization from its post-World War II origins to its late 20th century heights and 21st century threats to its survival. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 504 Research Design for Policy Evaluation
Units: 4 Discussion of the logic of research design - the question, theory, data and methods to analyse data and the design of studies answering causal questions. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 505 Statistics for Policy Evaluation
Units: 4 An introduction to the use of regression analysis and its application to public policy, political science and economic research. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 510 Security and Global Governance
Units: 4 Major theoretical approaches to the study of war; focus is on recent issues in security studies. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 511 Transnational Crime and Global Illicit Networks
Units: 4 Introduction to and overview of transnational organized crime; its effects on international security, political, social and economic development of countries around the world. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 521 Human Security and Humanitarian Intervention
Units: 4 Explore causes of human security threats, challenges to state sovereignty and actions to address failed states, conflicts and protect people through humanitarian intervention. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 522 Global Human Rights
Units: 4 Explores competing conceptions of human rights, whether human rights are universal, problems of enforcement and the role of human rights in foreign policy. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 523 Emerging Economies in Global Governance
Units: 4 The economic rise of four leading emerging economies, their impact on international economic institutions and the implications for global economic governance. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

GSEC 524 Global Health Governance and Security
Units: 4 An introduction to concepts, history, policy and practice of global health governance and an examination of social science and scientific frameworks for health security. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

Geriatric and Special Patient Dentistry

GSPD 504 Dental Treatment of the Geriatric and Special Patient
Units: 2 Social, psychological, economic and health factors which influence dental care for the geriatric and special patient populations; specific considerations and modifications of conventional dental treatment. Instruction Mode: Lecture Grading Option: Letter

GSPD 562a Clinic: Geriatric Dentistry
Units: 0 Clinical experience in dental treatment of geriatric patients at an

extramural site. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSPD 562b Clinic: Geriatric Dentistry
Units: 0 Clinical experience in dental treatment of geriatric patients at an extramural site. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSPD 562c Clinic: Geriatric Dentistry
Units: 1 Clinical experience in dental treatment of geriatric patients at an extramural site. Instruction Mode: Lecture Grading Option: Letter

GSPD 563a Clinic: Special Patient Care
Units: 0 Clinical experience in treatment of the physically, medically, or mentally disabled patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSPD 563b Clinic: Special Patient Care
Units: 0 Clinical experience in treatment of the physically, medically, or mentally disabled patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSPD 563c Clinic: Special Patient Care
Units: 1 Clinical experience in treatment of the physically, medically, or mentally disabled patient. Instruction Mode: Lecture Grading Option: Letter

GSPD 610 Clinical Gerontology
Units: 1 Clinical application of principles of geriatric dentistry. Evaluation, treatment planning, and clinical care of elderly patients at residential and skilled-nursing care facilities. Instruction Mode: Lecture Grading Option: Letter

GSPD 612 Special Patient Care Clinic
Units: 1 Clinical experience in the evaluation, diagnosis, treatment planning and management of oral problems in special needs patients. Instruction Mode: Lecture Grading Option: Letter

Human Behavior

HBHV 310 Interactional Skills in Dental Hygiene
Units: 1 Training in the application of behavioral and communication skills. Instruction Mode: Lecture Grading Option: Letter

HBHV 501 Behavioral Skills in Dentistry
Units: 1 Introduction to key personal, interpersonal, and professional factors that shape the doctor-patient relationship; ways interactional skills influence the effectiveness, durability, and satisfaction of the doctor-patient relationship. Instruction Mode: Lecture Grading Option: Letter

HBHV 502 Interactional Skills
Units: 1 Introduction to purpose, objectives, and principles of clinical interviewing. Instruction Mode: Lecture Grading Option: Letter

HBHV 504 Patient Education and Management
Units: 1 Management of difficult patients; psychology and behavioral treatment of pain; patient education of treatment planning; smoking cessation program. Instruction Mode: Lecture Grading Option: Letter

HBHV 550 Communications in Clinical Dentistry
Units: 1 Verbal and nonverbal communication in clinical dentistry; clinical experience in use of manual, verbal, and non-verbal communication skills during a traumatic injection procedure. Instruction Mode: Lecture Grading Option: Letter

HBHV 561a Clinic: Behavioral Dentistry
Units: 0 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

HBHV 561b Clinic: Behavioral Dentistry
Units: 0 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

HBHV 561c Clinic: Behavioral Dentistry
Units: 0 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

HBHV 561d Clinic: Behavioral Dentistry
Units: 0 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

HBHV 561e Clinic: Behavioral Dentistry
Units: 1 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: Letter

HBHV 601 Understanding Stress in Dental Practice
Units: 2 Investigation of the approaches to understanding and managing stress, especially the stress issues in dentistry. Instruction Mode: Lecture Grading Option: Letter

Human Biology

HBIO 200Lg The Human Animal
Units: 4 Foundations of the human species. Examination of scientific evidence from Darwinian theory, primate behavior, fossils, and the behavior of modern people. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Duplicates Credit in former ANTH 200. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ANTH 200

HBIO 202Lg Nutrition for Life
Units: 4 Terms Offered: FaSpSm To develop an understanding of Nutrition, especially as it pertains to optimal health and prevention of diseases. A study of macro and micro nutrients. Satisfies New General Education in Category D: Life Sciences Duplicates Credit in EXSC 202L Instruction Mode: Lecture, Lab Grading Option: Letter

HBIO 203L Individualized Exercise Prescription
Units: 2 Terms Offered: FaSp Principles and theories related to exercise prescription; programs of weight-training, circuit-training, aerobics, flexibility, high and low-intensity training guidelines; safeguards and effectiveness. Duplicates Credit in former EXSC 203L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 205Lgx The Science of Sport
Units: 4 Terms Offered: FaSpSm The physiological and nutritional basis of human performance. Factors that facilitate and limit athletic achievement. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Duplicates Credit in former EXSC 205Lxg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 250g The Pharmacology of Performance Enhancing Drugs
Units: 4 Terms Offered: Sp Evaluation of drugs, nutritional supplements, and ergogenic aids that are purported to enhance human athletic performance to promote weight and fat loss. Satisfies New General Education in Category D: Life Sciences Duplicates Credit in former EXSC 250. Instruction Mode: Lecture, Discussion Grading Option: Letter

HBIO 300 Evolution, Ecology, and Culture
Units: 4 Terms Offered: FaSpSm The roles of biology, culture, and the environment in shaping human society, integrating evolutionary biology and cultural theory. Duplicates Credit in former ANTH 300. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 300

HBIO 301L Human Anatomy
Units: 4 Terms Offered: FaSp Major organ systems; functional implications of their relationships; gross and microscopic examination with an emphasis on practical skills in recognizing, dissecting, and differentiating anatomical structures. Duplicates Credit in former EXSC 301L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 302L Nutrition and Metabolism
Units: 4 Terms Offered: Fa Gastrointestinal physiology and energy metabolism as it relates to macronutrient intake. Theories and principles of nutrition and their impact on metabolic regulation. *Prerequisite:* BISC 220 or BISC 221. Duplicates Credit in former EXSC 200. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 306 Biology of the Non-Human Primates
Units: 4 Terms Offered: FaSpSm Behavior and ecology of living nonhuman primates, with an emphasis on field studies of apes and monkeys. Topics include aggression, communication, reproduction and cognition. *Recommended Preparation:* HBIO 200Lg Duplicates Credit in former ANTH 306 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 306

HBIO 308 Origins and Evolution of Human Behavior
Units: 4 Examination of the evidence for and against evolutionary bases of a range of human behaviors. Topics include sex differences, human reproductive strategies, race, IQ, human ecology. Duplicates Credit in former ANTH 308. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 308

HBIO 309 The Human Machine
Units: 4 Terms Offered: FaSpSm An exploration of how the human body works and why it works the way it does; draws from the fields of anatomy,

biomechanics, physiology, engineering and paleoanthropology. *Recommended Preparation:* HBIO 200Lg Instruction Mode: Lecture Grading Option: Letter

HBIO 310 Sociopsychological Aspects of Sport and Physical Activity
Units: 4 Terms Offered: FaSp Examination of the individual in a social environment related to sport and physical activity; personality, motivation, attitude, and group behavior viewed in physical activity contexts. Duplicates Credit in former EXSC 310. Instruction Mode: Lecture Grading Option: Letter

HBIO 320 Muscle Physiology
Units: 4 Terms Offered: Sp Analysis of the skeletal muscular system (anatomy, physiology, biochemistry, and development) and its functional properties under both normal and pathological conditions. *Prerequisite:* BISC 220Lg or BISC 221Lg Duplicates Credit in former EXSC 300 Instruction Mode: Lecture Grading Option: Letter

HBIO 350 Nutrition and Homeostasis
Units: 4 Terms Offered: Sp Theories and principles of regulation of vitamin/mineral metabolism as it relates to homeostasis of organ systems. *Prerequisite:* HBIO 302 or CHEM 350 or BISC 330 or BISC 312 Duplicates Credit in former EXSC 350 Instruction Mode: Lecture, Discussion Grading Option: Letter

HBIO 360L Nutrition and Disease
Units: 4 Terms Offered: Fa Principles of diet therapy for the prevention and treatment of human disease. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 370 Genetics and Disease
Units: 4 Terms Offered: FaSpSm An overview of the genetic underpinning of human health and disease. Inheritance of mendelian diseases, common diseases, developmental diseases and cancer; prenatal testing, genetic counseling and genetic therapies. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture, Discussion Grading Option: Letter

HBIO 400L Motor Control and Learning
Units: 4 Terms Offered: FaSp Theories of control and learning applied to motor performance; variables affecting performance in exercise, games, sports and dance. *Prerequisite:* BISC 220Lg or BISC 221Lg Duplicates Credit in former EXSC 400 Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 401L Physiology of Movement
Units: 4 Terms Offered: Sp Terminology, structure and function of muscle, bone and endocrine systems; Effects of exercise and training on those systems. *Prerequisite:* BISC 220Lg or BISC 221Lg Duplicates Credit in former EXSC 401 Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 403L Forensic Science of the Bones
Units: 4 Terms Offered: FaSpSm Comprehensive study of forensic anthropology; emphasis on identification of human remains and creation of biological profiles including age, sex, time and manner of death, etc. *Prerequisite:* HBIO 301L *Recommended Preparation:* HBIO 200Lg Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 405 Evolutionary Medicine
Units: 4 Terms Offered: Fa Evolutionary, cultural, and environmental factors in the emergence and existence of diseases; a Darwinian examination of illness in the human species. *Prerequisite:* BISC 120Lg or BISC 121Lg *Recommended Preparation:* HBIO 200Lg Duplicates Credit in former ANTH 405 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 405

HBIO 406 Theory and Method in Human Evolutionary Biology
Units: 4 Terms Offered: FaSpSm Historical and theoretical approaches to major issues in the field of human evolutionary biology. Capstone course in which students will undertake an original independent research project. *Prerequisite:* HBIO 200Lg Registration Restriction: not open to freshman, sophomore, junior Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 406

HBIO 407L Endocrinology and Metabolism
Units: 4 Terms Offered: Sp Regulation of metabolic pathways and endocrinology in health and metabolic diseases. *Prerequisite:* HBIO 302L Registration Restriction: not open to freshman, sophomore and junior Duplicates Credit in former EXSC 406L Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 408L Biomechanics
Units: 4 Terms Offered: Fa Kinematic and kinetic analysis of human motion. Emphasis on performance enhancement and injury prevention. *Prerequisite:* (MATH 108g or MATH 125g) and (PHYS 135ag or PHYS 151Lg) Registration Restriction: Not open to freshmen and sophomores Duplicates Credit in former EXSC 408 Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 409 Metabolic Diseases
Units: 4 Terms Offered: FaSp Examination of the etiology, prevention, and treatment of metabolic disorders such as diabetes mellitus and obesity that are major threats to public health. *Prerequisite:* BISC 220Lg or BISC 221Lg Registration Restriction: Not open to freshmen, junior, sophomore Instruction Mode: Lecture Grading Option: Letter

HBIO 420L Applied Human Physiology
Units: 4 Terms Offered: FaSp
The physiology of the respiratory, cardiovascular, renal, musculoskeletal, digestive, endocrine, and nervous systems in humans, with application to human health and pathology. *Prerequisite:* BISC 220Lg or BISC 221Lg Duplicates Credit in former EXSC 405 Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 435 Neurobiology of Feeding Behavior and Obesity
Units: 4 Terms Offered: Fa Neurobiological systems that control feeding behavior and energy balance with an emphasis on the determinants of obesity. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture Grading Option: Letter

HBIO 439L Human Performance and Bioenergetics
Units: 2 or 4 Terms Offered: FaSp Application of physiology, biomechanics and perceptual-motor principles to the study of skill acquisition and human performance. *Prerequisite:* HBIO 408. Duplicates Credit in former EXSC 439L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 441L Prevention of Athletic Injuries
Units: 4 Terms Offered: Fa Application of scientific principles to conditioning, protecting, and rehabilitating the athlete. *Prerequisite:* HBIO 301. Duplicates Credit in former EXSC 441L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 442L Evaluation and Rehabilitation of Athletic Injuries
Units: 4 Terms Offered: Sp Application of scientific principles to evaluating and rehabilitating athletic injuries. *Prerequisite:* HBIO 301. Duplicates Credit in former EXSC 442L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 491L Laboratory Experience in Kinesiology
Units: 2, 4 Terms Offered: FaSpSm Practical laboratory experience in basic and applied exercise physiology, biochemistry, and/or biomechanics. Emphasizing development of laboratory techniques. *Prerequisite:* HBIO 203, HBIO 301, HBIO 302, HBIO 320. Duplicates Credit in former EXSC 491. Instruction Mode: Lecture, Lab Grading Option: Letter

HBIO 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in Human and Evolutionary Biology. Instruction Mode: Lecture Grading Option: Letter

Health Care Decision Analysis

HCDA 501 Fundamentals of Healthcare Insurance Design
Units: 3 Terms Offered: Sm Introduction to insurance payer types, functions, actuarial pricing methods, network design and business operations impacting the provision of health benefits and reimbursement for medical products and services. Instruction Mode: Lecture Grading Option: Letter

HCDA 502 Comparative International Healthcare Systems
Units: 3 Terms Offered: Sp Health coverage and funding across seven industrial countries, with examination of variances and similarities in stated policy and outcomes by region and population mix. Instruction Mode: Lecture Grading Option: Letter

HCDA 503 Competitive Healthcare Intelligence
Units: 3 Terms Offered: Fa Analysis and techniques to evaluate marketplace opportunities with product launching, positioning strategies, intelligence gathering and decision-making. Instruction Mode: Lecture Grading Option: Letter

HCDA 506 Foundations of Insurance and Global Access
Units: 3 Terms Offered: Fa Basic overview focused on the coverage, payment, reimbursement and access to healthcare and pharmaceuticals across a global landscape including the US, EU, and the

big five countries of Asia-Pacific. Instruction Mode: Lecture Grading Option: Letter

HCDA 507 Foundations of Product Development and Commercialization
Units: 3 Terms Offered: Sp Basic introduction focused on the pathways and principles for managing new health technology discovery, funding, development, Food and Drug Administration (FDA) approval, and commercial market launch. Instruction Mode: Lecture Grading Option: Letter

HCDA 510 Business Implications of Healthcare Policy
Units: 3 Terms Offered: Sm Overview of healthcare policies that impact payers, employers, healthcare industry, state and federal agencies and consumers; individual and mandated benefits, medical loss ratio, health care exchanges and impact of comparative effectiveness review. Instruction Mode: Lecture Grading Option: Letter

HCDA 515 Healthcare Decision Analysis and Modeling
Units: 3 Terms Offered: Sp Quantitative methods of evaluating business, policy, pharmaceuticals, medical care resource allocations. Budget Impact Models, Decision Trees, Sensitivity Analysis tradeoffs between treatment strategies, interventions, risks, outcomes. Instruction Mode: Lecture Grading Option: Letter

HCDA 520 Health Economic and Outcomes Methodology
Units: 3 Comprehensive review of core biostatistics principles and applications through practical problem solving approach and case studies. Statistical methods, data validation and outcomes research, clinical trials. Instruction Mode: Lecture Grading Option: Letter

HCDA 525 Healthcare Literature Analysis and Applications
Units: 3 Review and critique of health economics, P&T and outcomes literature. Core biostatical measures used to deconstruct and evaluate published research through case studies. *Recommended Preparation:* HCDA 520. Instruction Mode: Lecture Grading Option: Letter

HCDA 530 Total Product Development: Benchtop to Launch
Units: 3 Systematic review from discovery to market assessment, bio-targeting through clinical trial design. Profile past and current launch strategies, pharmacovigilance, regulatory and filing requirements. Instruction Mode: Lecture Grading Option: Letter

HCDA 540 Executive Leadership and Healthcare Marketing
Units: 3 Critical principles of leadership, communication, best practice marketing presentations, project management techniques, business innovations and strategy. Use of case studies, team projects, real world examples.

HCDA 550 Healthcare Innovation: Creativity to Value
Units: 3 Systematically review creativity and innovation techniques across healthcare industry, examine breakthrough genomic and biopharmaceutical processes and thinking, evaluate novel therapeutic and economic measures transforming outcomes. Instruction Mode: Lecture Grading Option: Letter

HCDA 553 Advanced Pricing Strategies
Units: 3 Positioning products in global markets; market share targets, payer value, life cycle and launch techniques, tools for formulary positioning and reimbursement. Instruction Mode: Lecture Grading Option: Letter

HCDA 560 Managing Effective Partnerships and Mergers
Units: 3 M&A and partnering in the health care industry; law, due diligence, contracts, research alliances, structured agreements, global partners, and tactical business strategies. Instruction Mode: Lecture Grading Option: Letter

HCDA 570 Asia Pacific: Access, Delivery and Reimbursement
Units: 3 In-depth review China, India, Japan, Korea, Taiwan. Analyzing regional pharmaceutical industry, research, manufacturing, partnerships, licensing, trials. Compare insurance, pricing, access, reimbursement for drugs, healthcare services. Instruction Mode: Lecture Grading Option: Letter

HCDA 580 Seminars in Healthcare Decision Analysis
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Weekly seminar and literature series, review and discuss policy, biopharmaceuticals, insurance, global healthcare access issues. Student lead discussions, expert guest speakers, group projects, critical thinking. Instruction Mode: Lecture Grading Option: Letter

HCDA 589 Healthcare Consulting Enterprise Team Project
Units: 3 Max Units: 06 Terms Offered: FaSp Team projects solving real business problems in the healthcare industry by working directly with an existing company under the supervision of a faculty member. *Prerequisite:* HCDA 506 and HCDA 507 *Recommended Preparation:* Undergraduate or professional degree in pharmacy, medical or sciences, engineering, business and/or equivalent experience in the healthcare industry Instruction Mode: Lecture Grading Option: Letter

HCDA 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

HCDA 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

HCDA 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Special topics in Healthcare Decision Analysis. Instruction Mode: Lecture Grading Option: Letter

Hebrew

HEBR 120 Hebrew I
Units: 4 Terms Offered: FaSpSm Focuses on the acquisition of proficiency and communicative skills in speaking, reading, writing, and comprehension as well as cultural literacy. Instruction Mode: Lecture Grading Option: Letter

HEBR 150 Hebrew II
Units: 4 Terms Offered: FaSpSm A continuation of Hebrew I. Offers a higher level of skill development in reading, writing and conversation. *Prerequisite:* HEBR 120 Instruction Mode: Lecture Grading Option: Letter

HEBR 220 Hebrew III
Units: 4 Terms Offered: Fa Continuation of Hebrew II; stress on grammar, composition, and conversation. *Prerequisite:* HEBR 315. Instruction Mode: Lecture Grading Option: Letter

HEBR 315 Modern Hebrew Language (Hebrew IV)
Units: 4 Terms Offered: Sp Examines Hebrew in depth and introduces students to Modern Hebrew literature through major poems, novels and films from the 20th and 21st centuries. *Prerequisite:* HEBR 220 Instruction Mode: Lecture Grading Option: Letter

History

HIST 100gm The American Experience
Units: 4 Terms Offered: FaSpSm Patterns of American development from Colonial times to the present. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in former HIST 200gm. Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 101gp State and Society in the Ancient World
Units: 4 Terms Offered: FaSpSm Achievements of the near East, Greece, and Rome with emphasis on the development of ideas, arts, and institutions which have influenced modern man. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CLAS 101

HIST 102gm The Worlds of Medieval Europe
Units: 4 Terms Offered: FaSp The social, political, religious, intellectual and cultural landscapes of Europe and the Mediterranean, c. 300 to c. 1400. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 103g The Emergence of Modern Europe
Units: 4 Terms Offered: Fa Political, intellectual, and cultural developments in Europe, 1300–1815. Renaissance

and Reformation; absolute monarchy, scientific changes, and Enlightenment; French Revolution and Napoleon. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 104gp Modern Europe
Units: 4 Terms Offered: Sp The Enlightenment, French Revolution, industrialization, Darwinism, socialism, nationalism, technological revolutions, mass culture, imperialism, race, fascism, communism, world wars, genocide, migration, the Cold War, terrorism. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 105g The Korean Past
Units: 4 A topical and chronological study of the major political, social, and intellectual forces that have shaped the history of Korea. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

HIST 106g Chinese Lives: An Introduction to Chinese History
Units: 4 Terms Offered: FaSp Study of the lives of selected individuals who have helped to shape Chinese politics and culture. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 107gp Introduction to the History of Japan
Units: 4 Terms Offered: FaSp Japan from the earliest times to the present; social, cultural, and political dimensions. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 108g Histories of South Asia
Units: 4 History of South Asia from the tenth century to the present day; examines imperialism, capitalism, nationalism, and immigration. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 109g The Latin American Experience
Units: 4 Introduction to Latin American history and cultures, providing tools to grasp the importance of the region within the larger Americas and the world. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 180gw The Middle East
Units: 4 Terms Offered: FaSpSm Introduction to the history and the study of the Middle East from ancient to modern times. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as MDES 180

HIST 185g A Survey of Armenian History
Units: 4 Terms Offered: FaSp Introduction to Armenian history and its connections with the region and the world. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 190g History of Science: Antiquity to the Scientific Revolution
Units: 4 (Enroll in CLAS 190g)

HIST 195 Selected Themes and Topics in History
Units: 4 Terms Offered: Irregular Study of special historical themes and topics through readings, lectures, discussions, and supervised writings. Instruction Mode: Lecture Grading Option: Letter

HIST 201 Approaches to History
Units: 4 Terms Offered: FaSp Methods and theories of historical interpretation of evidence; uses of archives; modes of presenting the past to the public. Required of all history majors. Duplicates Credit in former HIST 300. Instruction Mode: Lecture Grading Option: Letter

HIST 210gw How to Be An American: Global Histories of U.S. Citizenship
Units: 4 Terms Offered: FaSp History of United States citizenship from its origins to the present day, with particular attention to relationship between law and culture. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 211gp Race in America
Units: 4 Examines the origins of the idea of race and how this idea influenced the development of the United States from the colonial period to the present day. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 215g Business and Labor in America
Units: 4 Terms Offered: Fa Expansion of business enterprise from colonial merchants to modern corporations; evolution of the labor force from artisans to skilled and unskilled industrial workers. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 220gp Murder on Trial in America
Units: 4 Examination of high-profile murders and murder trials in order to explore major social, political, and cultural issues from the colonial period to the present. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

HIST 225g Film, Power, and American History
Units: 4 Terms Offered: Sp U.S. motion pictures as both a response to and comment upon major events, problems, and themes in 20th century America. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 235g War and the American Experience
Units: 4 Terms Offered: Fa Comparative historical analysis of the American experience of war: war decision-making processes; evolution of strategy and tactics; the political, economic, and social effects of war. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 237gp Fascism
Units: 4 Historical analysis of Fascism, focusing on fascist movements and ideas in twentieth-century Italy and Germany and their spread around Europe and the world. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 240gp The History of California
Units: 4 Terms Offered: Fa A thematic approach to California history from precontact to present; focus on peoples, environment, economic, social, and cultural development, politics, and rise to global influence. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 245mgp How Sex Changed: US History, 1870-the Present
Units: 4 An examination of how the shifting norms, discourses and representations of gender and sexuality have rocked American society during the last 150 years Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 250g Climate Change: Science, History and Solutions
Units: 4 History and science of anthropogenic climate change; climate dynamics; carbon cycle; climate modeling; fossil fuel economy; climate denial and political tactics; group research of solutions. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ENST 250

HIST 251gp History of Science, Technology and Medicine
Units: 4 The political, cultural, social forces have shaped scientific achievements in the modern age. Satisfies New General Education in Category C: Social Analysis

Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 260g Dramatizations of Korean History
Units: 4 Terms Offered: FaSp Analysis and interpretation of popular depictions of Korean history. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

HIST 265gw Racism, Sexism, and the Law
Units: 4 Terms Offered: FaSp Study of laws concerning marriage, inheritance, slavery, immigration and the allocation of public space and how they have organized historical constructions of race and sex. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 266gp Business and East Asian Culture, 1800-Present
Units: 4 Terms Offered: Sp Business history of East Asia (China, Japan, Korea, Taiwan, and Hong Kong) as related to culture, politics, and society. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 268g Kings, Courts, and Clerics: Foundations of East Asian Political Culture
Units: 4 Terms Offered: FaSp Rulership and society in classical China and Japan; influence of these norms in the region today. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 270 Queens, Witches, Courtesans: Women and Power in Renaissance Europe
Units: 4 Exploration of the lives of women who defied the ideals of "wife, mother, widow" and examination of how gender and power were negotiated. Instruction Mode: Lecture Grading Option: Letter

HIST 271g Telling Native American Stories
Units: 4 Terms Offered: Sp An exploration of the history of Native America peoples and the ways they understood and explained the changes in their lives from 1492 to 1840. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 272g Women and Gender in the Ancient and Spanish Americas
Units: 4 A history of gender in the Ancient and Spanish Americas, focusing on the ways women participated in the livelihood, politics and rituals of their communities. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 273g Colonial Latin America
Units: 4 Terms Offered: Sp Introduction to Colonial Latin America; native American peoples, themes, issues, and evolution of Spanish and Portuguese colonial rule to ca. 1800. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 275g The Worlds of the Silk Road
Units: 4 Terms Offered: Sp Exploration of the two millennia of economic exchanges and cross cultural interaction between Asia and Europe. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 278gp Ottomans and Empire: Anatolia, the Middle East, and the Mediterranean World
Units: 4 Terms Offered: FaSp Overview of the history of the Ottomans and their imperial subjects. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 301 Religions of Ancient Egypt and the Near East
Units: 4 (Enroll in REL 302)

HIST 302 From Sappho to Stonewall: Lesbians in History
Units: 4 The cultural, social and personal meanings of same-sex relations between women in Europe and the United States, from archaic Greece to the 1960s. Instruction Mode: Lecture Grading Option: Letter

HIST 303 Barbarians, Romans, and Christians
Units: 4 Terms Offered: Other Exploration of the dynamic transformation of the social, political, religious, and intellectual landscape of the Mediterranean during Late Antiquity, c. 200 – c. 700 AD. Instruction Mode: Lecture Grading Option: Letter

HIST 304 Archaeology of Egypt and the Near East
Units: 4 (Enroll in REL 394)

HIST 305 Women and Gender in Pre-Modern Europe
Units: 4 Terms Offered: FaSp Social, cultural and political contexts of women's spiritualities in Europe from the Paleolithic to the Reformation. Topics include: goddess-worship; Christian and Jewish contexts; male attitudes. Duplicates Credit in former HIST 270 Instruction Mode: Lecture Grading Option: Letter

HIST 306 The Early Middle Ages
Units: 4 Survey of European civilization in the Early Middle Ages. Instruction Mode: Lecture Grading Option: Letter

HIST 307 The High Middle Ages: 1100-1400
Units: 4 Europe 1100-1400. Knights, castles, chivalry, the early university, monks, popes and the Gothic cathedral. Miracles, plague and war. Instruction Mode: Lecture Grading Option: Letter

HIST 308 Britain and Ireland to 1200 C.E.
Units: 4 Terms Offered: Fa Anglo-Saxon and Celtic societies from the Iron Age to the Norman Invasions. Topics include: King Arthur, epics, sagas, Christianization, kingship, women, economic development and Vikings. Duplicates Credit in former HIST 430. Instruction Mode: Lecture Grading Option: Letter

HIST 309 Britain and Ireland, 1100–1500 C.E.
Units: 4 Terms Offered: Other English and Irish culture, economics, and politics during the expansion of the Norman-English kingdom, the colonization of Ireland, and subsequent development toward the English nation-state. Instruction Mode: Lecture Grading Option: Letter

HIST 310 Medieval Iran: Society and Culture
Units: 4 Terms Offered: FaSp (Enroll in MDES 312)

HIST 311 Warfare, State, and Society in the Ancient World
Units: 4 (Enroll in CLAS 338)

HIST 312 The Age of the French Revolution and Napoleon
Units: 4 Terms Offered: Fa Europe in the Old Regime; causes and course of the French Revolution; rise of Napoleon; revolutionary impact on Europe, 1715–1815. Instruction Mode: Lecture Grading Option: Letter

HIST 313 France and the French from Napoleon to Mitterand
Units: 4 Terms Offered: Irregular Social, cultural, and political history of France from 1789 to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 314 Rome Through its Monuments from Antiquity to the Middle Ages
Units: 4 Urban history of Rome from its beginnings through the 14th century focusing on select sites in the city. Instruction Mode: Lecture Grading Option: Letter

HIST 315 Origins of Free Market Thought in Early Modern Europe
Units: 4 (Enroll in PHIL 314)

HIST 316 The Renaissance
Units: 4 Terms Offered: Irregular The flowering of arts, literature, and learning at the end of the Middle Ages. Instruction Mode: Lecture Grading Option: Letter

HIST 317gmp Native Americans in American Public Life
Units: 4 Terms Offered: Sp (Enroll in ANTH 316gmp)

HIST 319 The Quest for the Individual in Early Modern Europe
Units: 4 (Enroll in PHIL 311)

HIST 320p Law, Slavery, and Race
Units: 4 (Enroll in LAW 320p)

HIST 321 The Crusades
Units: 4 Examines wars between European Christian and Muslim armies in the Middle East, 1096-1291 and their cultural, military, religious and artistic legacies. Instruction Mode: Lecture Grading Option: Letter

HIST 322 Anti-Semitism, Racism and Other Hatreds
Units: 4 Terms Offered: FaSp (Enroll in JS 315g)

HIST 323 The Holocaust in 20th Century Europe
Units: 4 Terms Offered: Sp The origins and development of anti-Jewish persecution in Germany, resulting in the systematic mass murder of Europe's Jews during World War II. Instruction Mode: Lecture Grading Option: Letter

HIST 325 Early Modern Britain
Units: 4 Terms Offered: Other A survey of one of the most pivotal eras in British history: reform, regicide, and revolutions; new ideas, new religions, and new worlds. Instruction Mode: Lecture Grading Option: Letter

HIST 326 The Victorians
Units: 4 Britain in the 19th century, politics, industrialization, and imperialism, change and continuity in social and cultural aspects, especially class, gender, and race relations. Duplicates Credit in the former HIST 433. Instruction Mode: Lecture Grading Option: Letter

HIST 327 Twentieth Century Britain
Units: 4 The rise and decline of modern Britain as a global political and economic force, social and cultural change, emergence of a multiracial and multiethnic society. Duplicates Credit in the former HIST 434. Instruction Mode: Lecture Grading Option: Letter

HIST 328 Ptolemaic Egypt
Units: 4 Terms Offered: FaSp (Enroll in CLAS 378)

HIST 329 Madness and Society in the Modern Age
Units: 4 The shifting place of insanity and "the mad" in Europe and the United States from the French Revolution to the anti-psychiatry movement. Instruction Mode: Lecture Grading Option: Letter

HIST 330 Drugs: A Global Cultural History
Units: 4 Terms Offered: Irregular Drugs, addiction, intoxication, recreation and their role in culture and the health sciences in history Instruction Mode: Lecture Grading Option: Letter

HIST 331 The British Empire: 1588–1834
Units: 4 Terms Offered: Sp Emergence of the British Empire, emphasizing colonies in the Americas; the development of imperial economy, imperial wars, slavery and abolitionism. Instruction Mode: Lecture Grading Option: Letter

HIST 332 British Empire from the Mid-19th Century
Units: 4 Terms Offered: Other Political and economic development of the British Empire since Victoria; rise of the British Commonwealth. Instruction Mode: Lecture Grading Option: Letter

HIST 333 Korea: The Modern Transformation
Units: 4 Terms Offered: Sp Examination of selected topics on Korea's transition to the modern era; focus on the traditional roots of 20th century developments. Instruction Mode: Lecture Grading Option: Letter

HIST 334 History of the Samurai
Units: 4 Terms Offered: FaSpSm Development of the Japanese samurai from the 6th to the 16th centuries. *Recommended Preparation:* a course in East Asian history. Instruction Mode: Lecture Grading Option: Letter

HIST 335 History of Japan to 1550
Units: 4 Terms Offered: Irregular Growth of Japanese civilization from the mythological "age of the gods" through the feudal "age of the samurai"; foundations of a great Asian power. Instruction Mode: Lecture Grading Option: Letter

HIST 336 History of Japan, 1550–1945
Units: 4 Terms Offered: Irregular Development of Japan as a modern world power; tradition and change in Japanese life; impact of Western culture, politics, and diplomacy from 1550 to 1945. Instruction Mode: Lecture Grading Option: Letter

HIST 337 Japan since 1945
Units: 4 Terms Offered: Irregular Survey of the impact of World War II, American occupation, and rapid economic growth on Japan's politics, society, economy, and culture; Japan as a post-modern nation. Instruction Mode: Lecture Grading Option: Letter

HIST 338 China to 960 A.D.
Units: 4 Terms Offered: Irregular The origins of China's distinctive civilization; cultural and political ferment in the late Chou; the greatness of Han and T'ang. Instruction Mode: Lecture Grading Option: Letter

HIST 339 China, 960–1800 A.D.
Units: 4 Terms Offered: Irregular Politics and culture under the Sung; Mongols, Manchus, and other invaders; the golden autumn of a great civilization. Instruction Mode: Lecture Grading Option: Letter

HIST 340 History of China since 1800
Units: 4 Terms Offered: Sp Western impact and dynastic decline; problems of the Chinese Republic; nationalism and communism. Instruction Mode: Lecture Grading Option: Letter

HIST 341 American Social History
Units: 4 Terms Offered: Irregular The social history of the American peoples from Colonial times until the 20th century, to include industrialization, urbanization, women, families, workers, immigration, ethnicity, racism, radicalism. Instruction Mode: Lecture Grading Option: Letter

HIST 343 Work, Leisure, and Violence in Industrializing America
Units: 4 Terms Offered: Irregular Rise of industrial America from 18th to 20th centuries: changing work ethics, rise of factories, women workers, mass leisure, consumer culture, urban and industrial violence. Instruction Mode: Lecture Grading Option: Letter

HIST 344 The Vietnam War, 1945–1975
Units: 4 Terms Offered: Other Analysis of causes, conduct, and consequences of war in Southeast Asia; of participants' experiences; and of post-war debate. Instruction Mode: Lecture Grading Option: Letter

HIST 345 Men and Women in United States History from the 1920s to the Present
Units: 4 Investigation of the roles and relationships of men and women in American society and culture from the era of the "flapper" to the era of the "yuppie." Instruction Mode: Lecture Grading Option: Letter

HIST 346 American Intellectual History
Units: 4 Terms Offered: Sp Study of major American ideas and values as reflected in philosophy, political and economic thought, religion, and social movements. Instruction Mode: Lecture Grading Option: Letter

HIST 347 Urbanization in the American Experience
Units: 4 Terms Offered: Irregular The American city in interdisciplinary perspective; emphasis on growth and change in relation to architecture, urban planning, demography, and ethnic politics. Instruction Mode: Lecture Grading Option: Letter

HIST 348 The Dynamics of American Capitalism
Units: 4 Terms Offered: Irregular Economic growth and institutional change in American capitalism from the Colonial era to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 349 Colonial North America 1600–1760
Units: 4 Terms Offered: Fa Colonial history of United States area, Canada, and Caribbean to 1760; Indians, European migration, plantation complexes, Puritan colonies, African slave migration, creole culture, borderlands, wars for empire. Instruction Mode: Lecture Grading Option: Letter

HIST 350 Early Modern Things: Material Culture in Early Modern Life
Units: 4 Early modern English and European social and cultural history viewed though everyday and luxury material objects. Instruction Mode: Lecture Grading Option: Letter

HIST 351 The American Revolution
Units: 4 Terms Offered: Fa Origins, course and consequences of the American Revolution; the post-war establishment of the Constitution. Instruction Mode: Lecture Grading Option: Letter

HIST 352gp The American Civil War
Units: 4 Terms Offered: Irregular The causes, course, campaigns, and consequences of the American Civil War, 1861–1865. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

HIST 353m Race and Racism in the Americas
Units: 4 (Enroll in AMST 353)

HIST 354 Mexican Migration to the United States
Units: 4, 2 years Terms Offered: Fa Mexican migration from the 1850s to the present, emphasizing labor migrants to the United States. Instruction Mode: Lecture Grading Option: Letter

HIST 355 The African-American Experience
Units: 4 Terms Offered: Fa An historical and social analysis of the African- American experience from Colonial times to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 356 The Old South
Units: 4 Terms Offered: Irregular The South from Colonial days to 1860; slavery, the plantation system, politics; important social and economic problems. Instruction Mode: Lecture Grading Option: Letter

HIST 357 Modern Consumer Culture
Units: 4 Major topics, themes and developments in the rise of consumer culture. Instruction Mode: Lecture Grading Option: Letter

HIST 358 U.S. Gay and Lesbian History
Units: 4 Terms Offered: Sp (Enroll in SWMS 358)

HIST 359 The U.S.-Mexico Border
Units: 4 Examines the cultural, social, political and economic production of the U.S.-Mexico border from the nineteenth century to 1965. Instruction Mode: Lecture Grading Option: Letter

HIST 360 19th Century U.S. History
Units: 4 Terms Offered: Sp The social, political, and economic history of the United States from the formation of the Constitution to 1900. Instruction Mode: Lecture Grading Option: Letter

HIST 361 20th Century U.S. History
Units: 4 Terms Offered: Fa Critical turning points in the 20th century; sources of major social and political change. Course materials include primary documents and historic radio/television recordings. Instruction Mode: Lecture Grading Option: Letter

HIST 362 Authenticity in Twentieth Century Popular Music
Units: 4 Terms Offered: FaSp Explores how the idea of authenticity shaped American popular music and influenced iconic musicians in the twentieth century. Instruction Mode: Lecture Grading Option: Letter

HIST 363 Foundations of American Foreign Policy, 1776 to the Present
Units: 4 Terms Offered: Other Evolution of American principles, roles and policies in international relations from the founding of the republic to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 364 Religion and Difference in the Modern Middle East
Units: 4 Introduction to the diversity of religions in the Middle East and how they have responded to imperialism, colonialism and nationalism in the modern period. Instruction Mode: Lecture Grading Option: Letter

HIST 365 The Second World War
Units: 4, 2 years Terms Offered: Sp Comparative analysis of the Second World War as a major transforming event of the 20th century. Its causes, conduct, and consequences for humanity. Instruction Mode: Lecture Grading Option: Letter

HIST 366 The People's Republic of China
Units: 4 Politics, economy, society, and culture from 1949 to the present including the role of the communist party and the experiences of ordinary people. Instruction Mode: Lecture Grading Option: Letter

HIST 367 Sex and Empire
Units: 4 The relationship between gender and empire; Dutch, British, Belgian and French Empires. Instruction Mode: Lecture Grading Option: Letter

HIST 368 Afro-Latin America
Units: 4 History of people of African descent in Latin America; explores slavery and its legacy, the impact of liberalism and capitalism and of globalization and multiculturalism. Instruction Mode: Lecture Grading Option: Letter

HIST 369 History of the Indigenous Peoples in the Americas
Units: 4 Introduction to Pre-Columbian Mesoamerica and the Andes, the causes and consequences of the Spanish conquest, and the establishment of colonial societies and economies. Instruction Mode: Lecture Grading Option: Letter

HIST 370 Spanish America, 1492–1821
Units: 4 Terms Offered: Sp Topics in Spanish colonialism in Americas, with a focus on how religious, sexual, and racial differences shaped colonial policies and practices. Instruction Mode: Lecture Grading Option: Letter

HIST 371 Culture in Diaspora: The Jews of Spain
Units: 4 (Enroll in REL 359g)

HIST 372 Modern Latin America
Units: 4 Terms Offered: FaSpSm Exploration of major themes and events in Latin American history from independence to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 373 History of the Mexican American
Units: 4 Terms Offered: FaSp (Enroll in AMST 373)

HIST 374 History of Mexico
Units: 4 Terms Offered: Fa History of Mexico traces the crucial themes and events informing Mexico's history from the sixteenth century to the contemporary period. Instruction Mode: Lecture Grading Option: Letter

HIST 375 North Korean History
Units: 4 Terms Offered: FaSp History of North Korea from before statehood to the present. *Recommended Preparation:* Introductory course of Korean history. Instruction Mode: Lecture Grading Option: Letter

HIST 376 U.S.-Japan Encounters: War, Trade, and Culture
Units: 4 Terms Offered: Fa (Enroll in IR 376)

HIST 377 Law and Society in Premodern China and Japan
Units: 4 A broad but deep look into the nature and development of law in two great East Asian civilizations, China and Japan, up to the modern era. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC 377

HIST 378m Introduction to Asian American History
Units: 4 Terms Offered: FaSp (Enroll in AMST 378)

HIST 379 Arabs in America
Units: 4 Terms Offered: FaSp (Enroll in AMST 379)

HIST 380 American Popular Culture
Units: 4 Terms Offered: Sp Rise of popular culture (sports, amusement parks, movies, and television) and its significance in American society from mid 19th century to the present. Duplicates Credit in former HIST 255. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-380

HIST 381 Cinema and History
Units: 4 Terms Offered: Irregular Examines film as a means to narrate the past; treats the question of genre: epic, docudrama, the biopic, the music, adaptation, and such issues as authenticity and infotainment. Instruction Mode: Lecture Grading Option: Letter

HIST 382 The Middle East, 500–1500
Units: 4 Major topics, themes, and representative writings in the history and literature of the Arabic and Islamic World during the Medieval period. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-382

HIST 383 The Modern Middle East
Units: 4 Terms Offered: FaSp Survey of major political, economic, and cultural developments in the Middle East on the basis of documents, literature, and film produced in the region. Duplicates Credit in former HIST 280. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-383

HIST 384 Popular Culture in the Middle East
Units: 4 Terms Offered: FaSpSm Examination of the Middle East through the prism of its popular cultures; emphasis on audio, visual, and literary representations in relation to colonialism, nation-building, and globalization. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-384

HIST 385 Anglo-American Law before the 18th Century
Units: 4 Terms Offered: Other The evolution of discourse, practices, and institutions in Anglo-American legal history from the later Middle Ages to the 18th century. Instruction Mode: Lecture Grading Option: Letter

HIST 386 American Legal History
Units: 4 Terms Offered: Sp An introduction to the study of law from a historical perspective; explores the interaction of law, culture and politics from the Revolution through the New Deal. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LAW 386

HIST 387 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion
Units: 4 Terms Offered: FaSp (Enroll in CLAS 371)

HIST 388 Women and Gender in North American History through 1920
Units: 4 Roles and relationships of women and men in North America from first contact to the 1920s, with special emphasis on race, marriage, and political culture. Instruction Mode: Lecture Grading Option: Letter

HIST 389 Modern Iran
Units: 4 Terms Offered: FaSp (Enroll in MDES 313)

HIST 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

HIST 391 Feminist Histories of South Asia
Units: 4 History of South Asia with attention to questions of gender, sexuality and power with a focus on the eighteenth, nineteenth and twentieth centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 392 The Southern California Armenian Diaspora
Units: 4 Terms Offered: Sp Explores concepts of identity, community- and state-

building, diaspora, and migration through historical and ethnographic research in Southern California Instruction Mode: Lecture Grading Option: Letter

HIST 393g Quantitative Historical Analysis
Units: 4 Terms Offered: FaSp Reading and doing quantitative research with historical data. Covers research designs, appropriate statistical analysis, and software packages for the use of historians. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

HIST 394p The Great Muslim Empires of the Near East and India
Units: 4 (Enroll in MDES 316p) Satisfies Global Perspective in Category H: Traditions and Historical Foundations

HIST 395 Sex and the City: Constructing Gender in London, 1700-1900
Units: 4 Terms Offered: Sp Explores changes in gender expectations in England between 1700 and 1900 through readings and one-week travel to London Instruction Mode: Lecture Grading Option: Letter

HIST 396 Women of Rome, from Antiquity through the Middle Ages
Units: 4 Investigates the lives and legends of women from the foundation of Rome to the 15th century through readings and one week of travel to Rome. Registration Restriction: Open only to Contemporary Latino and Latin American Studies, History, Law History and Culture majors Instruction Mode: Lecture Grading Option: Letter

HIST 398 The History of Waste
Units: 4 Uses waste as a lens to explore the ties between economic development, ecological disruption, resource extraction and racial, class and gender exploitation. Instruction Mode: Lecture Grading Option: Letter

HIST 401 The Roman World
Units: 4 Terms Offered: Other Rome at the crossroads of Europe and the Mediterranean; the rise of Rome to world power; social, cultural and political history of Republic and Empire. Instruction Mode: Lecture Grading Option: Letter

HIST 402 Cultural Heritage, Religion, and Politics in the Middle East
Units: 4 Terms Offered: Fa (Enroll in REL 402)

HIST 403 Carolingian Europe
Units: 4 Political, religious, and intellectual culture of Europe in the 8th and 9th centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 404 Seminar in Korean History
Units: 4 Terms Offered: Irregular Exploration of issues and sources in Korean history; work on an individual research paper through an incremental process. Instruction Mode: Lecture Grading Option: Letter

HIST 405 Traveling in the Early Medieval Mediterranean
Units: 4 Investigates the movement of people, products and ideas in the early medieval Mediterranean. Instruction Mode: Lecture Grading Option: Letter

HIST 407 Europe in the 10th Century
Units: 4 Political, religious, and intellectual culture of Europe in the 10th century and beyond. Instruction Mode: Lecture Grading Option: Letter

HIST 410 The Age of Humanism and Reformation
Units: 4 Terms Offered: Irregular The thought, art, politics, and religion of western Europe in the 16th and 17th centuries; emphasis on the contribution of Christian humanism. Instruction Mode: Lecture Grading Option: Letter

HIST 411 Early Modern European Cultural History
Units: 4 Examines themes in European and English cultural history 1500-1800, including identity, power, group dynamics, display, space, communication, control. Instruction Mode: Lecture Grading Option: Letter

HIST 413 The Age of Revolutions
Units: 4 Terms Offered: Irregular History of the Atlantic revolutions, circa 1760s to 1820s, in Europe and the Americas. Instruction Mode: Lecture Grading Option: Letter

HIST 414 Contemporary Europe
Units: 4 Terms Offered: Irregular World War I and its aftermath; challenge of new culture values; World War II; problems of postwar adjustment. Instruction Mode: Lecture Grading Option: Letter

HIST 415 Medieval and Early Modern Russia
Units: 4, 2 years Terms Offered: Fa The politics, society, and culture of medieval and early modern Russia; the emergence of empire and the roots of its Eurasian identity. Instruction Mode: Lecture Grading Option: Letter

HIST 416 History of Imperial Russia: 1689–1917
Units: 4 Terms Offered: Sp The evolution of imperial society, politics and culture from Peter the Great to the Bolshevik Revolution. The dilemmas of identity in a multinational empire. Instruction Mode: Lecture Grading Option: Letter

HIST 417 History of Soviet Russia: 1917–1991
Units: 4, 2 years Terms Offered: Fa The birth of the totalitarian regime, the emergence of the superpower and the socioeconomic, political and cultural developments that culminate in its demise. Instruction Mode: Lecture Grading Option: Letter

HIST 420 European Intellectual and Cultural History: The 19th Century, 1790–1870
Units: 4 Intellectual and cultural trends of 19th century Europe, including Romanticism, Conservatism, Liberalism, Socialism and Evolutionary Theory. Instruction Mode: Lecture Grading Option: Letter

HIST 421 European Intellectual and Cultural History: The Turn of the Century 1880–1920
Units: 4 Intellectual and cultural trends of turn-of-the-century Europe, including the avant-garde, the crisis of positivism, psychoanalysis and gender theory. Instruction Mode: Lecture Grading Option: Letter

HIST 422 European Intellectual and Cultural History: The 20th Century, 1920 to the Present
Units: 4 Terms Offered: Irregular Intellectual and cultural trends of contemporary Europe, including Dadaism, Surrealism, Western Marxism, Fascism, Existentialism and Structuralism. Instruction Mode: Lecture Grading Option: Letter

HIST 424 Family, Work, and Leisure in Russian History
Units: 4 Terms Offered: Irregular Children and parents, love and marriage, work and leisure in the Russian village and city before and after the Revolution. Instruction Mode: Lecture Grading Option: Letter

HIST 425 The Era of the First World War
Units: 4 Terms Offered: FaSp The background, causes, course, and aftermath of the First World War, with attention to the events in the United Kingdom and continental Europe. Instruction Mode: Lecture Grading Option: Letter

HIST 426 Gender, Family and Society in Europe and the United States, 1500-Present
Units: 4 Changing social, economic and cultural functions of the family and the roles of men, women and children from pre-industrial times to the present in Europe and the United States. Instruction Mode: Lecture Grading Option: Letter

HIST 427 The German Question: Nation and Identity in Modern Central Europe
Units: 4 A seminar on the making, unmaking and remaking of the German nation-state, with particular attention to issues of race, class and gender in German identity. Instruction Mode: Lecture Grading Option: Letter

HIST 428 Life and Death in Nazi Germany
Units: 4 Social, cultural and medical history of Nazi Germany, emphasizing the Nazi vision of a racially pure national community. *Recommended Preparation:* some European history. Instruction Mode: Lecture Grading Option: Letter

HIST 429 Street Life: Urban Culture in Modern Europe
Units: 4 Terms Offered: Sp The 19th and 20th century European city as social artifact, cultural setting and object of fascination for its contemporary inhabitants. Instruction Mode: Lecture Grading Option: Letter

HIST 430 Migration and Displacement in the Indian Ocean World
Units: 4 History of the Indian Ocean world as a major arena of political, economic and cultural contact during the nineteenth and twentieth centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 431 Histories of the Apocalypse
Units: 4 A historical overview of apocalyptic hopes and fears, from Revelations to the present. New World explorations, utopian communes, nuclear war, zombies, climate change. Instruction Mode: Lecture Grading Option: Letter

HIST 432 Britain in the 18th Century
Units: 4 Political, social, and cultural aspects of British life from the accession of George I to about 1820. Instruction Mode: Lecture Grading Option: Letter

HIST 433 The History of Drink
Units: 4 Explores the history of different beverages to show how commodities alter societies and how attitudes towards them reflect social norms and tensions. Instruction Mode: Lecture Grading Option: Letter

HIST 437 Seminar in Modern Chinese History
Units: 4 Max Units: 8.0 Terms Offered: FaSp A readings and research seminar dealing with one topic in the history of China since 1600. Topics will change each time the course is offered. *Recommended Preparation:* a class in Chinese history. Instruction Mode: Lecture Grading Option: Letter

HIST 438 Seminar in Pre-Modern Japanese History
Units: 4 Max Units: 8.0 Terms Offered: FaSp A readings and research seminar dealing with one topic in the history of Japan before 1550. Topics will change each time the course is offered. *Recommended Preparation:* a course in Japanese history. Instruction Mode: Lecture Grading Option: Letter

HIST 440 Early Modern World History
Units: 4 Terms Offered: Fa Comparative patterns of historical change around the world, from ca. 1500 to ca. 1800. Instruction Mode: Lecture Grading Option: Letter

HIST 441 Modern World History
Units: 4 Terms Offered: Sp Comparative patterns of historical change around the world, from ca. 1800 to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 442 The Ethics of Financial and Political Accountability
Units: 4 Examination of how kingdoms, empires and great companies have risen and fallen due to good or poor financial and political accountability. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACCT-442

HIST 443 Race and Religious Riots in Modern World History
Units: 4 Terms Offered: FaSpSm Origins of riots against Mexicans, Chinese, Jews and other minority groups in Asia, Europe, Australia and the Americas. Instruction Mode: Lecture Grading Option: Letter

HIST 444 Mass Violence and Comparative Genocide in Modern World History
Units: 4 Systematic exploration of origins, developments, forms, and aftermath of mass murder of large population groups, one of the dark elements of modern world history. Instruction Mode: Lecture Grading Option: Letter

HIST 446 Resistance to Genocide
Units: 4 Examination of theoretical approaches to and historical accounts of resistance to genocide. Students conduct original research on how people oppose or resist mass atrocities. *Recommended Preparation:* course on the Holocaust or genocide. Instruction Mode: Lecture Grading Option: Letter

HIST 447 Law and Empire: An Introduction to Global Legal History
Units: 4 Terms Offered: FaSp Investigates the intersection of law and empire in order to introduce students to a global approach to legal history. Instruction Mode: Lecture Grading Option: Letter

HIST 451 The Mexican Revolution
Units: 4 Terms Offered: Other The roots, trajectory and outcome of the Mexican revolution of 1910. Instruction Mode: Lecture Grading Option: Letter

HIST 453 The Age of Emancipation
Units: 4 Examines the evolution of racial status law in the long 19th century, with special emphasis on the relationship between slavery, segregation, and citizenship. Instruction Mode: Lecture Grading Option: Letter

HIST 454 The World Pirates Made: Piracy and Privateering, 1500–1815
Units: 4 Research seminar on history of piracy and its role in rise of modern state and nation. *Recommended Preparation:* HIST 201. Instruction Mode: Lecture Grading Option: Letter

HIST 455 Advanced Topics in African-American History
Units: 4 Terms Offered: Sp Exploration of African-American history through primary and secondary sources employing a colloquium format with an emphasis on shared responsibility for comprehensive discussion and analysis. Instruction Mode: Lecture Grading Option: Letter

HIST 456 Race, Slavery, and the Making of the Atlantic World
Units: 4 Terms Offered: Other Introduction to the literature of the Atlantic World with a focus on slavery and its role in the emergence of the modern era. Seminar enrollment limited to 15 students. Instruction Mode: Lecture Grading Option: Letter

HIST 457 The American West
Units: 4 Terms Offered: Irregular The nation's westward movement from Colonial times to the present, with emphasis on the frontier's effect on American life and institutions. Instruction Mode: Lecture Grading Option: Letter

HIST 458 History of California
Units: 4 Terms Offered: Fa Exploration, colonization, and development of Hispanic California; coming of the Americans; political, economic, and cultural development of California since its acquisition by the United States. Instruction Mode: Lecture Grading Option: Letter

HIST 459 Race and the Carceral State
Units: 4 Explores the connections between historical and contemporary methods of incarceration - confinement, punishment, surveillance and discipline - and the production of racial hierarchies. Instruction Mode: Lecture Grading Option: Letter

HIST 460 War, Race, and the Constitution
Units: 4 Terms Offered: Irregular Examines the World War II incarceration of Japanese Americans and its impact on issues of civil liberties as well as national security. Instruction Mode: Lecture Grading Option: Letter

HIST 461 19th Century American Thought
Units: 4 Terms Offered: Fa Major American thinkers from Emerson and Margaret Fuller to William James and W.E.B. DuBois, with emphasis on race, religion, politics, and gender. Instruction Mode: Lecture Grading Option: Letter

HIST 462 20th Century American Thought
Units: 4 Terms Offered: Fa Major American thinkers from John Dewey and Jane Addams to Martin Luther King and Richard Rorty, with emphasis on race, religion, politics, and gender. Instruction Mode: Lecture Grading Option: Letter

HIST 463 The Constitutional History of the United States
Units: 4 Historical influences on changes in the structure, practice, and interpretation of the American Constitution, including debates about institutional powers and civil/political rights and liberties. *Recommended Preparation:* HIST 360 and HIST 361. Instruction Mode: Lecture Grading Option: Letter

HIST 464 Culture, Money, and Power: Japanese-American Relations since 1853
Units: 4 Terms Offered: Sp Examination of the role of cultural, economic, and military forces in shaping relations between two of the most important nations in the Asia/Pacific regions. *Recommended Preparation:* HIST 363 or appropriate International Relations course. Instruction Mode: Lecture Grading Option: Letter

HIST 465 America in the Cold War World, 1945–1991
Units: 4 Terms Offered: Fa America's role in the Cold War and the impact of that conflict on its people, society and culture. Instruction Mode: Lecture Grading Option: Letter

HIST 466 New World Orders: US and the Atlantic World, 1918-2018
Units: 4 Terms Offered: FaSp Critical examination of attempts by the United States and major European powers to institute varying kinds of order across borders. Instruction Mode: Lecture Grading Option: Letter

HIST 470 The Spanish Inquisition in the Early Modern Hispanic World
Units: 4, 2 years Terms Offered: Fa The Spanish Inquisition in Spain and Colonial Latin America, major theories and interpretations. Instruction Mode: Lecture Grading Option: Letter

HIST 473 Colonial Latin America Seminar
Units: 4 Terms Offered: Sp The history of colonial Latin America, focusing on the transformation of native Americans and Europeans into participants in a new colonial tradition. Duplicates Credit in HIST 371. Instruction Mode: Lecture Grading Option: Letter

HIST 478 The United States, 1789–1850
Units: 4 Terms Offered: Irregular The nation during the first six decades; development of American institutions; constitutional growth, expansion, sectionalism, and the Mexican War; the Compromise of 1850. Instruction Mode: Lecture Grading Option: Letter

HIST 479 History in the Museum: The Past in Objects
Units: 4 An examination of how museums collect and display objects, shaping ideas about human cultures and the world, from the Renaissance to the present. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS 479

HIST 480 Seminar in Middle East History
Units: 4 A readings and research seminar dealing with one topic in the history of the Middle East. Topics will change each time the course is offered. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-480

HIST 481 Producing Film Histories
Units: 4 Terms Offered: Sp History of film form and its institutions. Students will produce an original written or multimedia research project. Instruction Mode: Lecture Grading Option: Letter

HIST 484 The United States, 1919–1939
Units: 4 Terms Offered: Irregular Postwar reaction and the Twenties; the Great Depression and the New Deal; diplomacy between the wars. Instruction Mode: Lecture Grading Option: Letter

HIST 487 The United States since 1939
Units: 4 Terms Offered: Irregular A survey of the accelerating changes that transformed the nation's domestic life and revolutionized America's role in world affairs. Instruction Mode: Lecture Grading Option: Letter

HIST 488 Teaching History in the Secondary Schools
Units: 4 Terms Offered: Fa Seminar in research methods, textbook and online research and teaching materials, and instructional approaches for teaching history in secondary schools. Instruction Mode: Lecture Grading Option: Letter

HIST 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

HIST 492 Honors Thesis
Units: 4 Terms Offered: Sp Writing of the honors thesis; for students in the History Honors Program. Instruction Mode: Lecture Grading Option: Letter

HIST 493 Law, History and Culture Honors Thesis Seminar
Units: 4 Writing of the honors thesis; capstone for students in the Law, History and Culture major. Registration Restriction: Open only to Law, History and Culture majors Instruction Mode: Lecture Grading Option: Letter

HIST 494 Seminar in New Historical Writing
Units: 4, 2 years Terms Offered: Fa Historical writing experiments combining historical specificity with more fluid approaches to time, characterization and objectivity associated with 20th century artists. Instruction Mode: Lecture Grading Option: Letter

HIST 496 Internship in Public History
Units: 4 Max Units: 8 Terms Offered: Sp The ideas and practices of public history explored through a seminar and an internship at a museum, historical society, or archive. Registration Restriction: Not open to Freshman students Instruction Mode: Lecture Grading Option: Letter

HIST 497 Senior Seminar in Early Modern Studies
Units: 4 Terms Offered: Sp (Enroll in ENGL 497)

HIST 498 Seminar on Selected Historical Topics
Units: 4 Max Units: 8.0 Terms Offered: FaSp Advanced study in historical analysis and writing on selected topics and themes. Seminar enrollment limited to 15 students. *Recommended Preparation:* HIST 201. Instruction Mode: Lecture Grading Option: Letter

HIST 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Instruction Mode: Lecture Grading Option: Letter

HIST 500 Introduction to Graduate Historical Studies
Units: 4 Terms Offered: Fa Techniques, theories, and sub-disciplines of history. Instruction Mode: Lecture Grading Option: Letter

HIST 505 Studies in Early Medieval History
Units: 4 Terms Offered: Irregular Intensive study of subjects selected from the early Middle Ages, emphasizing source material, bibliography, and historiographic problems. Instruction Mode: Lecture Grading Option: Letter

HIST 506 Studies in Later Medieval History
Units: 4 Terms Offered: Irregular Intensive study of subjects selected from the later Middle Ages, emphasizing source material, bibliography, and historiographic problems. Instruction Mode: Lecture Grading Option: Letter

HIST 508 Studies in the Renaissance
Units: 4 Europe in the Renaissance: sources; secondary bibliography; and historiography. Instruction Mode: Lecture Grading Option: Letter

HIST 509 Studies in the Reformation
Units: 4 Readings, reports, and discussions of major problems, issues, and interpretations of the Reformation. Instruction Mode: Lecture Grading Option: Letter

HIST 510 Studies in Early Modern European History
Units: 4 Terms Offered: Irregular Readings of major interpretive studies on the 17th and 18th centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 511 Studies in Early Modern British History
Units: 4 Readings of major interpretive and historiographical studies on 16th and 17th century British history. Instruction Mode: Lecture Grading Option: Letter

HIST 514 Studies in Modern European History, 1789–1914
Units: 4 Terms Offered: Fa Readings and current bibliography in the history of Europe from the French Revolution to the outbreak of World War I; emphasis on cultural history approaches. Instruction Mode: Lecture Grading Option: Letter

HIST 515 Studies in Modern European History: Europe's 20th Century
Units: 4 Terms Offered: Fa Readings in the history and historiography of Europe in the 20th century. Instruction Mode: Lecture Grading Option: Letter

HIST 516 Studies in the History of the Holocaust
Units: 4 Advanced study of the persecution and mass murder of the European Jewry, its history and its historiography. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

HIST 517 Studies in Russian History
Units: 4 Terms Offered: Irregular Readings, discussions, and student papers in modern Russian history. Instruction Mode: Lecture Grading Option: Letter

HIST 518 Problems in Modern European Jewish History
Units: 4 Major themes, problems and debates in modern European (and global) Jewish history and historiography. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

HIST 520 Modernity and Its Visual Cultures
Units: 4 Terms Offered: Sp Western visual culture 1850–1930: historical background of changes in high and popular culture, technological reproducibility, display and spectacularization; recent literature and theoretical approaches. Instruction Mode: Lecture Grading Option: Letter

HIST 525 Studies in British History
Units: 4 Terms Offered: Irregular Selected topics in English and British Empire history with emphasis on the 19th and 20th centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 534 Studies in Modern Japanese History
Units: 4 Selected topics and historiography of modern Japan. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-536

HIST 535 Studies in Japanese History
Units: 4 Max Units: 8.0 Selected topics in historical problems dealing with Japan. Instruction Mode: Lecture Grading Option: Letter

HIST 536 Studies in Chinese History
Units: 2 or 4 Terms Offered: Irregular Selected topics in historical problems dealing with China. *Prerequisite:* HIST 340. Instruction Mode: Lecture Grading Option: Letter

HIST 540 Studies in Modern East Asian History
Units: 4 Max Units: 8.0 Terms Offered: Irregular Readings and analysis of a particular theme in modern Asian history, focusing on broad comparative issues like cultural identity, colonialism, nationalism, revolution, or interstate relations. Instruction Mode: Lecture Grading Option: Letter

HIST 544 Feminist Theory for Historians
Units: 4 Terms Offered: Fa Readings in contemporary feminist theory, focused especially on theories that address the construction, writing and general practice of history. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

HIST 546 Comparative History of Women and Gender in the West to 1800
Units: 4 Terms Offered: Fa Topically-focused readings in the comparative history of women and gender in Europe and the Americas before 1800. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

HIST 550 Studies in the History of Women, Gender and Sexuality
Units: 4 Terms Offered: Irregular Readings and current bibliography in the history of women, gender and sexuality. Instruction Mode: Lecture Grading Option: Letter

HIST 554 Readings in Chicano/Latino History
Units: 4 Terms Offered: FaSp (Enroll in AMST 554)

HIST 555 Studies in the American West
Units: 4 Zones of contact — physical, economic, political, ecological, symbolic, cultural, metaphorical — between peoples "west" of the Eurasian land mass since the rise of capitalist global expansion. Instruction Mode: Lecture Grading Option: Letter

HIST 560 Transpacific History
Units: 4 Exploration of the connections and divergences in the Pacific region, 19th century to present. Topics include transnationalism, war, political economy, international relations, immigration, environmentalism, and race. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-522

HIST 561 Historiography of Colonial Mexico
Units: 4 Terms Offered: Fa Introduction to the historiography of Colonial Mexico from 1500 to 1821. Instruction Mode: Lecture Grading Option: Letter

HIST 562 Studies in Colonial Latin American History
Units: 4 Introduction to readings and major historiographical developments in the study of colonial Latin America and the Caribbean, focusing on key fields and debates. Instruction Mode: Lecture Grading Option: Letter

HIST 563 Studies in Modern Latin American History
Units: 4 Introduction to readings and major historiographical developments in the study of Latin America and the Caribbean after independence, focusing on key fields and debates. Instruction Mode: Lecture Grading Option: Letter

HIST 565 Studies in American International History
Units: 4 Terms Offered: FaSm Readings and analyses of American policies, roles and principles in their interaction with peoples and nations of the world. Instruction Mode: Lecture Grading Option: Letter

HIST 566 Historical Scholarship on North America to 1800
Units: 4 Terms Offered: Fa Introduction to research in the fields of American Indian, colonial America, Atlantic world, and the early United States. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

HIST 567 Historical Scholarship on 19th Century America
Units: 4 Terms Offered: Sp Introduction to historiography and research in the political, economic, social, cultural, and intellectual history of the 19th century United States. Instruction Mode: Lecture Grading Option: Letter

HIST 568 Historical Scholarship on 20th and 21st Century America
Units: 4 Terms Offered: Sp Introduction to historiography and research in the political, economic, social, cultural, and intellectual history of the 20th and 21st century United States. Instruction Mode: Lecture Grading Option: Letter

HIST 575 Studies in 19th Century United States History
Units: 4 Max Units: 8.0 Terms Offered: Fa Intensive readings and bibliography in the Early National, Jacksonian, Civil War, and Post-Civil War periods. Instruction Mode: Lecture Grading Option: Letter

HIST 583 Studies in Urban History
Units: 4 Readings and analyses in the rise of the city and the impact of urbanization from the colonial era to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 584 Seminar in American Social History
Units: 4 Terms Offered: Irregular Creation of communities and societies; industrialization, urbanization, working class life; families, women, ethnicity; immigration; racism; mobility; reform and radicalism, leisure. Instruction Mode: Lecture Grading Option: Letter

HIST 585 Studies in 20th Century American History
Units: 4 Readings and analyses in social and political problems, movements, and issues. Instruction Mode: Lecture Grading Option: Letter

HIST 586 Studies in American Intellectual and Cultural History
Units: 4 Readings, analyses, and discussion of selected topics relating to the history of American thought and the arts.

HIST 587 Studies in the Politics of American Popular Culture
Units: 4 Selected themes, theories, and key works in the politics of American popular culture. Instruction Mode: Lecture Grading Option: Letter

HIST 589 Fascism, Nazism and Communism
Units: 4 The rise of Nazism, fascism, and communism in 20th and 21st centuries and the ways in which those ideologies conflicted with democracy. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

HIST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

HIST 591 Quantitative Historical Research
Units: 4 Terms Offered: Irregular Teaches statistical concepts, methods, and tools for researching and interpreting the past. Instruction Mode: Lecture Grading Option: Letter

HIST 592 Historiography
Units: 4 Terms Offered: Sm Historical criticism; form and mechanics of presenting research; writers of history, their works and philosophies; theories of historical development. Instruction Mode: Lecture Grading Option: Letter

HIST 593 The Art of Historical Writing
Units: 4 Terms Offered: Sp An analysis of conventional forms of historical representation and the artistic and scientific challenges to them. Laboratory training in innovative forms of historical writing will be stressed. Instruction Mode: Lecture Grading Option: Letter

HIST 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 595x Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Basic principles of history pedagogy, with emphasis on practical applications and the importance of career-long skill development. Required for first semester teaching assistants in history. Instruction Mode: Lecture Grading Option: Credit/No Credit

HIST 602 Seminar in Ancient History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. Instruction Mode: Lecture Grading Option: Letter

HIST 605 Seminar in Medieval European History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. Instruction Mode: Lecture Grading Option: Letter

HIST 608 Seminar on Premodern Europe
Units: 4 Max Units: 8.0 Directed research on topics from late antiquity to the 18th century. Students will work with both their faculty advisers and the course instructor. Instruction Mode: Lecture Grading Option: Letter

HIST 610 Seminar in Early Modern European History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems concerning the 17th and 18th centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 615 Seminar in Modern European History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems dealing with Europe since 1789. Instruction Mode: Lecture Grading Option: Letter

HIST 617 Seminar in Russian History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. Instruction Mode: Lecture Grading Option: Letter

HIST 620 Research Seminar on Modern Visual Culture
Units: 4 Terms Offered: Fa A research seminar focusing on Western visual culture since the mid-18th century. *Recommended Preparation:* HIST 520. Instruction Mode: Lecture Grading Option: Letter

HIST 630 Seminar in Japanese History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. Instruction Mode: Lecture Grading Option: Letter

HIST 635 Seminar in Chinese History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. *Prerequisite:* HIST 340. Instruction Mode: Lecture Grading Option: Letter

HIST 650 Seminar on Women's and Family History
Units: 4 Terms Offered: Sp Readings, discussions and directed research on women's and family histories. Instruction Mode: Lecture Grading Option: Letter

HIST 655 Seminar in Western American History
Units: 2 or 4 Max Units: 8.0 Selected topics in the history of the American frontier and the West. Instruction Mode: Lecture Grading Option: Letter

HIST 660 Research Seminar on Transpacific Studies
Units: 4 Terms Offered: FaSp (Enroll in AMST 622)

HIST 670 Illness and Healing in the Modern World
Units: 4 Terms Offered: Sp Illness and healing in Europe and the Americas since 1492, especially the changing clinical and cultural definitions and responses to disease and ailments. Instruction Mode: Lecture Grading Option: Letter

HIST 673 Seminar in Early North American History
Units: 4 Max Units: 8.0 Primary research on issues related to the history of the colonial and early national periods with an emphasis on areas that became the United States. Instruction Mode: Lecture Grading Option: Letter

HIST 675 Seminar in 19th Century United States History
Units: 4 Max Units: 8.0 Terms Offered: Sp Research in historical problems of the Antebellum, Civil War, and Post-Civil War periods. Instruction Mode: Lecture Grading Option: Letter

HIST 680 Seminar in 20th Century United States History
Units: 4 Max Units: 8.0 Terms Offered: Fa Directed research in historical problems of the Reform, World War I, interwar, World War II, and Post-War periods. Instruction Mode: Lecture Grading Option: Letter

HIST 700 Historical Explanation and Research Design
Units: 4 Designed for all doctoral candidates in their last year of course work, this practicum helps students define a dissertation topic and produce a prospectus. Instruction Mode: Lecture Grading Option: Credit/No Credit

HIST 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

HIST 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Health Care Management

HMGT 510 The Dynamics of Health Care Leadership
Units: 4 A five-day residential provides an intensive, multi-faceted learning experience in leadership, communication, managed care, systems thinking, and the health care environment. Instruction Mode: Lecture Grading Option: Letter

HMGT 512 Information Technology and Patient Engagement
Units: 2 Terms Offered: FaSpSm Strategic management and utilization of healthcare information technology in the delivery of healthcare; patient engagement and the use of technology to facilitate participation in their own care. Registration Restriction: Open only to Executive Master of Health Administration students. Instruction Mode: Lecture Grading Option: Letter

HMGT 520 Leading People and Health Care Organizations
Units: 4 Terms Offered: Fa An exploration of contemporary work force issues and skills development in organizational design, performance measurement, teamwork, conflict resolution, leadership, and change management. Instruction Mode: Lecture Grading Option: Letter

HMGT 525 Managed Care Operations
Units: 4 Focuses on managerial, operational, and organizational aspects of managed care for integrated delivery systems, health plans, and medical groups. Instruction Mode: Lecture Grading Option: Letter

HMGT 540 Health Economics, Financing and Reimbursement
Units: 4 Terms Offered: Fa Provides a framework for the economic analysis of health care issues and provides students with an opportunity to apply economic methods to a number of actual health care problems. Registration Restriction: Open only to Health Administration majors Instruction Mode: Lecture Grading Option: Letter

HMGT 545 Systems Thinking and the Analysis of Data
Units: 4 Quality improvement and statistical tools for health managers. Covers analyzing processes; collecting and analyzing operational data; drawing valid conclusions from data. Instruction Mode: Lecture Grading Option: Letter

HMGT 550 Law, Regulation, and Ethics
Units: 4 An intensive introduction to business and health care law, ethics and regulation; gives executives practical knowledge regarding legal consideration in business transactions. Instruction Mode: Lecture Grading Option: Letter

HMGT 560 Customer-Focused Health Care Organization
Units: 2 Strategies for gaining and using customer-derived data in planning, marketing and managing health care organizations. Instruction Mode: Lecture Grading Option: Letter

HMGT 565 Managing the Organization's Financial Health
Units: 4 Terms Offered: Fa Executives confront and solve problems requiring use of accounting, finance, and management control principles; provides core financial skills for non-finance professionals. Instruction Mode: Lecture Grading Option: Letter

HMGT 570 Strategic Management
Units: 4 Terms Offered: Sm Provides skill development and application in the integrative discipline of strategic management including assessment, strategy formulation, implementation and control. Instruction Mode: Lecture Grading Option: Letter

HMGT 575 Managing and Improving Health
Units: 4 Terms Offered: Sp Methods for monitoring and improving the health of populations. Topics include outcomes management, risk-adjustment, development and implementation of practice guidelines. Instruction Mode: Lecture Grading Option: Letter

HMGT 600 Managing Risk
Units: 2 Terms Offered: FaSp Overview of reimbursement models in clinical and institutional settings; legal, financial and clinical assumption of risk pursuant to new and evolving federal and state statutory and regulatory provisions. Registration Restriction: Open only to EMHA students. Instruction Mode: Lecture Grading Option: Letter

HMGT 601 Operations Management for Accountability
Units: 4 Terms Offered: FaSp Hospital operations in the inpatient/outpatient setting; special emphasis on the growing requirement to more effectively manage across the continuum of care while assuming greater accountability in the delivery of care. Registration Restriction: Open only to EMHA students. Instruction Mode: Lecture Grading Option: Letter

HMGT 602 Operational Efficiency Processes in Health Care Organizations
Units: 2 Terms Offered: FaSp Improving productivity and efficiency of health care organizations combining the application of key operational analysis principles to improve quality, speed and productivity in the delivery of health care. Registration Restriction: Open only to EMHA students. Instruction Mode: Lecture Grading Option: Letter

HMGT 603 Developing and Monitoring of Quality and Patient Safety Outcomes
Units: 2 Terms Offered: Sm Overview of contemporary methods used to develop and monitor patient quality and safety outcomes; develop skill in data collection and analysis of clinical care outcomes;

focus on operationalizing outcomes that matter to payers, organizations, and clinicians. Registration Restriction: Open only to EMHA students. Instruction Mode: Lecture Grading Option: Letter

Health Promotion and Disease Prevention Studies

HP 101 Current Issues in Medical Education and Healthcare
Units: 2 Terms Offered: Sp Current critical issues in healthcare delivery; strategies to succeed in medical school and as physicians. Instruction Mode: Lecture Grading Option: Letter

HP 200 Introduction to Health Promotion and Disease Prevention
Units: 4 Terms Offered: Fa Introduction to strategies for promoting health and wellness. Includes self monitoring of health risk behavior, goal setting, and behavior changes. Instruction Mode: Lecture Grading Option: Letter

HP 230 Nutrition and Health
Units: 4 Terms Offered: FaSp Nutrition as it relates to health promotion across the lifespan and disease prevention. Discussion of nutrients, factors affecting food choices, food safety and global nutrition issues. Instruction Mode: Lecture Grading Option: Letter

HP 250 Introduction to Addiction Science
Units: 4 Terms Offered: Fa Causes and consequences of addiction as they relate to the individual, family, community and society are discussed. Instruction Mode: Lecture Grading Option: Letter

HP 270 Introduction to Global Health
Units: 4 Terms Offered: Fa Introduction to concepts of global health and disease control. Issues of globalization, global governance, emerging diseases, infectious disease treatment, and outbreak challenges. Instruction Mode: Lecture Grading Option: Letter

HP 290 Introduction to Research Apprenticeship
Units: 2 Max Units: 8.0 Terms Offered: FaSp Individual research apprenticeship in health related fields under supervision of a departmental faculty member. Instruction Mode: Lecture Grading Option: Credit/No Credit

HP 299 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSpSm Special topics in Health Promotion and Global Health. Instruction Mode: Lecture Grading Option: Letter

HP 300 Theoretical Principles of Health Behavior
Units: 4 Terms Offered: FaSp Overview and analysis of predictors and consequences of health-related behaviors; theoretical viewpoints and strategies for behavior change. *Prerequisite:* PSYC 100. *Recommended Preparation:* HP 200; Instruction Mode: Lecture Grading Option: Letter

HP 320 Biological and Behavioral Basis of Disease
Units: 4 Terms Offered: FaSp Examination of the major systems of the human body; disease processes and behavioral risk factors. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture Grading Option: Letter

HP 340Lg Health Behavior Statistical Methods
Units: 4 Terms Offered: FaSp Intermediate statistics for health behavior studies; topics include descriptive statistics, hypothesis testing, correlation and regression, and use of computer software in data analysis. Satisfies New General Education in F Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

HP 345 Health Issues in Entertainment Media
Units: 4 Terms Offered: FaSpSm Study of major chronic illnesses and their risk factors as a foundation for discussions about the portrayal of health and illness in entertainment media. Duplicates Credit in the former CNTV 345. Instruction Mode: Lecture Grading Option: Letter

HP 350L Health Behavior Research Methods
Units: 4 Terms Offered: FaSp Introduction to the design, conduct and evaluation of health behavior research studies; quantitative and qualitative approaches to research and analysis. *Recommended Preparation:* HP 340. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HP 365gmw Culture, Lifestyle, and Health
Units: 4 Terms Offered: FaSp Comparison of national and international differences in health status as influenced by cultural practices and lifestyles within geographic, economic, and political environments. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in HP 400m Instruction Mode: Lecture Grading Option: Letter

HP 370g Introduction to Epidemiology: Methods and Applications
Units: 4 Examines the primary goals and methods of epidemiology, the study of factors that influence health and disease in individuals and populations. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

HP 401 Cultural Competence in Medicine
Units: 4 Terms Offered: Fa Systematic development of specific professional skills for providing effective, culturally sensitive health services to diverse populations. *Recommended Preparation:* ANTH 101. Instruction Mode: Lecture Grading Option: Letter

HP 402 Maternal and Child Health
Units: 4 Terms Offered: Sp Health issues of women of childbearing age from pre-pregnancy through the postpartum period, and of children from their development in utero through early adolescence. *Recommended Preparation:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

HP 403 Behavioral Medicine
Units: 4 Terms Offered: Sp Examines behavioral risk factors for illness, health-enhancing and health-compromising behaviors, stress/coping in promoting health and preventing illness, and behavioral management of chronic illness. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

HP 404 Religion and Health
Units: 4 Terms Offered: Fa Differential relationships of religiosity and spirituality with health and risk behaviors, physical and mental health outcomes, coping skills and well-being across cultures and religions. Instruction Mode: Lecture Grading Option: Letter

HP 405 Sexually Transmitted Diseases: A Global Public Health Priority
Units: 4 An overview of the magnitude and impact of STDs including prevention, diagnosis, and treatment of common STDs, STD/HIV interrelationship, global burden, trends, public health challenges, and STD/HIV prevention and control strategies and programs worldwide. Instruction Mode: Lecture Grading Option: Letter

HP 408 Environmental Health in the Community
Units: 4 Survey of occupational and environmental health. Introduction to epidemiology, exposure assessment, toxicology, policy development, risk assessment, and effects of urban development on health. Instruction Mode: Lecture Grading Option: Letter

HP 409 Environmental Impacts on the Brain
Units: 4 An examination of the physical and chemical factors in the environment that contribute to neurodevelopmental disorders, cognitive function and neurodegeneration. Instruction Mode: Lecture Grading Option: Letter

HP 410 Issues in Prevention and Cessation of Drug Abuse
Units: 4 Terms Offered: Sp Examination of factors related to drug abuse behaviors; overview and assessment of drug abuse prevention and cessation programs; relapse prevention programs. *Recommended Preparation:* HP 300. Instruction Mode: Lecture Grading Option: Letter

HP 411 Drug Intervention Program Design and Evaluation
Units: 4 Terms Offered: Sp Strategies for drug abuse prevention and intervention; introduction to techniques and research methods used in designing, conducting, and evaluating drug abuse prevention programs. *Recommended Preparation:* HP 410. Instruction Mode: Lecture Grading Option: Letter

HP 412 Health Promotion and Prevention Policy
Units: 4 Terms Offered: Sp Overview of health promotion and drug prevention policy at local, state, and federal levels; methods for evaluating policy effectiveness and cost effectiveness. Instruction Mode: Lecture Grading Option: Letter

HP 420m Gender and Minority Health Issues
Units: 4 Terms Offered: Fa Examines the nature and roots of health disparities among women, men, and different ethnic and age groups; methods for reducing such disparities; strategies for prevention services. Instruction Mode: Lecture Grading Option: Letter

HP 421 Violence as a Public Health Issue
Units: 4 Terms Offered: Fa Patterns and prevalence of violence; psychosocial, environmental, and biological influences on violent behavior; youth gangs; drugs and violence; family violence; and prevention and intervention strategies. Instruction Mode: Lecture Grading Option: Letter

HP 422 AIDS in Society
Units: 4 Terms Offered: Sp Provides a broad examination of issues in HIV/AIDS, including behavioral, social, biological, clinical and ethical dimensions of the pandemic in the U.S. and elsewhere. Instruction Mode: Lecture Grading Option: Letter

HP 430 Obesity and Health
Units: 4 Terms Offered: Fa Examination of causes and consequences of obesity, with emphasis on health risks of type II diabetes and cardiovascular disease. *Recommended Preparation:* HP 230. Instruction Mode: Lecture Grading Option: Letter

HP 431 Behavior and Education Strategies for Nutrition and Fitness
Units: 4 Terms Offered: Sp Examination of dietary intake and exercise behaviors as they relate to health and illness; methods for measuring diet and exercise. *Recommended Preparation:* HP 430. Instruction Mode: Lecture Grading Option: Letter

HP 432 Clinical Nutrition
Units: 4 Terms Offered: Irregular Metabolism of carbohydrates, fats and protein; introduction to vitamins, minerals and dietary modifications in various pathological conditions. *Prerequisite:* CHEM 105a; *Recommended Preparation:* HP 230. Instruction Mode: Lecture Grading Option: Letter

HP 433 Advanced Topics in Nutrition
Units: 4 Terms Offered: Sp In-depth discussion of vitamins and minerals and their role in human nutrition; introduction to the role of vitamins and minerals in selected pathological conditions. *Prerequisite:* HP 432. Instruction Mode: Lecture Grading Option: Letter

HP 434 Physical Activity and Health
Units: 4 Terms Offered: FaSpSm Examination of the health impacts of physical inactivity; participation rates across subgroups; physical activity determinants; and interventions, programs, and policies to promote physical activity. *Recommended Preparation:* HP 200. Instruction Mode: Lecture Grading Option: Letter

HP 440 Happiness, Well-Being, and Health
Units: 4 Terms Offered: Sp Explores human strengths that promote happiness/well-being and whether they influence physical health; mind-body relationships; and strategies for promoting hope, resilience, and quality of life. *Recommended Preparation:* HP 200, PSYC 100. Instruction Mode: Lecture Grading Option: Letter

HP 441 Health Promotion in the Workplace
Units: 4 Terms Offered: Fa Covers phases of worksite health promotion; research, design, implementation and evaluation; concerns regarding escalating medical costs and the role of health promotion in offering solutions. Instruction Mode: Lecture Grading Option: Letter

HP 442 Chronic Disease Epidemiology
Units: 4 Terms Offered: Sp Overview of causative factors and demographic distributions of the major chronic diseases in the western world; epidemiologic concepts and research designs. *Recommended Preparation:* HP 320. Instruction Mode: Lecture Grading Option: Letter

HP 443 Communicating Better Health: What Works and Why
Units: 4 Terms Offered: Sp (Enroll in COMM 443)

HP 446 Poisons, People, and Politics
Units: 4 Terms Offered: Fa Case studies of toxic exposures and investigation of the role of government, scientists, labor and industry in protecting against health threats caused by toxic exposures. Instruction Mode: Lecture Grading Option: Letter

HP 448 Global Environmental Changes and Health
Units: 4 Terms Offered: FaSpSm Discussion of global environmental changes, including climate change, air pollution, water pollution, radiation, and their impacts on human health. Instruction Mode: Lecture Grading Option: Letter

HP 450 Traditional Eastern Medicine and Modern Health
Units: 4 Terms Offered: Fa Overview of traditional Eastern approaches toward health and disease; relevance to modern health issues, emphasizing a comparison between traditional Chinese and modern Western medicine. *Recommended Preparation:* fundamentals of medicine. Instruction Mode: Lecture Grading Option: Letter

HP 460 Adolescent Health
Units: 4 Terms Offered: Fa Survey of the development of healthy and the prevention of health-risk behaviors during adolescence. Prevention and promotion techniques will be explored emphasizing cultural differences. Instruction Mode: Lecture Grading Option: Letter

HP 465 Health Status of Indigenous Peoples of America
Units: 4 Terms Offered: FaSpSm Survey of indigenous people's health, including health conditions, special cultural and ethical considerations, the Indian health system, and the politics of indigenous health. Instruction Mode: Lecture Grading Option: Letter

HP 470 Case Studies in Global Health
Units: 4 Terms Offered: Sp Case study examination of programs and organizational structure underlying current international efforts addressing problems related to infection disease, chronic disease, global environmental change, emergencies and emerging disease epidemics. *Prerequisite:* HP 270. Instruction Mode: Lecture Grading Option: Letter

HP 480 Internship in Health Promotion and Disease Prevention
Units: 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Field placement in a community agency such as a county health services agency, a not for profit voluntary agency or a health care setting. *Prerequisite:* completion or concurrent registration in required core courses. Instruction Mode: Lecture Grading Option: Credit/No Credit

HP 483 Global Health and Aging
Units: 4 Terms Offered: Fa (Enroll in GERO 483)

HP 485 Global Health: Obesity and Nutrition
Units: 4 Terms Offered: FaSpSm Overview of the epidemiology of obesity and related diseases and the etiology of obesity, including genetic, biological, behavioral, environmental and sociocultural correlations. Instruction Mode: Lecture Grading Option: Letter

HP 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. *Recommended Preparation:* HP 350. *Corequisite:* HP 340; Instruction Mode: Lecture Grading Option: Letter

HP 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Lecture and discussion focused on specific topics within health promotion and disease prevention. Course topic will vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

Human Resource Management

HRM 500 Human Resource Strategy
Units: 2 Terms Offered: FaSpSm Explores the strategic role that human resources management plays in providing organizations with sustained competitive advantages by unlocking the productive potential of employees' human and social capital. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 505 Organizational Culture and Employee Outcomes
Units: 2 Terms Offered: FaSpSm Prepares students to create, foster, and manage organizations in which people thrive and perform at their best in order to retain talent and reduce costs in a sustainable way. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 510 Leadership in Human Resources
Units: 2 Terms Offered: FaSpSm Focuses on developing the critical social intelligence skills needed to lead people and change through increased self-awareness, understanding of interpersonal differences, and greater influence. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 515 Organization Design
Units: 2 Terms Offered: FaSpSm Equips students with a deeper understanding of how to design and develop organizations to increase performance and effectiveness and includes sections on strategy, work, and management processes. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 520 Talent Management
Units: 2 Terms Offered: FaSpSm Examines talent management processes that impact employee experience and engagement and explores ways to improve data driven

decision making processes including workforce and succession planning. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 525 Total Rewards
Units: 2 Terms Offered: FaSpSm Provides a comprehensive look at the employee rewards strategies that human resource practitioners promote and manage including compensation, performance management, benefits, and non-monetary rewards. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 530 Learning and Development
Units: 2 Terms Offered: FaSpSm Prepares students to identify, design, and implement effective learning and development interventions and strategies that drive results and enhance organizational competitiveness. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 535 Employee Relations
Units: 2 Terms Offered: FaSpSm Applies practical approaches to building positive employee and labor relations and solving related problems through increased employee motivation, effectiveness, and retention. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 540 Human Resources Analytics
Units: 2 Terms Offered: FaSpSm Examines and emphasizes strategies and techniques to enable improved organizational and human capital decisions by directing the organizational analytics for more actionable insights. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 545 Management of Diverse and Global Human Resources
Units: 2 Terms Offered: FaSpSm Analyzes global diversity in today's environment, fostering a broad understanding of diversity and inclusion and the impact of diversity, inclusion, and inclusive behaviors on organizations. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 550 Change Management and Organization Development
Units: 2 Terms Offered: FaSpSm Identifies the common challenges in organizational change management and explores the limitations and opportunities of different models of organizational change. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

HRM 555 Anticipating the Future of Human Resources
Units: 2 Terms Offered: FaSpSm Explores the forces and emerging trends that are reshaping work, the workforce and workplace – and how to address these transformational changes and be effective as a Human Resources leader. Registration Restriction: Open only to Bovard College Human Resources Management students Instruction Mode: Lecture Grading Option: Letter

Hospitality and Tourism

HT 500 Global Hospitality and Tourism
Units: 2 Terms Offered: FaSpSm History, theories, trends and impacts relevant to global hospitality and tourism. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 505 Managing Service Quality in Hospitality and Tourism
Units: 2 Terms Offered: FaSpSm Strategic management of service quality in hospitality and tourism. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 510 Marketing Strategies for Hospitality and Tourism
Units: 2 Terms Offered: FaSpSm Principles, strategies and techniques relevant to marketing in hospitality and tourism. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 515 Financial Management in Hospitality and Tourism
Units: 2 Terms Offered: FaSpSm Financial analysis methods to support sound, evidence-based decision-making in hospitality and tourism organizations. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 520 Revenue Management for Hospitality and Tourism
Units: 2 Terms Offered: FaSpSm Key principles and best practices in revenue management and pricing for hospitality and tourism organizations. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 525 Ethics in Hospitality and Tourism
Units: 2 Terms Offered: FaSpSm Ethical theories applied to common and strategic situations in hospitality and tourism. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 530 Strategic Human Resources in Hospitality and Tourism
Units: 2 Terms Offered: FaSpSm Broad range of human resource concepts and strategies relevant to hospitality and tourism organizations. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 535 Applied Research Methods for Hospitality and Tourism
Units: 2 Terms Offered: FaSpSm Applied research methods relevant to evidence-based decision-making in hospitality and tourism. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 540 Hospitality and Tourism Data Analytics
Units: 2 Terms Offered: FaSpSm Analysis, interpretation and presentation of data to support evidence-based decision-making in hospitality and tourism. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 545 Tourism Development
Units: 2 Terms Offered: FaSpSm Strategies for planning and evaluating sustainable and responsible tourism development projects. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 550 Hospitality and Tourism Events
Units: 2 Terms Offered: FaSpSm Analysis, planning and evaluation of meetings and events in hospitality and tourism settings. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

HT 555 Hospitality and Tourism Capstone
Units: 2 Terms Offered: FaSpSm Students synthesize knowledge and skills gained throughout the program in a culminating capstone project. Registration Restriction: Open only to USC Bovard College Hospitality and Tourism students Instruction Mode: Lecture Grading Option: Letter

Integrated Design, Business and Technology

IDSN 428 Overview of Intellectual Property Laws for Creatives and Entrepreneurs
Units: 1 Overview of the intellectual properties and a basic vocabulary for understanding of copyright, trademark, and patents for creatives and entrepreneurs. Registration Restriction: Open only to Iovine and Young Academy students Instruction Mode: Lecture Grading Option: Letter

IDSN 505 Intensive
Units: 0.5, 1, 1.5, 2 Max Units: 06 Terms Offered: FaSpSm Optional short-term, primarily residential, learning experience paired with an event/activity. Intensive experience aligns with and extends the cross-disciplinary nature of the program. *Recommended Preparation:* IDSN 510 and IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 510 Integrative Practices Residential
Units: 2 Terms Offered: FaSpSm One-week campus residential. Introduction to program themes, content, concepts, theories and processes. Opportunity to build skills and meet cohort, with an emphasis on team building. *Concurrent Enrollment:* IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Credit/No Credit

IDSN 515 Professional Practices Residential
Units: 2 Max Units: 04 Terms Offered:

FaSpSm One-week off-campus residential. Applied, intensive workshop format focused on solutions for real-world problems with input from industry experts. *Recommended Preparation:* IDSN 510, IDSN 520, IDSN 525, IDSN 530, IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 520 Design Essentials
Units: 3 Terms Offered: FaSpSm Overview of design language, process and product. Build fluency in applying core visual principles and design-based problem-solving techniques. Explore historical and contemporary design issues. Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 525 Business Essentials
Units: 3 Terms Offered: FaSpSm Overview of general business and management concepts and techniques that builds theoretical and analytical fluency and identifies and examines leadership and managerial challenges. Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 528 Using Intellectual Property Laws to Protect Your Products and Ideas
Units: 2 The second of a two-course sequence explaining issues of copyrights, trademarks and patents that underly ownership of an idea or product. *Prerequisite:* IDSN 428 Registration Restriction: Open only Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 530 Technology Essentials
Units: 3 Terms Offered: FaSpSm Overview of core information technology concepts, methods, and frameworks. Develop aptitude in using tools, applications and systems; learn basic programming languages and methodologies. Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 533 Visual Software Development
Units: 2 Introduction to no-code developer tools; development of a business or creative concept from the initial idea to a functioning minimum viable product. *Recommended Preparation:* IDSN 530 Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 536 Designing Networked Objects: From IoT to Smart Environments
Units: 3 Introduces concepts of interaction design through the medium of physical computing. Students learn the technological basics to create innovative, interactive experiences in physical objects. *Recommended Preparation:* IDSN 530 Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 540 Processes and Perspectives
Units: 4 Terms Offered: FaSpSm Discipline-specific, cross-disciplinary and shared approaches to products, services, projects, systems, organizational development. Topics include creative and user-focused perspectives, feasibility analytics, lean startup techniques. *Concurrent Enrollment:* IDSN 510 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 545 Integrative Project
Units: 3 Terms Offered: FaSpSm Faculty-mentored project. Demonstrate individual and simultaneous skills and competency across fields and within cross-functional, cross-disciplinary teams. *Prerequisite:* IDSN 510 and IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 546 Integrative Studio
Units: 2 Max Units: 04 Terms Offered: FaSpSm A project-based course that uses human-centered design research and methodologies to identify and explore a specific problem space or context. *Prerequisite:* IDSN 545 Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 550 Opportunity and Uncertainty
Units: 4 Terms Offered: FaSpSm Discipline-specific, cross-disciplinary and shared approaches to recognizing/analyzing opportunities, identifying/framing problems and developing/iterating solutions. Techniques gleaned from entrepreneurship, creative practices, critical thinking methods, ethnography, systems theory. *Prerequisite:* IDSN 510 and IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 560 Narrative and Storytelling
Units: 4 Terms Offered: FaSpSm Discipline-specific, cross-disciplinary and shared approaches to exploring visual, written and spoken storytelling using digital modalities. Topics include communication theory, narrative structures and content creation. *Prerequisite:* IDSN 510 and IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 565 Sound and Story
Units: 2 Sound can augment a story. Students will learn to approach sound for multimedia, product and experiential design with the writer's mindset. *Prerequisite:* IDSN 560 Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 570 Decisions and Solutions
Units: 4 Generate portfolio of solutions for a given "problem." Explore solutions and decisions, mechanisms for reducing uncertainty and risk. Includes quantitative and qualitative techniques. *Prerequisite:* IDSN 510 and IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 575 International Experience
Units: 2 Max Units: 04 Terms Offered: Sp International study experience and trip focusing on a primary subject area of the USC Iovine and Young Academy. Registration Restriction: Open only to IDSN students Instruction Mode: Lecture Grading Option: Letter

IDSN 577 Finance for Entrepreneurs
Units: 3 The life cycle of a new venture from idea to construction of an enterprise to a decision about financial viability. *Recommended Preparation:* IDSN 525 Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

IDSN 585 Capstone
Units: 3 Terms Offered: FaSpSm Faculty-mentored, applied project with individual and team components. Implement a prototype solution to a problem. Deploy relevant tools, methods and processes learned throughout the program. *Prerequisite:* IDSN 545 *Recommended Preparation:* All other required courses (excluding concurrent courses) Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units, which may be applied to the degree, to be determined by the department. Graded CR/NC. Registration Restriction: Open only to IDSN majors Instruction Mode: Lecture Grading Option: Credit/No Credit

IDSN 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: Irregular Selected topics in design, business and technology. Registration Restriction: Open only to Integrated Design, Business and Technology students Instruction Mode: Lecture Grading Option: Letter

Media Arts and Practice

Note: Instructor availability for a particular course or section cannot be guaranteed.

IML 104 Introduction to Digital Studies
Units: 2 Terms Offered: FaSpSm An introduction to the expressive range of screen languages in their cultural, historical, and technological contexts. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 140 Workshop in Multimedia Authoring
Units: 2 Terms Offered: FaSpSm Introduction to the expressive potential of multimedia as a critical and creative tool, supplementing traditional forms of academic work. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 201 The Languages of Digital Media
Units: 4 Terms Offered: FaSpSm An in-depth investigation of the close interrelationships among technology, culture and communication to form a solid foundation for digital authoring. Duplicates Credit in former IML 101. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 202 Media Arts and Practice Studio I
Units: 4 Terms Offered: Fa Intermediate laboratory exploring the foundations of visual culture through a series of critical design prompts. Emphasis on the creative process, project documentation and the development of a personal design methodology. *Prerequisite:* IML

201 Registration Restriction: Open only to Media Arts and Practice students Duplicates Credit in former IML 102 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 203 Media Arts and Practice Studio II
Units: 4 Terms Offered: Sp Intermediate laboratory exploring computational systems through a series of critical design prompts. Emphasis on digital representation, time-based processes, abstract data and the relationship between humans and computers. *Prerequisite:* IML 202 Registration Restriction: Open only to Media Arts and Practice students Duplicates Credit in former IML 103 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 230 Fundamentals of Media Design
Units: 4 Terms Offered: FaSp Introduction to the methods of visual design with respect to digital media authorship. Exploring the creative process through various conceptual workflows and hands-on techniques. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 288 Critical Thinking and Procedural Media
Units: 4 Terms Offered: FaSp Investigation of the potentials of computational media to define new aesthetics, modes of representation and structures of communication. Duplicates Credit in IML 388 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 295Lm Race, Class and Gender in Digital Culture
Units: 4 Terms Offered: FaSp Critical analysis of the categories of race, class and gender within the diverse digital spaces of contemporary culture, from video games to the digital divide. Instruction Mode: Lecture, Lab Required Grading Option: Letter

IML 300 Reading and Writing the Web
Units: 4 Terms Offered: FaSp An introduction to a broad range of technical and theoretical issues surrounding the production of web-based content. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 309 Integrative Design for Mobile Devices
Units: 4 Terms Offered: FaSp Hands-on investigation of opportunities and challenges offered by mobile interaction within both cultural and ideological contexts. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 310 Professionalism for Media Arts
Units: 2 Terms Offered: FaSpSm Development of documentation and archival strategies, with an emphasis on techniques of personal and professional representation. *Prerequisite:* IML 300 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 320 Designing and Writing for Transmedia Narratives
Units: 4 Terms Offered: FaSp Creating a story that uses three or more digital platforms (video, social media, games, comics, et cetera) with strategies drawn from entertainment, art and activism. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 328 Sonic Media Art
Units: 2 Terms Offered: FaSp Survey of audio culture and sound technologies, focusing on developing sonic literacy and creating artwork using sound as a primary modality. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 335 Digital Narrative Design I
Units: 2 Terms Offered: FaSp An introduction to audio and video techniques for digital storytelling across various platforms. Students will create multiple short-form projects using contemporary tools and technologies. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 340 Remixing the Archive
Units: 4 Max Units: 8 Terms Offered: FaSp An intermediate level course which approaches archived material from multiple perspectives, in order to develop new avenues of expression, education, and research. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 346 Methods in Digital Research
Units: 2 Terms Offered: FaSpSm Emphasizing rigorous multimedia research and authorship strategies, this course prepares students to undertake large-scale digital projects. *Prerequisite:* IML 104 or IML 201 Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture, Lab Grading Option: Letter

IML 354 Introduction to 3-D Modeling
Units: 2 Terms Offered: FaSp An introduction to the history, theory and critical context of 3-D spatial representation, as well as foundational authoring skills in modeling interactive 3-D spaces. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 365 Future Cinema
Units: 4 Terms Offered: FaSp Examination of the history of cinematic experimentation to provide a framework for understanding contemporary virtual reality, augmented reality, interactive installations and large-scale urban screens. Instruction Mode: Lecture Grading Option: Letter

IML 385 Design Fiction and Speculative Futures
Units: 4 Terms Offered: FaSp The history, theory and methods of design fiction, focusing on design videos and physical prototypes as tools for exploring contemporary social, political and ethical life. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 400 Creative Coding for the Web
Units: 4 Terms Offered: FaSp Analysis and development of scholarly media projects using diverse web authoring strategies, technologies and documentation. *Prerequisite:* IML 300. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 404 Tangible and Spatial Computing
Units: 4 Terms Offered: FaSp Exploration of extended human computer interaction, including new forms of haptic, sonic and other sense modalities, through physical computing and spatial interfaces. *Prerequisite:* IML 288 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 419 Emotion in Digital Culture
Units: 4 Terms Offered: FaSp Project-based course examining emotion in relation to technology, digital culture and the human experience. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 420m New Media for Social Change
Units: 4 Max Units: 8.0 Terms Offered: FaSp Creating real social change through multimedia, working in collaboration with a local nonprofit organization. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 422 Information Visualization
Units: 4 Terms Offered: FaSp Visualizing information through diverse media platforms, with a focus on critical analysis and hands-on visualization. Duplicates Credit in the former IML 222 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 428 Exploring and Creating Sonic Environments
Units: 4 Terms Offered: FaSp Exploration of spatial sound practices, focusing on sound installation art, sonic visualization and audio storytelling techniques. *Prerequisite:* IML 328 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 430 Visual Communication and Experience Design
Units: 4 Terms Offered: FaSp Studio course focused on visual design, UX/UI design and the creative process. Emulating design agencies and working with clients and creative briefs. *Prerequisite:* IML 230 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 435 Digital Narrative Design II
Units: 4 Terms Offered: FaSp Exploration of advanced techniques in digital audio and video storytelling. Emphasis on nonlinearity, computer graphics, sound design and networked media. *Prerequisite:* IML 335 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 436 Hypercinemas Studio
Units: 4 Terms Offered: FaSp A hands-on exploration of emerging cinematic technologies, situated within a historical context through both theoretical and practical analysis. *Prerequisite:* IML 335 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 440 Thesis Project
Units: 4 Terms Offered: FaSp Production of a digital thesis project. *Prerequisite:* IML 346 and IML 203 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 441 Thesis Project I
Units: 2 Terms Offered: Fa Exploration of theoretical and practical concerns of advanced digital media authorship. *Prerequisite:* IML 346 and IML 203 Registration Restriction: Open only to Media Arts and Practice majors Instruction Mode: Lecture, Lab Grading Option: Letter

IML 444 Thesis Project II
Units: 2 Terms Offered: Sp Production of a digital thesis project. *Prerequisite:* IML 440 or IML 441 Registration Restriction: Open only to Media Arts and Practice majors Instruction Mode: Lecture, Lab Grading Option: Letter

IML 450 Critical Play and Documentary Games
Units: 4 Terms Offered: FaSp Investigation of the history and theory of games designed to prompt social change, with a hands-on component in the creation of documentary game projects. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 454 Advanced Techniques of Spatial Representation
Units: 4 Terms Offered: FaSp Studio class exploring spatial perception and advanced techniques of 3-D representation, stereoscopy, panorama, projection mapping, modeling for real-time environments, parametric modeling, and 3-D fabrication. *Prerequisite:* IML 354 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 456 Nature, Design and Media
Units: 2 Terms Offered: FaSp Investigation of the impact of natural patterns on digital media design. Explores the relationships among chaos, harmony, beauty, proportion, spirituality, holistic systems and shaped experience. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 458 The Embedded Story: Designing Digital Landscapes and Languages
Units: 2 Terms Offered: FaSp Exploration of the imagined territories where language and landscape originate, converge and are transformed. Students will collaborate to create media in cross-platform environments. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 466 Digital Studies Symposium
Units: 2 Terms Offered: FaSp Lectures, presentations, and readings introducing cutting-edge digital media innovations and applications. Analysis of the critical and creative challenges of contemporary digital media practices. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 475 Media Arts Research Lab
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm A hands-on mentored research lab experience within the context of media art and in association with a real-world project. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 477 Embodied Storytelling and Immersive Docu-Narratives
Units: 4 Terms Offered: FaSp Examination of art, media, and theatre, to create an immersive, installation-based intervention utilizing the embodied 360-degree docu-narrative form. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 481 Mixed Realities: Histories, Theories and Practices
Units: 4 Terms Offered: FaSp A comprehensive orientation to mixed reality, delving into its theories and histories while grounding students in a hands-on introduction to current tools and techniques. *Recommended Preparation:* IML 288, IML 354, or experience with programming and 3-D design programs Instruction Mode: Lecture, Lab Grading Option: Letter

IML 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. *Prerequisite:* IML 104 or IML 201 Instruction Mode: Lecture Grading Option: Letter

IML 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in multimedia literacy. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 500 The Praxis of Sonic and Visual Media
Units: 4 Terms Offered: FaSpSm An introduction to digital authorship at the graduate level, with a focus on the potential of multimedia scholarship and networked dissemination. Registration Restriction: Open only to graduate students Instruction Mode: Lecture, Lab Grading Option: Letter

IML 501L Digital Media Authorship and the Archive
Units: 4 Terms Offered: FaSpSm An in-depth examination of emergent technologies in their cultural and historic contexts, with an equal emphasis on production and analysis. Registration Restriction: Open only to graduate students Instruction Mode: Lecture, Lab Required Grading Option: Letter

IML 502 Techniques of Information Visualization
Units: 4 Terms Offered: FaSp Critical and practical analysis of scholarly data visualization using diverse platforms. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 520 Non-Fiction Cinematic Practice I
Units: 2 Terms Offered: Fa An introduction to video in academic scholarship. Acquisition and editing of images and sound through a series of short, non-fiction media projects. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 521 Non-Fiction Cinematic Practice II
Units: 2 Terms Offered: Sp Deepening skills in audio/video storytelling methods through a semester-long, non-fiction media project. *Prerequisite:* IML 520 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 535 Tactical Media Strategies
Units: 4 Terms Offered: FaSp Integrating hardware, software and interactivity to explore new forms of expression. Emphasis on critical tactics (culture hacking, creative misuse) aimed at activism and social change. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 543 Transdisciplinary Media Design Practicum
Units: 4 Max Units: 8 Terms Offered: FaSp Collaboration of artists and designers with non-art professionals to develop cross-disciplinary, media-based creative interventions. *Recommended Preparation:* CTIN 503 and CTIN 541. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 555 Digital Pedagogies
Units: 4 Terms Offered: FaSp An exploration of varied pedagogical approaches and strategies informed by critical engagement with digital media and networked technologies. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 575 Graduate Media Arts Research Lab
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm A hands-on mentored graduate research lab experience within the context of media art and in association with a real-world project. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 585 Creative Critical Writing Workshop
Units: 2 Max Units: 4 Terms Offered: FaSpSm A writing workshop to explore innovative forms for critical writing, media-rich writing and video that borrow from creative nonfiction, the lyric essay, poetic/vernacular criticism. Instruction Mode: Lecture Grading Option: Letter

IML 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 599 Special Topics
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm Detailed investigation of new or emergent practices in digital media; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

IML 600 Historical Approaches to Media Arts and Culture
Units: 4 Terms Offered: FaSp Introduction to the historical specificities of "old" media (painting, print, photography, film, video, television) and to consequences of the convergences produced by "new" media forms. Duplicates Credit in former CNTV 600. Instruction Mode: Lecture Grading Option: Letter

IML 601 Seminar in Media and Design Studies
Units: 4 Terms Offered: FaSp Creation of a work of digital culture, informed by cultural theory, and planned using current design methods and practices. Duplicates Credit in former CNTV 601. Instruction Mode: Lecture Grading Option: Letter

IML 602 Practice of Media Arts
Units: 4 Max Units: 8 Terms Offered: FaSp Introduction to a range of technologies and media types, while identifying and developing a specialization in one or more areas of practice. Duplicates Credit in former CNTV 602. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 603 Media Arts and Practice Colloquium / Professional Seminar
Units: 1 Max Units: 2 Terms Offered: FaSp Orientation to the profession, opportunities, presentation and analysis of recent developments and applications in Media Arts and Practice. Duplicates Credit in former CNTV 603. Instruction Mode: Lecture Grading Option: Credit/No Credit

IML 604 Theories of Media Arts and Practice
Units: 4 Terms Offered: FaSp Develops an anti-essentialist theory of technology adequate to the digital age that serves as a conceptual and critical framework for developing a contemporary technological imagination. Duplicates Credit in former CNTV 604. Instruction Mode: Lecture Grading Option: Letter

IML 605 Cinema to Post-Cinema and Beyond: History, Theory, Practice
Units: 4 Terms Offered: FaSp Introduction to contemporary media theory, with attention to posthumanism, networks, and the post-cinematic, and a demonstration of these concepts in media art. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 606 Visiting Artist and Scholar Seminar
Units: 2 Max Units: 04 Terms Offered: FaSp Workshops, conversations and critique

sessions conducted by visiting media artists and arts-research scholars. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

IML 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794a Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IML 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794b Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IML 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794c Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IML 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794d Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IML 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794z Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Interdisciplinary — Developmental Dentistry

INDD 501 Applied Growth and Development
Units: 1 Clinical relevance of chronological and biological assessment of maturation related primarily to diagnosis and prognosis. Instruction Mode: Lecture Grading Option: Letter

INDD 650a Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650b Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650c Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650d Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650e Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650f Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 651a Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INDD 651b Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INDD 651c Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INDD 651d Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INDD 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean for Student and Academic Life. Instruction Mode: Lab Grading Option: Credit/No Credit

INDD 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary Major Program

INDS 100 Topical and Multidisciplinary Seminars
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp Small group investigation from an interdisciplinary perspective. Instruction Mode: Lecture Grading Option: Letter

INDS 101 Directed Research and Tutorials
Units: 1, 2, 3, 4 Terms Offered: FaSp Research and study with L.A.S. Faculty Associates and other faculty. Instruction Mode: Lecture Grading Option: Letter

INDS 102 Field Study
Units: 1, 2, 3, 4 Terms Offered: FaSp In-service experience in a variety of off-campus institutions under the supervision of an L.A.S. Faculty Associate. Instruction Mode: Lecture Grading Option: Letter

INDS 300 Topical and Multidisciplinary Seminars
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp See INDS 100 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 301 Directed Research and Tutorials
Units: 1, 2, 3, 4 Terms Offered: FaSp See INDS 101 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 302 Field Study
Units: 1, 2, 3, 4 Terms Offered: FaSp See INDS 102 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 400 Topical and Multidisciplinary Seminars
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp See INDS 100 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 401 Directed Research and Tutorials
Units: 1, 2, 3, 4 Terms Offered: FaSp See INDS 101 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 402 Field Study
Units: 1, 2, 3, 4 Terms Offered: FaSp See INDS 102 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 494 Senior Thesis
Units: 1, 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSp Writing the IDM senior thesis under the supervision of a faculty qualifying exam committee. Instruction Mode: Lecture Grading Option: Letter

Interdisciplinary — Basic Science

INTB 504 Human Craniofacial Development and Genetics
Units: 3 Principles of human embryology and genetics; craniofacial developmental biology; molecular genetics, cytogenetics, clinical orofacial genetics, genetic counseling; bioethics. Instruction Mode: Lecture Grading Option: Letter

INTB 521 Basic and Medical Microbiology
Units: 2 Fundamentals of microbial structure, growth and physiology; major bacterial, viral and fungal diseases, symptoms, course, control and treatment; emphasis on diseases related to dental management. Instruction Mode: Lecture Grading Option: Letter

INTB 601 Advances in Oral Biology
Units: 2 Review of basics of scientific methodology; comparison between and indications for scientific studies and case reports; critical review of current dental literature. Instruction Mode: Lecture Grading Option: Letter

INTB 603 Systematic Approach to Scientific Writing
Units: 2 Study of dental research publication and review of writing principles; focus on logical arrangement of information, avoidance of common writing flaws, attainment of syntactical fluency. Instruction Mode: Lecture Grading Option: Letter

INTB 604 Clinics in Craniofacial Malformations
Units: 2 Diagnosis, treatment, and rehabilitation of craniofacial malformations; principles of health care of craniofacial malformation patients. Includes hospital clinical observation. Instruction Mode: Lecture Grading Option: Letter

INTB 650a Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650b Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650c Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650d Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650e Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650f Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 651a Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTB 651b Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTB 651c Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTB 651d Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTB 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean, Academic Affairs. Instruction Mode: Lab Grading Option: Credit/No Credit

INTB 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdepartmental Medicine

INTD 500 Ethics and Accountability in Biomedical Research
Units: 1 Terms Offered: Sm The purpose of this course is to engage current (and potential) research trainees in discussions about the responsible conduct of science. The course is designed as an option for meeting current federal regulations which require that all predoctoral and postdoctoral fellows paid from federal contracts and grants have a component of ethical training. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 501 Recent Advances in Vision Science
Units: 1 Max Units: 4.0 Terms Offered: FaSp Recent advances in the understanding of the ocular surface are reported and discussed; students will learn how to read papers critically, develop speaking skills to explain a research paper and attend a three-day workshop on NIH proposal development and scientific manuscript preparation. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 504 Molecular Biology of Cancer
Units: 4, 2 years Terms Offered: Sp Epidemiology, pathobiology, carcinogenesis, tumor biology and heterogeneity; retroviruses, oncogenes, cell cycle control, genetics of cancer, tumor immunology; treatment strategies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC 504, CBG 504, MICB 504

INTD 522 Infection and Host Responses
Units: 4 Terms Offered: Sp Overview of microbes, their life cycles and the host response they elicit, evade or exploit, including the manipulation and

the malfunction of the immune system. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MICB-522

INTD 531 Cell Biology
Units: 4 Terms Offered: Fa Current perspectives on major research areas in cell biology. Emphasis will be on in-depth examination of cellular structures, regulatory processes, intra-cellular routing and targeting, and cell/environmental interactions. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-531, CNB-531, MICB-531, MPTX-531, PATH-531, PHBI-531, PSCI-531

INTD 535 Continuing Introduction to Clinical Medicine for MD/PhD Students
Units: 1 Terms Offered: FaSp Course for MD/PhD students in PhD years designed to allow maintenance and improvement of clinical skills prior to re-entry in clinical rotations in the Year III medical curriculum. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 537 The Structure of Scientific Revolutions in Molecular Biology
Units: 1 Terms Offered: Irregular A course in how scientists make breakthrough discoveries and whether there are predictable ingredients for significant changes in perception of the living system. *Recommended Preparation:* one year in cell and molecular biology. Registration Restriction: Open only to graduate-level students in any of the biological sciences. Instruction Mode: Lecture Grading Option: Letter

INTD 549 Protein Chemistry — Structure and Function
Units: 4 Terms Offered: Sp Chemistry of peptides and proteins; protein structure and folding; molecular basis of protein action. *Recommended Preparation:* general biochemistry. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-549

INTD 550 Introduction to Pathology
Units: 4 Terms Offered: Fa Normal histology and introduction to basic pathological concepts. Provides a solid and basic understanding of normal structures and how they relate to function. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PATH-550

INTD 551 Pathobiology of Disease
Units: 4 Terms Offered: Sp Relationship between histopathological and clinical manifestations of disease and their underlying molecular mechanisms. Topics include inflammatory, developmental, environmental, degenerative, and neoplastic disease processes. *Prerequisite:* INTD 550. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PATH-551

INTD 555 Biochemical and Molecular Bases of Disease
Units: 4 Biochemical and molecular abnormalities in disease states. *Prerequisite:* general biochemistry. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-555, PATH-555

INTD 561 Molecular Biology
Units: 4 Terms Offered: Fa Biochemistry and molecular biology of replication, transcription, RNA processing, translation, and regulation of gene expression with emphasis on multicellular eukaryotic organisms and comparisons to prokaryotes. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-561, CBY-561, CNB-561, MICB-561, MPTX-561, PATH-561, PHBI-561, PSCI-561

INTD 567 Molecular and Cellular Neurobiology
Units: 4 (Enroll in NSCI 531)

INTD 570 Current Topics in Cellular Homeostasis
Units: 2 Max Units: 08 Terms Offered: Sp Weekly research lectures by leading investigators in the field of homeostatic response to injury such as cell death, inflammation, fibrosis and regeneration. Duplicates Credit in former PATH 575 Instruction Mode: Lecture Grading Option: Letter

INTD 571 Biochemistry
Units: 4 Terms Offered: Sp Physical-chemical basis of life processes: protein structure and enzyme function; synthesis and metabolism of carbohydrates, lipids, amino acids, and nucleotides. *Prerequisite:* open to qualified students. Duplicates Credit in former BIOC 441. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-571, CBY-571, CNB-571, MICB-571, MPTX-571, PATH-571, PHBI-571, PSCI-571

INTD 572 Medical Physiology I
Units: 4 Terms Offered: Fa Mammalian organ systems operation during health, and pathophysiologic analysis of related diseases with focus on muscle, respiratory, cardiovascular and renal systems. Faculty from basic and clinical sciences. Registration Restriction: Open only to graduate students in biomedical science Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC 572, CNB 572, MICB 572, MPHY 572, MPTX 572, PATH 572, PHBI 572, PM 572

INTD 573 Medical Physiology II
Units: 4 Terms Offered: Sp Mammalian organ systems operation during health, and pathophysiologic analysis of related diseases with focus on neuroscience, immunology, metabolism, endocrine, reproduction, GI and liver. Faculty from basic and clinical sciences. Registration Restriction: Open only to graduate students in biomedical science Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC 574, CNB 573, MPHY 573, MPTX 573, PATH 573, PHBI 573, PM 573, MICB 573

INTD 574 Medical Biology Seminar
Units: 1 Max Units: 16 Terms Offered: FaSp Selected topics in systems biology and disease. Registration Restriction: Open only to Systems Biology and Disease PhD students Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 575 Interdisciplinary Research Presentations
Units: 1 Max Units: 12.0 Terms Offered: FaSp Broad Topics on Biomedical Research, Human Diseases and Career Development. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

INTD 577 Writing in the Biomedical and Biological Sciences
Units: 1 Terms Offered: Sp Writing instruction for graduate students focusing on grant proposals and scientific papers. Includes both writing and providing critiques of classmates' work. Lectures and discussion. Open only to doctoral students in the school of Medicine. Registration Restriction: Open only to doctoral students in the school of Medicine. Instruction Mode: Lecture Grading Option: Letter

INTD 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Registration Restriction: Open only to graduate students in the school of medicine Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Special topics selected to reflect current trends and new developments in interdepartmental medicine. Instruction Mode: Lecture Grading Option: Letter

INTD 600 Student Research Presentation
Units: 1 Max Units: 12.0 Terms Offered: FaSp Students prepare and present their own research to an audience of faculty and peers. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 620 Medical Students Elective Program
Units: 0 Opportunities for medical students as preceptors in research laboratories or in field medical service under guidance of sponsors approved by faculty committees. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 621a Introduction to Clinical Medicine (ICM) for THE
Units: 3 Terms Offered: FaSp A strongly patient centered course in which both PhD engineering and MD students experience how doctors handle communications, basic diagnostic thinking and engineering perspectives. Open only to Health, Technology and Engineering students. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 621b Introduction to Clinical Medicine (ICM) for THE
Units: 3 Terms Offered: FaSp A strongly patient centered course in which both PhD engineering and MD students experience how doctors handle communications, basic diagnostic thinking and engineering perspectives. Open only to Health, Technology and Engineering students. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 622L Pre-clinical System Block for Health, Technology and Engineering
Units: 3, 4, 5, 6, 7, 8, 9 Terms Offered: FaSp A three to- nine week block of lectures

and laboratories focused on particular body system (e.g., cardiovascular, renal, etc.). Open only to Health, Technology and Engineering students. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 630 Viral Oncology
Units: 2 Terms Offered: Fa Broad aspects of RNA and DNA viral oncology from epidemiology to molecular genetics. Duplicates Credit in former PATH 630. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PATH-631

INTD 650 Stem Cell Biology and Medicine
Units: 4 Terms Offered: FaSpSm Basic principles, available embryonic and adult stem cells, principles of organogenesis and regeneration, animal models, delivery of engineered tissues to patients, promise and limitations of stem cells. Open to master's and PhD students on the Health Sciences Campus and to medical and post-doctoral fellow trainees only. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PATH-650

INTD 685 Bioinformatics in Genome Analysis
Units: 4 Terms Offered: Sm Basic programming concepts for computational genomic analysis. Instruction Mode: Lecture Grading Option: Letter

INTD 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary — Practice Dynamics

INTP 501 Behavioral Strategies in Dentistry
Units: 2 Improvement of time and stress management and effectiveness in working with others; establishment of goals in dentistry; effective presentation of ideas. For Advanced Standing Program for International Dentists. Instruction Mode: Lecture Grading Option: Letter

INTP 502a Human Relations in Dental Practice
Units: 2 Introduction to behavioral concepts related to pain, fear, sedation; interviewing, treatment planning; care of geriatric and handicapped patients; patient education; includes principles of clinical application. Instruction Mode: Lecture Grading Option: Letter

INTP 502b Human Relations in Dental Practice
Units: 2 Introduction to behavioral concepts related to pain, fear, sedation; interviewing, treatment planning; care of geriatric and handicapped patients; patient education; includes principles of clinical application. Instruction Mode: Lecture Grading Option: Letter

INTP 503a Evaluation of Scientific Information in Clinical Practice
Units: 0, 1 Practical guidelines for critically appraising scientific information applicable to the clinical practice of dentistry. Seminars will complement lectures with examples. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTP 503b Evaluation of Scientific Information in Clinical Practice
Units: 0, 1 Practical guidelines for critically appraising scientific information applicable to the clinical practice of dentistry. Seminars will complement lectures with examples. Instruction Mode: Lecture Grading Option: Letter

INTP 650 Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTP 651 Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTP 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean for Student and Academic Life. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTP 690 Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary — Restorative Dentistry

INTR 503 Preclinical Diagnosis and Treatment Planning
Units: 2 Interdisciplinary course focusing on diagnosis and treatment planning through didactic course work and workshops which will include data collection/ assessment, diagnosis and treatment planning methodologies, and specialty considerations. Instruction Mode: Lecture Grading Option: Letter

INTR 524a Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524b Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524c Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524d Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524e Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524f Clinical Practice
Units: 3 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: Letter

INTR 550a Introduction to Clinical Dentistry
Units: 0, 1 Clinical operatory preparation; asepsis and sterilization; preventive dentistry; introduction to physical evaluation, extra- and intra-oral examinations, treatment sequencing, dental specialty areas; includes clinical assisting. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 550b Introduction to Clinical Dentistry
Units: 0, 1 Clinical operatory preparation; asepsis and sterilization; preventive dentistry; introduction to physical evaluation, extra- and intra-oral examinations, treatment sequencing, dental specialty areas; includes clinical assisting. Instruction Mode: Lecture Grading Option: Letter

INTR 551a Clinical Diagnosis and Treatment Planning
Units: 0 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 551b Clinical Diagnosis and Treatment Planning
Units: 0 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 551c Clinical Diagnosis and Treatment Planning
Units: 0 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 551d Clinical Diagnosis and Treatment Planning
Units: 0 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 551e Clinical Diagnosis and Treatment Planning
Units: 1 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy,

contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: Letter

INTR 553a Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553b Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553c Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553d Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553e Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553f Clinic: Diagnosis and Treatment Planning
Units: 2 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: Letter

INTR 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean for Student and Academic Life. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary — Surgical Sciences

INTS 651a Experience in Dental Teaching
Units: 1, 2, 3 Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTS 651b Experience in Dental Teaching
Units: 1, 2, 3 Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTS 651c Experience in Dental Teaching
Units: 1, 2, 3 Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTS 651d Experience in Dental Teaching
Units: 1, 2, 3 Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTS 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean for Student and Academic Life. Instruction Mode: Lab Grading Option: Credit/No Credit

INTS 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary — Diagnostic Sciences

INTX 501a Integrated Basic and Applied Science I
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501b Integrated Basic and Applied Science I
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501c Integrated Basic and Applied Science I
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and

cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501d Integrated Basic and Applied Science I
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501e Integrated Basic and Applied Science I
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501f Integrated Basic and Applied Science I
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501h Integrated Basic and Applied Science I
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 502a Integrated Basic and Applied Science II
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502b Integrated Basic and Applied Science II
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502c Integrated Basic and Applied Science II
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502d Integrated Basic and Applied Science II
Units: 3 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502e Integrated Basic and Applied Science II
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502f Integrated Basic and Applied Science II
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 651a Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTX 651b Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTX 651c Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTX 651d Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTX 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

International Relations

IR 100gx The United States and World Affairs
Units: 4 The changing character of contemporary international political issues from the Cold War to the future and U.S. foreign policy options for the future; exploration of competing perspectives. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture Grading Option: Letter

IR 101gxw International Relations
Units: 4 Basic concepts of world affairs for non-majors. Development of competency to understand and critically evaluate global relations and international events, stressing empirical approaches. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 210gw International Relations: Introductory Analysis
Units: 4 Terms Offered: FaSp Comprehensive introduction to contending theoretical and analytical approaches; development of critical, evaluative, cognitive, and analytical competencies regarding historical and contemporary issues. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 211g International Relations: Approaches to Research
Units: 4 Terms Offered: FaSpSm Introduction to theoretically oriented research approaches and designs; emphasis on the logic of argumentation. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 212 Historical Approaches to International Relations
Units: 4 Terms Offered: FaSp Introduction to historical research methods, with an emphasis on historical texts and modes of discourse. Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 213 The Global Economy
Units: 4 Terms Offered: FaSp Economic and political concepts necessary to the

understanding of the modern global economy. Topics include international trade, foreign investment and migration. Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 302 International Relations of the Great Powers in the Late 19th and 20th Centuries
Units: 4 Introductory analysis of the interactions of the great powers during the period; initial focus on Europe, with expansion to include global relations. Instruction Mode: Lecture Grading Option: Letter

IR 303 Leadership and Diplomacy
Units: 4 The role of leaders, diplomatic leadership and creativity in statecraft, providing a deep understanding of the theoretical and practical dimensions of diplomacy. Instruction Mode: Lecture Grading Option: Letter

IR 304 National Intelligence and the Shaping of Policy
Units: 4 The focus is intelligence to improve the making of policy, with attention to collection; overt and covert, operations; domestic intelligence; and oversight in democracies. Instruction Mode: Lecture Grading Option: Letter

IR 305w Managing New Global Problems
Units: 4 Examines strategies for managing global issues in the post Cold War period. Explores ways that international institutions, national governments and non-state actors work separately and together to provide order and control over complex international issues areas. Issues that will receive attention could include financial and monetary relations, trade and foreign investment, preservation of the environment, the spread of weapons of mass destruction, population and migration, terrorism and ethnic strife. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

IR 306 International Organizations
Units: 4 The emergence of international organizations as a permanent feature in world politics; role of the United Nations organization as well as regional international organizations. Instruction Mode: Lecture Grading Option: Letter

IR 307 Contemporary International Politics
Units: 4 Max Units: 8.0 Analysis of recent events, forces, and conditions in the international political system. Instruction Mode: Lecture Grading Option: Letter

IR 308w Economic Globalization
Units: 4 Globalization makes national borders and regulations increasingly obsolete. Analyzes the economic foundation of globalization, its consequences and efforts to manage it. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

IR 309 Global Governance
Units: 4 Introduction to global governance structure and institutions. Exploration of the appropriate role for states, international organizations, civil society and individuals within the global governance structure. Instruction Mode: Lecture Grading Option: Letter

IR 310 Peace and Conflict Studies
Units: 4 Interdisciplinary study of the pursuit of peace, including causes of wars, arms races, conflict resolution, peace movements, nonviolent resistance, and peace with justice. Instruction Mode: Lecture Grading Option: Letter

IR 311 Research Design and Methods
Units: 4 Exploration of critical scholarship on research design, including case selection, hypothesis testing, and field research techniques. Instruction Mode: Lecture Grading Option: Letter

IR 312 Introduction to Data Analysis
Units: 4 Introduction to statistical analysis with R, with applications to the study of International Relations: data manipulation, hypothesis testing, regression, causality, text analysis, visualization, and network analysis. *Recommended Preparation:* IR 211g and IR 212 plus a course in research design such as IR 311 Instruction Mode: Lecture Grading Option: Letter

IR 313 Religions and Political Violence
Units: 4 An introduction to debates about the intersection of religion and conflict in politics and international affairs; theoretical, classical, and contemporary issues. Instruction Mode: Lecture Grading Option: Letter

IR 314 Espionage and Intelligence
Units: 4 Examination of selected intelligence communities worldwide, their agencies and operations. Focus on technical aspects of collection, analysis, counterintelligence, covert action, ethics, liaison and oversight. Instruction Mode: Lecture Grading Option: Letter

IR 315 Ethnicity and Nationalism in World Politics
Units: 4 Ethnic identity and nation formation in the global society of states; nation-states; conflict or political accommodation within multinational states; impact of dispersed nations on interstate relations. Instruction Mode: Lecture Grading Option: Letter

IR 316 Gender and Global Issues
Units: 4 An examination of the role women have played in world politics focusing on issues of war and peace, the environment and the global economy. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-316

IR 317 The Political Economy of Africa
Units: 4 Africa remains the world's poorest region. Why? Since when? Will it remain so? This course discusses tentative answers drawn from a number of disciplines. Instruction Mode: Lecture Grading Option: Letter

IR 318 Violent Conflict
Units: 4 Origins and evolution of violent conflict among humans; modern efforts to end conflict; recent research in archaeology, anthropology, biology, economics, political science and psychology. Instruction Mode: Lecture Grading Option: Letter

IR 319 Human Security and Humanitarian Intervention
Units: 4 Explore causes of human security threats, challenges to state sovereignty, and actions to address failed states, conflicts and protect people through humanitarian intervention. Instruction Mode: Lecture Grading Option: Letter

IR 320 Technology and International Relations
Units: 4 Impact of technological advances to global security and development. Focus on surveillance and cyber conflict; nuclear weaponry, aviation and UAVs missiles and BMD; submarines and ASW. Instruction Mode: Lecture Grading Option: Letter

IR 321 Civil War, Peace Building and International Intervention
Units: 4 Examination of the causes of civil war, the dynamics and consequences of civil war and how peace is or is not built. Instruction Mode: Lecture Grading Option: Letter

IR 322 Financing Development in Mexico
Units: 4 Examines the role of investment in Mexican economic development focusing on both traditional sources of loans, grants and investment as well as less traditional modes of finance. Instruction Mode: Lecture Grading Option: Letter

IR 323 Politics of Global Environment
Units: 4 Examines the politics of managing the global environment. The nature of ecosystems, common problems, population and resource utilization problems along with biodiversity and global governance are emphasized. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-323

IR 324 Multinational Enterprises and World Politics
Units: 4 Political implications of interactions between different types of multinational enterprises and all levels of U.S. government, other industrial nations, and less-developed countries. Instruction Mode: Lecture Grading Option: Letter

IR 325 North-South Relations in the Global Economy
Units: 4 Analysis of inequality in relations between developed and developing states; contending views on the causes and legacies of imperialism; development strategies and aid. Instruction Mode: Lecture Grading Option: Letter

IR 326 U.S. Foreign Economic Policy
Units: 4 The U.S. economy and political-economic institutions in comparative perspective; economic diplomacy and policy; role of trade barriers, exchange rates, foreign aid, energy, foreign investment. Instruction Mode: Lecture Grading Option: Letter

IR 327 International Negotiation
Units: 4 Practicum in negotiation skills. Diagnosis of situations and identification of strategies through case studies and personal exercises. Instruction Mode: Lecture Grading Option: Letter

IR 328 The Evolving Global Economic Architecture-Capital Mobility
Units: 4 Exploration of the evolving global economic architecture of the past seventy years; overview of the possible future contours of economic and political globalization. Recommended preparation: Macro- and Micro-economics. Instruction Mode: Lecture Grading Option: Letter

IR 329 The Global Finance and Monetary Regime
Units: 4 The international financial and monetary regime, its evolution and the problems facing it today. Instruction Mode: Lecture Grading Option: Letter

IR 330 Politics of the World Economy
Units: 4 Exploration of questions and concepts in international economics and politics, especially as they relate to flows of trade, capital, people, and problems across borders. Instruction Mode: Lecture Grading Option: Letter

IR 331 The Global Economy 2040
Units: 4 Terms Offered: Fa Examination of key ideas from economics, demography and technology. Guest lecturers illuminate possible conditions of the Global Economy in 2040. Instruction Mode: Lecture Grading Option: Letter

IR 332 Money, Guns and Oil
Units: 4 Introduction to the relationship between economics, security, and U.S. foreign policy. Topics covered: U.S. grand strategy, China's rise, energy security, resource competition, and the resource curse. Instruction Mode: Lecture Grading Option: Letter

IR 333 China in International Affairs
Units: 4 Economic reform, the open door, and China's changing role in the international system. Relations with the United States, Japan, and other key powers in Asia. Tensions between the interests of American business and the human rights community over China policy. Instruction Mode: Lecture Grading Option: Letter

IR 337 The Impact of Remittances on Development in Mexico
Units: 4 Examines the nature of remittances and their effects. Can remittances promote development? Explores policy making focused on improving the quality of remittance expenditures in Mexico. *Recommended Preparation:* working ability with Spanish. Instruction Mode: Lecture Grading Option: Letter

IR 339 Public Health and International Relations
Units: 4 Examination of threats to global security, state sovereignty and population health posed by infectious diseases, natural disasters, war and civil conflict. Instruction Mode: Lecture Grading Option: Letter

IR 340 The Political Economy of China
Units: 4 Sources, consequences, challenges to China's economic growth, including rural and urban economies, entrepreneurship, central and local governments, inequality, trade, investment, finance, demographics, and the environment. Instruction Mode: Lecture Grading Option: Letter

IR 341 Foreign Policy Analysis
Units: 4 Basic concepts and analytical approaches in the study of decision-making at the international level. This is a case-based class, requiring participation of students in interactive discussions of decision forcing and retrospective foreign policy cases. Instruction Mode: Lecture Grading Option: Letter

IR 342 The Politics and Strategy of Weapons of Mass Destruction
Units: 4 Causes and effects of use and spread of nuclear, biological and chemical weapons; responses to WMD, including deterrence, preventive war, and non-proliferation policies and negotiations. Instruction Mode: Lecture Grading Option: Letter

IR 343 U.S. Foreign Policy since World War II
Units: 4 Analysis of U.S. foreign policy since 1945 as a basis for understanding significant new trends. Explanation of contemporary issues in U.S. relations with other nations. Instruction Mode: Lecture Grading Option: Letter

IR 344 The Global South in World Politics
Units: 4 Origin, concepts, realities and ideals of the non-aligned movement, focusing on the role of the United States in the developing world. Instruction Mode: Lecture Grading Option: Letter

IR 345 Russian and Post-Soviet Foreign Policy
Units: 4 Overview of Tsarist and Soviet experience as background to detailed examination of the political, economic and ideological forces behind contemporary Russian foreign policy. Instruction Mode: Lecture Grading Option: Letter

IR 346 Communism and Post-Communism: Eastern Europe and the Balkans
Units: 4 Analysis of communism and post-communism in East-Central Europe, including economic transitions, nationalism, inter-and intra-state conflict, NATO and EU enlargement. Instruction Mode: Lecture Grading Option: Letter

IR 349 International Law and Politics
Units: 4 Exploration of international law and international politics, including sovereignty, war, international tribunals, the environment, and human rights. Instruction Mode: Lecture Grading Option: Letter

IR 350 Power and Authority in the Middle East
Units: 4 (Enroll in MDES 345)

IR 351 Insurgency and Counterinsurgency
Units: 4 Terms Offered: Sp Theories of insurgency and counterinsurgency emphasizing works of notable guerrilla writers and the Western experience of putting theory into practice. Instruction Mode: Lecture Grading Option: Letter

IR 358 The Asia Pacific in World Affairs
Units: 4 The cultural, political, economic, and social aspects of the Asia Pacific's rise to prominence in world affairs. Reasons for the "successes" of many Asian economies and the environmental and social problems accompanying their rapid transformation. The difficulties of interaction in complex cultural situations illustrated by participation in a computer-assisted simulation. Instruction Mode: Lecture Grading Option: Letter

IR 359 The United States and the Middle East
Units: 4 Terms Offered: FaSp (Enroll in MDES 340)

IR 360 International Relations of the Pacific Rim
Units: 4 Political, economic and security relations among the countries in East Asia and the Pacific with the emphasis on the role of the United States, China and Japan. Instruction Mode: Lecture Grading Option: Letter

IR 361 South and Southeast Asia in International Affairs
Units: 4 The historical, cultural, and political reasons for Asia's dramatic transformation into a powerful engine of world economic growth. The secondary consequences of economic growth for environmental protection, gender relations, ethnicity, and military tension. Instruction Mode: Lecture Grading Option: Letter

IR 362 The International Relations of the Contemporary Middle East
Units: 4 Introduction to problems and issues in the Middle East today: religio-ethnic rivalries, conflicting nationalisms and ideologies, the Arab- Israeli conflict, Middle East oil. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-362

IR 363 Middle East Political Economy
Units: 4 Examination of general economic development issues: population, agriculture, industrialization, trade, oil, etc. Several Mideast case study countries are then explored in depth. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-363

IR 364 The Political Economy of Latin American Development
Units: 4 The main economic development themes and strategies in Latin America over the past century. The interplay between domestic and international variables, and the resulting dynamic changes. Instruction Mode: Lecture Grading Option: Letter

IR 365 Politics and Democracy in Latin America
Units: 4 Examines Latin America's experience with democracy emphasizing events since the 1980s. Analyzes the roles of interest groups, ideology, domestic politics, bureaucratic processes, perceptions and analogical reasoning. Instruction Mode: Lecture Grading Option: Letter

IR 366 Mexico and its Relations with the United States
Units: 4 Analysis of Mexico and U.S.-Mexico relations, both historically and in the present day, to understand better the challenges in this key bilateral relationship. Instruction Mode: Lecture Grading Option: Letter

IR 367 Africa in International Affairs
Units: 4 General overview of main historical, political, and economic issues as they affect Africa, focusing on nationalism, development, and superpower competition in Africa. Instruction Mode: Lecture Grading Option: Letter

IR 368 French Foreign Policy: 1945 to the Present
Units: 4 Terms Offered: FaSpSm Introduction to historical, thematic perspectives of French foreign policy since 1945 including review of external and internal constraints influencing foreign policy. (Paris semester only). Instruction Mode: Lecture Grading Option: Letter Crosslisted as FREN 368

IR 369 Post-War European Relations
Units: 4 European interstate conflict and cooperation since 1945; history of Western European integration during the Cold War; the European Union in post-Cold War Europe. Instruction Mode: Lecture Grading Option: Letter

IR 370 Global Governance and Health: From Global to Local
Units: 4 Terms Offered: Sm Addressing

global health challenges at multiple governance levels ranging from global to national to local. Instruction Mode: Lecture Grading Option: Letter

IR 371 Global Civil Society: Non-State Actors in World Politics
Units: 4 Examination of diplomatic and moral relationships between sovereign states and transnational non-state actors, both benevolent (humanitarian groups and philanthropies) and malevolent (mercenaries, pirates and terrorists). Instruction Mode: Lecture Grading Option: Letter

IR 374 Model Europe: Comparative Public Policy in France and the European Union
Units: 4 Terms Offered: Sm IR Analysis of contemporary challenges to the European Union policy-making in the areas of governance and citizenship, the environment, energy, economics and security. Instruction Mode: Lecture Grading Option: Letter

IR 376 U.S.-Japan Encounters: War, Trade, and Culture
Units: 4 The significance of U.S.-Japan relations is addressed through historical and policy analysis of America, Japan, and the Asia-Pacific region. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-376

IR 379 Cyber Conflict: Problems and Policy Issues
Units: 4 Cyber conflict, where cyber and national security intersect, is about technology and policy; players and prescriptions; crime, hacktivism, espionage, economic espionage, subversion and hybrid war. Instruction Mode: Lecture Grading Option: Letter

IR 380 Conducting Research on Climate Change, Conflict and Natural Resources
Units: 4 Terms Offered: Sp Analyzes and trains students to conduct independent research on the politics of natural resources. Training takes places in the field at a UC Natural Reserve. Instruction Mode: Lecture, Lab Grading Option: Letter

IR 381 Introduction to International Security
Units: 4 Key concepts in international security studies; historical evolution of international warfare and diplomacy; contemporary international security issues. Instruction Mode: Lecture Grading Option: Letter

IR 382w Order and Disorder in Global Affairs
Units: 4 Modern and post-modern perspectives on changes in the inter-state system, relations among cultures and civilizations, the conditions of ecologically sustainable human development. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 383 Conflict Mediation & Negotiation
Units: 4 Focuses on the international politics of resolving crises. Application of theories of conflict and negotiation in a UN Security Council Simulation. Instruction Mode: Lecture Grading Option: Letter

IR 384 Asian Security Issues
Units: 4 Introduction to key security trends in the Asia-Pacific region, emphasizing strategic competition between U.S., Russia, and China; regional military capabilities; rise of neutrality politics. Instruction Mode: Lecture Grading Option: Letter

IR 385 European Foreign Policy and Security Issues
Units: 4 In-depth analysis of foreign policy events and cases in Europe in the 20th century; focus on security issues. Instruction Mode: Lecture Grading Option: Letter

IR 386 Terrorism and Counterterrorism
Units: 4 Terms Offered: FaSpSm Examination of terrorism and responses to terrorism, including how societies understand and deal with terrorism; focus on ethical and normative issues. Instruction Mode: Lecture Grading Option: Letter

IR 387 Strategic Studies
Units: 4 Strategic theory and its application to national security and warfare from Western and non-Western perspectives. Topics include strategic culture, political decision-making, cyber operations, and non-state challenges. Instruction Mode: Lecture Grading Option: Letter

IR 388 Immigration in Spain: Issues and Controversies
Units: 4 Terms Offered: Sm Analyzes immigration in Spain within a comparative context of the European Union, focusing on challenges in the areas of economics, demography, politics and citizenship rights. Instruction Mode: Lecture Grading Option: Letter

IR 389 Islam in France
Units: 4 (Paris Semester only) Historical overview of interactions between Muslims and Europeans. Islam: origins, history and circumstances that led to its revival. France's immigration policy. Instruction Mode: Lecture Grading Option: Letter Crosslisted as FREN 389

IR 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

IR 391 Directed International Relations Field Study
Units: 2, 4 Max Units: 8.0 Intensive internship experience in international relations professional areas with academic research component (may be repeated for credit different semesters). Instruction Mode: Lecture Grading Option: Letter

IR 392 Supervised Undergraduate Research Experience
Units: 2 Max Units: 4 Collaborative research projects under faculty supervision. Regular skills training and professionalization workshops. Instruction Mode: Lecture Grading Option: Letter

IR 393 Policy Writing for National Security Affairs
Units: 4 Intensive policy writing related to national and insecurity issues with emphasis on research and writing in varying formats typical in the policy world. *Prerequisite:* WRIT 340 Instruction Mode: Lecture Grading Option: Letter

IR 394 Social Justice and Community-Based Research
Units: 4 Students will be paired with a non-governmental organization or movement in order to design and implement a research project that aims to promote social change. Instruction Mode: Lecture Grading Option: Letter

IR 401 The United Nations and World Order
Units: 4 The contribution of the United Nations to world order, focusing on its history, principal organs, relationships with global actors, and prospects for reform. Instruction Mode: Lecture Grading Option: Letter

IR 402 Theories of War
Units: 4 Causes of war; means of prevention and consequences of war. Instruction Mode: Lecture Grading Option: Letter

IR 403 Transnational Diplomacy and Global Security
Units: 4 Explores emerging "diplomatic" relations between nation-states and transnational (non-state) entities, such as non-governmental organizations (NGOs), in the development of global peace and security policies. *Recommended Preparation:* IR 303. Instruction Mode: Lecture Grading Option: Letter

IR 404 International Relations Policy Task Force
Units: 4 Addresses unfinished question of public policy. Provides experience in interviewing and field research, oral presentation and collective discussion and deliberation. Open to juniors and seniors only. Instruction Mode: Lecture Grading Option: Letter

IR 405 Cultural Heritage, Religion, and Politics in the Middle East
Units: 4 Terms Offered: Fa (Enroll in REL 402) Instruction Mode: Lecture Grading Option: Letter

IR 406 Ethics and World Politics
Units: 4 Exploration of the relationship between ethics and politics. Special focus on religion, violence and human rights in international relations Instruction Mode: Lecture Grading Option: Letter

IR 407 Chinese Foreign Policy
Units: 4 The domestic and international sources of Chinese foreign policy; political, military, and economic issues in China's relations with its neighbors. Instruction Mode: Lecture Grading Option: Letter

IR 408 Global Democratization
Units: 4 Exploration of the global experience with democracy. Meaning of the term "democracy," explanations of the rise and fall of democracy, its current trends and future challenges. Instruction Mode: Lecture Grading Option: Letter

IR 409 Environment and Politics in the Middle East
Units: 4 Terms Offered: FaSp (Enroll in MDES 401)

IR 410 The History of Modern International Relations
Units: 4 Explores modern international relations history, focusing on the role of the U.S. in the global politics. Provides training in historical research methods. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-422

IR 412 Applied Data Science for International Relations 1
Units: 2 Terms Offered: Fa Introduction to

statistical computing and data visualization in R. Focus on visualization of descriptive statistics; create publication-ready figures for actual faculty research projects. *Prerequisite:* IR 210 and IR 211 Instruction Mode: Lecture Grading Option: Letter

IR 413 Applied Data Science for International Relations 2
Units: 2 Terms Offered: Sp Intermediate statistical computing and data visualization in R. Focus the on graphical presentation of complex statistical relationships. Students create publication-ready figures for actual faculty research projects. *Prerequisite:* IR 210 and IR 211 and (IR 412 or IR 307) Instruction Mode: Lecture Grading Option: Letter

IR 422 Ecological Security and Global Politics
Units: 4 Should environmental issues be treated as threats to security? Survey of recent literature explores global environmental politics using a security framework. *Recommended Preparation:* environmental studies course work. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST 422

IR 423 Forced Migration and Conflict
Units: 4 Examines displacement, politics and violent conflict in the international system. Students engage academic debates on forced migration and volunteer with an LA-based organization serving refugees. Instruction Mode: Lecture Grading Option: Letter

IR 424w Citizenship and Migration in International Politics
Units: 4 Changing notions of citizenship in the context of history, and of economic, political and sociological theories of international migration; diaspora and migration case studies. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

IR 425 The New Triangle: China, the U.S. and Latin America
Units: 4 China's rise in the international political economy raises policy research questions, including an analysis of how this trend relates to U.S and Latin American relations. *Recommended Preparation:* micro and macro economics. Instruction Mode: Lecture Grading Option: Letter

IR 426 Trade Politics in the Western Hemisphere
Units: 4 Focus on the dynamic process of trade integration that has occurred since the mid-1980s in the Western Hemisphere. Instruction Mode: Lecture Grading Option: Letter

IR 427 Seminar on Economics and Security
Units: 4 Introduction to important economic issue areas that are understood as security-related in the contemporary world: food, trade, debt, etc. Instruction Mode: Lecture Grading Option: Letter

IR 428 China's Political Economy
Units: 4 Critical issues surrounding China's economic rise and the implications for international relations; the unique strengths and vulnerabilities of China's political-economic model; prospects for change. *Recommended Preparation:* IR 210 and a course from International Relations, Political Science, or History with a strong China component. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ECON-451

IR 429 America and the Future of Geopolitics
Units: 4.0 Possible futures for nations, regions and issues and how to help frame U.S. foreign policy in relation to them. *Prerequisite:* IR 210gw Instruction Mode: Lecture Grading Option: Letter

IR 430 The Politics of International Trade
Units: 4 Economic approaches and political processes are used to explain observed international trade policy choices. Topics covered include globalization, regionalism, labor standards, the environment and sanctions. *Recommended Preparation:* micro and macro economics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ECON 451

IR 431 Commercial and Financial Globalization-Trends, Challenges
Units: 4 Factors determining the feasibility, desirability and limits of economic globalization; the dynamics triggered by the Global Financial Crisis and the backlash against Globalization. Instruction Mode: Lecture Grading Option: Letter

IR 437 Comparative Genocide
Units: 4 An interdisciplinary treatment of the tragic phenomenon of genocide. Subject matter includes historical cases and analysis of contemporary global efforts toward prevention. Instruction Mode: Lecture Grading Option: Letter

IR 438 Nationalism and Ethnic Conflict after Communism
Units: 4 Explores origins and nature of ethnic strife among post-socialist states (ethnicity and national revival, modern histories of East-Central Europe and Russia, problems and conflict resolution). Instruction Mode: Lecture Grading Option: Letter

IR 439 Political Economy of Russia and Eurasia
Units: 4 Interaction of politics and economics in the former Soviet Union and its component republics; the historical planned economy, the politics of reform and the political economy of former Soviet foreign relations. Instruction Mode: Lecture Grading Option: Letter

IR 440 America's Pacific Century: Dialogues between the U.S. and Asia
Units: 4 Terms Offered: Sp A hands-on analysis of the contemporary U.S. foreign policy towards East Asia through lectures, interviews, and policy paper writing, including an exchange visit to Singapore. Instruction Mode: Lecture Grading Option: Letter

IR 441 Comparative Analysis of Foreign Policy
Units: 4 Comparative analysis of foreign policy determinants and decision-making; empirical emphasis. Instruction Mode: Lecture Grading Option: Letter

IR 442 Japanese Foreign Policy
Units: 4 Economic, political, territorial, and security issues; foreign policy decision-making; relations with major powers and neighboring states. Instruction Mode: Lecture Grading Option: Letter

IR 443 Formulation of U.S. Foreign Policy
Units: 4 Critical discussion of alternative approaches explaining the formulation and implementation of U.S. foreign policy: domestic politics, organizational processes, group dynamics, individual personality and perception. Instruction Mode: Lecture Grading Option: Letter

IR 444w Theories of Global Society
Units: 4 Why the world is organized into sovereign nation-states. The challenges to nation-states in the 21st century from globalization, democratization, revolution, technology, and new forms of cultural identity. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

IR 445 U.S. Defense and Foreign Policy: Nonproliferation and Weapons of Mass Destruction
Units: 4 Policies and programs aimed at stopping the spread of weapons of mass destruction. Presentations by executive/legislative officials involved in formulation and implementation of non-proliferation. Instruction Mode: Lecture Grading Option: Letter

IR 446 The Role of Norms and International Security
Units: 4 The role of ideas, beliefs and norms in understanding state behavior and US foreign policy, from traditional security concepts to modern soft power. Instruction Mode: Lecture Grading Option: Letter

IR 447w Cities of the Middle East
Units: 4 Terms Offered: FaSp (Enroll in MDES 441w)

IR 449 International Courts and the Globalization of Law
Units: 4 Research-based analysis of dramatic development of international courts, exploring causes for their development, autonomy and political relations with states, compliance, effects on international relations. Instruction Mode: Lecture Grading Option: Letter

IR 454 The International Political Economy of Development
Units: 4 Provides a critical introduction to scholarship on international political economy (IPE), the interaction of states and markets in a global context. Instruction Mode: Lecture Grading Option: Letter

IR 455 The Political Economy of Autocracy
Units: 4 Survey of autocracy, the world's most common form of government: its political economy, the role of elections, parties, repression, propaganda and civil resistance. Instruction Mode: Lecture Grading Option: Letter

IR 462 State-Building, Institutions in Middle East and North Africa
Units: 4 The interaction of institutions, preferences and historical legacies in the building of state-institutions in the Middle East and North Africa. Instruction Mode: Lecture Grading Option: Letter

IR 463 Islam and Arab Nationalism
Units: 4 Historical, sociological and political processes that have shaped the emergence of and relationship between Arab nationalism and political Islam since the early 20th century. Instruction Mode:

Lecture Grading Option: Letter Crosslisted as MDES-463

IR 464 US-Middle East Foreign Policy Issues
Units: 4 U.S. and Middle East perspectives on Middle Eastern affairs after the creation of the state of Israel. Instruction Mode: Lecture Grading Option: Letter

IR 465 Contemporary Issues in United States-Latin America Relations
Units: 4 Examines major issues in the relationship between the United States and the countries of Latin America and the Caribbean, including trade and financial questions, security, immigration, the environment, narcotics, etc. Major bilateral relations (especially with Mexico, Brazil, and the Caribbean Basin countries) are emphasized, as are regional and multilateral relationships. Instruction Mode: Lecture Grading Option: Letter

IR 466 Contemporary Issues in Latin American Politics
Units: 4 Focus on current politics in Latin America. Address a range of themes: electoral democracy, citizenship, political inclusion, human rights, corruption, economic inequality. Instruction Mode: Lecture Grading Option: Letter

IR 468 European Integration
Units: 4 Research on the European Union's role in European international relations; internal EU developments since 1985 as an actor in the world economy. Instruction Mode: Lecture Grading Option: Letter

IR 470 Comparative Regionalism
Units: 4 Analysis of the factors that provide different forms of regional arrangements in different parts of the world (e.g, NAFTA, FU, ASEAN). *Prerequisite:* IR 210. Instruction Mode: Lecture Grading Option: Letter

IR 483 War and Diplomacy: The U.S. in World Affairs
Units: 4 Perspective on recent American foreign policy; a case study of conflicting literature on the origins, development and legacy of the Cold War. Instruction Mode: Lecture Grading Option: Letter

IR 484 American Religion, Foreign Policy and the News Media
Units: 4 (Enroll in JOUR 484)

IR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

IR 491x Field Study
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Local, national, and international internships. Instruction Mode: Lecture Grading Option: Letter

IR 494 Honors Thesis Seminar
Units: 4 Preparation and oral defense of senior honors thesis before supervising faculty and fellow honors students. *Recommended Preparation:* IR 311. Instruction Mode: Lecture Grading Option: Letter

IR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in various special areas within international relations, which may vary from semester to semester or within semesters. Instruction Mode: Lecture Grading Option: Letter

IR 553 Global Internet Governance
Units: 4 Terms Offered: FaSp (Enroll in COMM 553)

Persian

IRAN 120 Persian I
Units: 4 Introduction to contemporary Persian (Farsi). Oral practice, listening and reading comprehension, grammar and vocabulary necessary for simple spoken and written expression. Duplicates Credit in former MDES 120. Instruction Mode: Lecture Grading Option: Letter

IRAN 150 Persian II
Units: 4 Continuation of Persian I. *Prerequisite:* IRAN 120. Instruction Mode: Lecture Grading Option: Letter

IRAN 220 Persian III
Units: 4 Intermediate Persian (Farsi). Building conversational skills, listening and reading comprehension, grammar and vocabulary necessary for intermediate level spoken and written expression. *Prerequisite:* IRAN 150. Duplicates Credit in former MDES 220. Instruction Mode: Lecture Grading Option: Letter

IRAN 250 Persian IV
Units: 4 Continuing Intermediate Persian (Farsi). Building conversational skills, listening and reading comprehension, grammar and vocabulary necessary for intermediate level spoken and written expression. *Prerequisite:* IRAN 220 Duplicates Credit in former MDES 250 Instruction Mode: Lecture Grading Option: Letter

IRAN 320 Advanced Persian I
Units: 4 Terms Offered: FaSp Advanced verbal and written expression in Persian, including deeper understanding of Persian culture. *Prerequisite:* IRAN 250. Duplicates Credit in former MDES 320. Instruction Mode: Lecture Grading Option: Letter

IRAN 325 Business Persian
Units: 4 Terms Offered: FaSp Business Persian is an intermediate level course designed to develop communicative skills, written expression and reading comprehension on intermediate business contents. *Prerequisite:* IRAN 220 Instruction Mode: Lecture Grading Option: Letter

IRAN 350 Advanced Persian II
Units: 4 Terms Offered: FaSp Continuation of Advanced Persian I. *Prerequisite:* IRAN 320. Duplicates Credit in former MDES 350. Instruction Mode: Lecture Grading Option: Letter

Industrial and Systems Engineering

ISE 105 Introduction to Industrial and Systems Engineering
Units: 2 Terms Offered: FaSp A combination of plant tours, laboratory experiences, and lecture are used to introduce the philosophy, subject matter, aims, goals, and techniques of industrial and systems engineering. Instruction Mode: Lecture Grading Option: Letter

ISE 150 Solving Engineering Problems via Computer Programming
Units: 3 Terms Offered: Sp Engineering examples are used as a platform to introduce computer programming skills for problem solving; critical thinking skills. Instruction Mode: Lecture, Lab Grading Option: Letter

ISE 220 Probability Concepts in Engineering
Units: 3 Terms Offered: FaSp Techniques for handling uncertainties in engineering design: discrete and continuous random variables; expectations, probability distributions and transformations of random variables; limit theorems; approximations and applications. *Prerequisite:* MATH 126. Instruction Mode: Lecture Grading Option: Letter

ISE 225 Engineering Statistics I
Units: 3 Terms Offered: Sp Sampling distributions; parameter estimation, hypothesis testing; analysis of variance; regression; nonparametric statistics. *Prerequisite:* ISE 220. Instruction Mode: Lecture Grading Option: Letter

ISE 232L Manufacturing Processes
Units: 3 Terms Offered: Fa Basic manufacturing processes including casting, machining, forming and welding; current trends in manufacturing processes including polymer, ceramic and composite material processing, and electronic device fabrication; introduction to numerical control and computer integrated manufacturing. *Recommended Preparation:* MASC 110L or CHEM 105aLg or CHEM 115aLg Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as AME 232

ISE 310L Facilities and Logistics
Units: 4 Terms Offered: FaSp Facilities layout and design: material handling and transportation; site selection and sourcing; supply chain management. *Prerequisite:* ISE 330 and ISE 460. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 315L Engineering Project Management
Units: 3 Terms Offered: FaSp Techniques for planning, budgeting, scheduling, obtaining resources, monitoring and control of projects in a corporate environment. Use of software to evaluate performance and assess risks. *Prerequisite:* ISE 225 and ISE 330 Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 327 Six Sigma and Lean Operations
Units: 3 Standardized methodology for problem solving, basic and advanced statistical tools for root cause identification and solution confirmation, key principles for quality management and organizational excellence. *Prerequisite:* ISE 225 Instruction Mode: Lecture Grading Option: Letter

ISE 330 Introduction to Operations Research: Deterministic Models
Units: 3 Terms Offered: Fa Introduction to linear programming; transportation and assignment problems; dynamic programming; integer programming; nonlinear programming. *Prerequisite:* MATH 225. Instruction Mode: Lecture Grading Option: Letter

ISE 331 Introduction to Operations Research: Stochastic Models
Units: 3 Terms Offered: Sp Stochastic processes; Markov chains; queueing theory and queueing decision models; probabilistic inventory models. *Prerequisite:* ISE 220; *Recommended Preparation:* ISE 330. Instruction Mode: Lecture Grading Option: Letter

ISE 335L Supply Chain Design
Units: 3 Terms Offered: FaSp Design of Supply Chains. Product, distribution, transportation and site selection. Analysis and optimization of supply chain networks. *Prerequisite:* ISE 330 and ISE 460 Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 344 Engineering Team Management
Units: 3 Examine team formation and team dynamics including organizational behavior, group dynamics, psychology, and business management, all in the context of engineering development; decision-making and negotiation. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

ISE 350 Principles of Systems Engineering
Units: 3 Terms Offered: FaSp Systems as complex collaborative ensembles of interconnected components. Theory and practice of requirements, design, implementation, testing, deployment, operation, and disposal. Case studies from real projects. *Prerequisite:* ISE 225 Instruction Mode: Lecture Grading Option: Letter

ISE 370L Human Factors in Work Design
Units: 4 Terms Offered: Fa Physiological systems and psychological characteristics; ergonomics; anthropometry; effects of the physical environment on humans; occupational safety and health; work methods. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 375L Facilities Design
Units: 3 Terms Offered: FaSp Design of facilities for operations and distribution. Product, process flow, material handling, and facility location techniques that lead to making good decisions for facilities layouts. *Prerequisite:* ISE 331 and ISE 460 Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 382 Database Systems: Concepts, Design and Implementation
Units: 4 Terms Offered: FaSp Data models for industry applications. Modeling and designing robust databases. Implementing and querying databases with SQL. Innovations in database applications. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ITP 383

ISE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ISE 404 Business and Intellectual Property Law for Engineers
Units: 3 (Enroll in CE 404)

ISE 410 Planning and Scheduling
Units: 3 Terms Offered: FaSp Production planning, forecasting, scheduling, and inventory; computer integrated decision systems in analysis and control of production systems. *Prerequisite:* ISE 330. Instruction Mode: Lecture Grading Option: Letter

ISE 422L Configuring Enterprise Resource Planning Systems
Units: 4 (Enroll in ITP 422)

ISE 426 Statistical Quality Control
Units: 3 Terms Offered: Fa Quantitative aspects of statistical quality control (process control, acceptance sampling by attribute and by variable, rectifying inspection), quality assurance and the management of QC/QA functions. *Prerequisite:* ISE 225. Instruction Mode: Lecture Grading Option: Letter

ISE 435 Discrete Systems Simulation
Units: 3 Terms Offered: FaSp Model design to simulate discrete event systems with basic input and output analysis using high order languages, applied to industrial systems analysis and design problems. *Prerequisite:* CSCI 101 and ISE 225. Instruction Mode: Lecture, Lab Grading Option: Letter

ISE 440 Work, Technology, and Organization
Units: 3 Terms Offered: Sp Impact of technology on work and organizational design; effects of automation; design of improvement programs; information infrastructures; teams; individual behavioral outcomes. Upper division standing. Instruction Mode: Lecture Grading Option: Letter

ISE 460 Engineering Economy
Units: 3 Terms Offered: FaSpSm Utilizing principles of economic analysis for choice of engineering alternatives and engineering systems. Pre-tax and after-tax economy studies. Instruction Mode: Lecture, Discussion Grading Option: Letter

ISE 470 Human/Computer Interface Design
Units: 3 Terms Offered: Sp Essentials of human factors and computer interface for the design, development, implementation, and evaluation of integrated media systems. Instruction Mode: Lecture Grading Option: Letter

ISE 482 Engineering Database Applications
Units: 3 (Enroll in ITP 482)

ISE 487Lx Enterprise Data Analytics
Units: 4 Terms Offered: Fa (Enroll in ITP 487)

ISE 488x Managing Supply Chains with Advanced Planning and Optimization
Units: 3 (Enroll in ITP 488)

ISE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ISE 495ax Senior Design Project
Units: 2 Terms Offered: FaSp Preparation and development of the senior project proposal. Open only to industrial and systems engineering majors. *Prerequisite:* ISE 225 and ISE 460 and DSO 435 or ISE 382. Instruction Mode: Lecture Grading Option: In Progress to Letter

ISE 495bx Senior Design Project
Units: 2 Terms Offered: FaSp Group work on an industrial engineering design problem in an organization. Open only to industrial and systems engineering majors. *Prerequisite:* ISE 435 and ISE 370 or ISE 470. Registration Restriction: Open only to Industrial and Systems Engineering majors. Instruction Mode: Lecture Grading Option: Letter

ISE 499 Special Topics
Units: 2, 3, 4 Course content to be selected each semester from recent developments in industrial and systems engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

ISE 500 Statistics for Engineering Managers
Units: 3 Terms Offered: FaSpSm Framing engineering management situations with statistical methods. Experiments, distributions, regression, ANOVA, hypothesis. Registration Restriction: Open only to fifth-year seniors and master's students Instruction Mode: Lecture Grading Option: Letter

ISE 501 Innovative Conceptual Design for New Product Development
Units: 3 Terms Offered: FaSp An introduction to a conceptual design framework with a logic foundation and a systematic process to carry out concept generation and improvement for innovative product developments. *Recommended Preparation:* Bachelor's degree in engineering or physical sciences Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 501

ISE 502 Construction Accounting, Finance and Strategy
Units: 4 Terms Offered: FaSp (Enroll in CE 502)

ISE 505 Modeling for Health Policy and Medical Decision Making
Units: 3 Terms Offered: Fa Modeling techniques used to inform decisions in public health, disease control, and hospital operations. *Recommended Preparation:* Basic probability; advanced undergraduates are encouraged to take the class and should obtain instructor permission to attend Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD 505

ISE 506 Lean Operations
Units: 3 Terms Offered: FaSp Study of lean principles and practices as applied to various industries. Duplicates Credit in the former SAE 551 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SAE 551

ISE 507 Six-Sigma Methods and Applications
Units: 3 Terms Offered: FaSpSm Comprehensive study of Six Sigma and Lean metrics, methods, and systems with their applications to manufacturing, services, quality improvement and management. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD-507

ISE 508 Health Care Operations Improvement
Units: 3 Terms Offered: Sp Improving operations, patient flow, quality and processes. Students will become familiar with methods for implementing change in health care settings such as hospitals or clinics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD-508

ISE 509 Practicum in Health Care Systems
Units: 3 Terms Offered: FaSp Performance improvement projects within hospitals are undertaken by small teams collaborating with hospital staff. Study of tools to improve and optimize operations. *Recommended Preparation:* Spreadsheet use and general

familiarity with the healthcare industry; engineering statistics at the level of ISE 225 Instruction Mode: Lecture Grading Option: Letter

ISE 510 Advanced Computational Design and Manufacturing
Units: 3 Terms Offered: Sp Study advanced concepts behind computational representations, algorithms, and mathematical foundations, and their applications in computer aided design and manufacturing. Develop hands-on computational skills in team projects. *Recommended Preparation:* bachelor's degree in industrial engineering; programming experience, C++ preferred Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 510

ISE 511L Mechatronic Systems Engineering
Units: 3 Terms Offered: Fa Use of mechanical, electrical, and computer engineering, math, and computer science to design of high performance and sophisticated products and processes and systems involving mechatronic. *Recommended Preparation:* bachelor's degree in engineering or physical sciences, and preliminary knowledge of programming in C Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 504

ISE 512 Software Management and Economics
Units: 3 Terms Offered: Fa (Enroll in CSCI 510)

ISE 513 Inventory Systems
Units: 3 Terms Offered: Sp Deterministic and stochastic demand systems with static/dynamic models. Practice in inventory management, computerized procedures, materials requirements planning, just-intime production, Kanban systems. Instruction Mode: Lecture Grading Option: Letter

ISE 514 Advanced Production Planning and Scheduling
Units: 3 Terms Offered: FaSm Advanced concepts in production planning and scheduling including resource allocation, lot sizing, flow shop and job shop scheduling, workforce scheduling and assembly line balancing. *Recommended Preparation:* prior knowledge of operations research and probability theory. Instruction Mode: Lecture Grading Option: Letter

ISE 515 Engineering Project Management
Units: 3 Terms Offered: FaSpSm Applying industrial and systems engineering skills to problems drawn from industry, while working in teams of 3–4 students. Teach project management skills and provide direct experience in managing and executing a group project. Instruction Mode: Lecture Grading Option: Letter

ISE 517 Modern Enterprise Systems
Units: 3 Terms Offered: FaSp Managing the process design, interfaces and resources of service and manufacturing systems, based on the state of their processes. Instruction Mode: Lecture Grading Option: Letter

ISE 520 Optimization Theory and Algorithms: Numerical Optimization
Units: 3 Terms Offered: Fa Numerical methods for multidimensional, non-linear optimization algorithms, simple and quadratic programming *Recommended Preparation:* Multivariate Calculus, Linear Algebra, Computer Programming Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 521

ISE 525 Design of Experiments
Units: 3 Terms Offered: FaSp Planning data collection to investigate relationships between product/process design choices (materials, temperatures, etc.) and performance, empirical modeling to predict performance, identification of the best design choices. *Recommended Preparation:* ISE 225. Instruction Mode: Lecture Grading Option: Letter

ISE 527 Quality Management for Engineers
Units: 3 Terms Offered: FaSp Principles of quality management, quality philosophies and frameworks, quality leadership and strategic planning, process management, and performance measurements. Instruction Mode: Lecture Grading Option: Letter

ISE 528 Advanced Statistical Aspects of Engineering Reliability
Units: 3 Advanced statistical methods applied to reliability engineering. Experimental design analysis and interpretation of multifactor reliability problems. Instruction Mode: Lecture Grading Option: Letter

ISE 529 Predictive Analytics
Units: 3 Terms Offered: FaSp Analytics for supervised and unsupervised statistical learning. Generalized linear models, discriminant analysis, support vector machines. Nonparametric classification, trees, ensemble methods, k-nearest neighbors. Principal components, clustering. *Recommended Preparation:* ISE 225 and equivalent working knowledge of a computer language Instruction Mode: Lecture Grading Option: Letter Crosslisted as DSCI 561

ISE 530 Optimization Methods for Analytics
Units: 3 Terms Offered: FaSp Linear Programming, Integer Programming, quadratic and nonlinear programming. *Recommended Preparation:* Calculus III, Linear Algebra and Computer Programming Instruction Mode: Lecture Grading Option: Letter

ISE 532 Network Flows
Units: 3 Terms Offered: Sp Tree, path, flow problems, formulation and solution techniques. Methods for minimal cost flows. Applications. *Prerequisite:* ISE 330 or ISE 536. Instruction Mode: Lecture Grading Option: Letter

ISE 533 Integrative Analytics
Units: 3 Terms Offered: Sp The three pillars of analytics (predictive, prescriptive, and validation) together under one framework. Use of statistics, learning enabled optimization. Based on publicly available data sets. *Prerequisite:* ISE 529 and ISE 530 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

ISE 534 Data Analytics Consulting
Units: 3 Terms Offered: Sp Consulting project concepts, frameworks, analytical tools, and managerial skills with a focus on the use of data analytics, design thinking and insight-driven frameworks. *Prerequisite:* ISE 529 and ISE 530 *Recommended Preparation:* Working knowledge of machine learning techniques as provided by ISE 529. Basic knowledge of statistics and statistical modeling. Instruction Mode: Lecture Grading Option: Letter

ISE 535 Data Mining
Units: 3 Terms Offered: Sp Data preprocessing, data cleaning, data summarization, data visualization, and predictive modeling for classification and regression; modeling dependencies using association rules. *Recommended Preparation:* Knowledge of engineering statistics on the level of ISE 225 and working knowledge of a programming language Instruction Mode: Lecture Grading Option: Letter

ISE 536 Linear Programming and Extensions
Units: 3 Terms Offered: Fa Linear programming models for resource allocation; simplex and revised simplex methods; duality; sensitivity; transportation problems; selected extensions to large scale, multiobjective, and special structured models. *Prerequisite:* MATH 225 or EE 441. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-536

ISE 537 Financial Analytics
Units: 3 Terms Offered: FaSp Portfolio construction and active portfolio management; investment strategies; machine learning models in quantitative finance; equity factor investing and general risk premia investing. *Recommended Preparation:* Knowledge of Engineering Statistics on the level of ISE 225 and working knowledge of a programming language Instruction Mode: Lecture Grading Option: Letter

ISE 538 Performance Analysis Using Markov Models
Units: 3 Terms Offered: FaSp Random variables, stochastic processes, birth and death processes, continuous- and discrete-time Markov chains with finite and infinite number of states, renewal phenomena and queuing systems. Instruction Mode: Lecture Grading Option: Letter

ISE 539 Stochastic Elements of Simulation
Units: 3 Terms Offered: Sp Simulation techniques combined with probabilistic analysis for solving problems in inventory theory, queuing theory, financial engineering, decision analysis, and other fields having a stochastic element. *Corequisite:* ISE 538. Instruction Mode: Lecture Grading Option: Letter

ISE 540 Text Analytics
Units: 3 Terms Offered: Fa Methods and algorithms for automated text analysis; machine learning; predictive web data analytics; information retrieval; social media data; natural language documents and graphs. *Prerequisite:* ISE 225 *Recommended Preparation:* Working knowledge of a programming language (R or Python is desirable). ISE 529 Predictive Analytics is highly recommended. Instruction Mode: Lecture Grading Option: Letter

ISE 543 Enterprise Business Intelligence and Systems Analytics
Units: 3 Terms Offered: Sp Overview of data management and analytical techniques used in corporate environments and their practical implementation using state-of-the-art Business Intelligence software. *Recommended Preparation:* An undergraduate statistics course on the level of ISE 225. Some programming experience, at the level of ISE 150, would be helpful Instruction Mode: Lecture Grading Option: Letter

ISE 544 Leading and Managing Engineering Teams
Units: 3 Terms Offered: FaSpSm Design and management of engineering teams. Group decision-making, motivation, leadership, infrastructural requirements, performance measurement, team diversity, conflict, and integration. Instruction Mode: Lecture Grading Option: Letter

ISE 545 Technology Development and Implementation
Units: 3 Terms Offered: Fa Principles and practices of technology development and implementation, with application to products and systems in manufacturing and services. Instruction Mode: Lecture Grading Option: Letter

ISE 551 Foundations of Data Management
Units: 3 Terms Offered: FaSp (Enroll in INF 551)

ISE 554 Innovation and the Engineering Enterprise
Units: 3 Examination of innovation in engineering enterprises including human behavior and human resources, organizational development, engineering management, business structures, financing the enterprise and intellectual property. Instruction Mode: Lecture Grading Option: Letter

ISE 556 Stochastic Systems and Reinforcement Learning
Units: 4 Terms Offered: Sp (Enroll in EE 556)

ISE 560 Analysis of Algorithms
Units: 4 (Enroll in CSCI 570)

ISE 561 Economic Analysis of Engineering Projects
Units: 3 Terms Offered: FaSpSm Economic evaluations of engineering systems for both government and private industry; quantitative techniques for evaluating non-monetary consequences; formal treatment of risk and uncertainty. *Prerequisite:* ISE 500; *Recommended Preparation:* an undergraduate course in engineering economy. Instruction Mode: Lecture Grading Option: Letter

ISE 562 Decision Analysis
Units: 3 Terms Offered: FaSp Decision making under risk conditions; utility theory; sufficient statistics; conjugate prior distributions; terminal and pre-posterior analysis; Bayesian statistics versus classical statistics. Instruction Mode: Lecture Grading Option: Letter

ISE 563 Financial Engineering
Units: 3 Terms Offered: Sp Concepts underlying the economic analysis of engineering projects; applications to call and put options; utility theory and mathematical optimizations models; and simulation. *Recommended Preparation:* ISE 220 or an equivalent course in probability. Instruction Mode: Lecture Grading Option: Letter

ISE 564 Performance Analysis
Units: 3 Measurement systems for performance analysis. Determination of performance metrics, analytical models, case studies. Cross-industry comparisons, measures for manufacturing and service systems, information and knowledge workers. Instruction Mode: Lecture Grading Option: Letter

ISE 565 Law and Finance for Engineering Innovation
Units: 3 Students will identify, formulate and resolve legal, financial and ethical issues affecting innovation in engineering organizations including legal structures, financing and intellectual property rights. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-580

ISE 566 Financial Accounting Analysis for Engineering
Units: 3 Terms Offered: Sp Identification, formulation, and solution of financial accounting problems in engineering enterprises. Legal context of financial decisions, process cost determination and allocation, financial reports, and reporting systems. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

ISE 567 Collaborative Engineering Principles and Practice
Units: 3 Terms Offered: Sp Scientific principles and industrial practices defining how a team of stakeholders should collaboratively work together to reach agreement on complex engineering tasks. Open only to graduate students in engineering. Registration Restriction: Open only to graduate students in engineering. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-567

ISE 568 Machine Learning
Units: 3 Terms Offered: Fa (Enroll in CSCI 567)

ISE 570 Human Factors in Engineering
Units: 3 Terms Offered: Fa Psychological and physiological characteristics of humans; how they limit engineering design of machines and human-machine systems. Instruction Mode: Lecture Grading Option: Letter

ISE 573 Work Physiology
Units: 3 Survey of metabolic processes in the performance of physical work, study of individual and environmental factors affecting these processes.

ISE 574 Probabilistic Reasoning
Units: 3 Terms Offered: Fa (Enroll in CSCI 573)

ISE 576 Industrial Ecology: Technology-Environment Interaction
Units: 3 Concepts and methods to analyze the environmental impacts of industrial systems, including lifecycle assessment, material flow analysis, design for environment and sustainable consumption. Instruction Mode: Lecture Grading Option: Letter

ISE 580 Performance Analysis with Simulation
Units: 3 Terms Offered: FaSp Introduction to modeling and analysis of stochastic systems, with an emphasis on discrete-event simulation of non-Markovian systems. *Recommended Preparation:* Probability and statistics, including hypothesis testing and introductory computer programming Instruction Mode: Lecture Grading Option: Letter

ISE 581 Negotiation For Engineering Management
Units: 3 Terms Offered: Sp Decision making techniques for the engineering manager including negotiation principles, contract negotiation, dispute resolution, auctions, bidding, voting and coalition formation. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-581

ISE 582 Web Technology for Industrial Engineering
Units: 3 Terms Offered: Fa A fast-paced, project-based introduction to designing and implementing interactive Web applications. Emphasizes skills for building engineering and market research applications requiring information gathering, analysis, representation. *Prerequisite:* ISE 382. Instruction Mode: Lecture Grading Option: Letter

ISE 583 Enterprise Wide Information Systems
Units: 3 Terms Offered: FaSp The role of enterprise resource planning systems (ERPs) in an organization and the task of implementing and managing the IS function. Instruction Mode: Lecture Grading Option: Letter

ISE 585 Strategic Management of Technology
Units: 3 Terms Offered: FaSp Management skills and tools for technology intensive enterprises. Life cycle analysis of technology from planning through exploitation, obsolescence and renewal. Instruction Mode: Lecture Grading Option: Letter

ISE 587 Risk Analysis
Units: 4 (Enroll in PPD 587)

ISE 589 Port Engineering: Planning and Operational Analysis-
Units: 4 Terms Offered: SpSm (Enroll in CE 589)

ISE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree; maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ISE 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Terms Offered: Fa Course content will be selected each semester to reflect current trends and developments in the field of industrial and systems engineering. Instruction Mode: Lecture Grading Option: Letter

ISE 610 Advance Design of Experiments and Quality Engineering
Units: 3 Terms Offered: Fa Advanced planning for data collection in order to investigate relationships between product/process design choices and performance; empirical modeling to predict performance; identification of the best design. *Recommended Preparation:* Undergraduate course in Engineering Statistic, including distributions, confidence intervals, ANOVA and Regression. Instruction Mode: Lecture Grading Option: Letter

ISE 620 Foundations of Stochastic Processes
Units: 3 Terms Offered: Sp An introductory PhD course on stochastic processes, covering such topics as conditional expectation, renewal processes, and discrete and continuous time Markov chains. *Recommended Preparation:* A course in probability. Some knowledge of real analysis. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

ISE 630 Foundations of Optimization
Units: 3 Terms Offered: Sp Convex sets, convex functions, structures of optimization problems, Lagrangian and conjugate duality. First and second order optimality conditions; applications in engineering and management. *Recommended Preparation:* Calculus III and Linear Algebra. Instruction Mode: Lecture Grading Option: Letter

ISE 631 Linear Programming
Units: 3 Terms Offered: Fa Doctoral course in optimization, the foundation for subsequent courses in mathematical programming. For first-year Ph.D. students and M.S. students who intend to pursue a Ph.D. *Recommended Preparation:* One year of calculus and one semester of linear and matrix algebra Instruction Mode: Lecture Grading Option: Letter

ISE 632 Network Flows and Combinatorial Optimization
Units: 3 Terms Offered: Sp Combinatorial optimization, particularly graph problems. Shortest paths, max flow, minimum cost flows, spanning trees, matroids, submodular functions. Bipartite and general matchings, polyhedral combinatorics, total unimodularity. *Prerequisite:* ISE 536; *Recommended Preparation:* familiarity with the theory of linear programming and with mathematical proofs; knowledge of linear algebra. Duplicates Credit in ISE 532. Instruction Mode: Lecture Grading Option: Letter

ISE 633 Large Scale Optimization and Machine Learning
Units: 3 Terms Offered: Fa Large scale optimization algorithms that arise in modern data science and machine learning applications. Stochastic Optimization, Accelerated Methods, Parallelization, Online Optimization, Randomized Linear Algebra *Recommended Preparation:* Linear Algebra and Probability Instruction Mode: Lecture Grading Option: Letter

ISE 637 Equilibrium Programming
Units: 3 Terms Offered: FaSp Built on the methodology of constrained optimization, a graduate level course on equilibrium programming cast in the framework of finite-dimensional variational inequality and complementarity problems. *Prerequisite:* ISE 520 and ISE 536. Instruction Mode: Lecture Grading Option: Letter

ISE 638 Stochastic Optimization
Units: 3 Terms Offered: FaSp Stochastic linear and integer programming, multi-stage stochastic programming, application, models and algorithms. *Recommended Preparation:* A first graduate course in optimization and the ability to program in a high level language are essential. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-638

ISE 645 Uncertainty Modeling and Stochastic Optimization
Units: 3 Terms Offered: Sp (Enroll in CE 645)

ISE 651 Seminar in Industrial and Systems Engineering
Units: 1 Max Units: 4.0 Terms Offered: FaSp Current research, guest speakers in the field; review papers; guidance in preparing research proposals and special projects. Open only to fifth-year seniors and master's students. Registration Restriction: Open only to Fifth Year Seniors and Master's Students. Duplicates Credit in the former ISE 650abc. Instruction Mode: Lecture Grading Option: Credit/No Credit

ISE 662 Advanced Decision Theory
Units: 3 Terms Offered: Sp Rational decision making; value and utility functions; distribution theory and copulas; value of information and control; multi-attribute utility; decision and game theory; behavioral research. *Recommended Preparation:* Differential equations; mathematical statistics; some knowledge of measurement theory and functional equations Instruction Mode: Lecture Grading Option: Letter

ISE 670 Advanced Analysis of Algorithms
Units: 3 Terms Offered: Fa (Enroll in CSCI 670)

ISE 671 Randomized Algorithms
Units: 3 Terms Offered: Sp (Enroll in CSCI 671)

ISE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Laboratory study of specific problems by candidates for the degree Engineer in Industrial and Systems Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

ISE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ISE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Italian

ITAL 012x Italian 120 Language Practicum
Units: 1 Terms Offered: FaSpSm English grammar as it relates to Italian in order to improve students' Italian language skills; explicit pronunciation and intonation practice. Requires concurrent enrollment in either ITAL 120 Italian I or MPVA 260 Italian Language and Diction. Credit Restriction: Not available for major or degree credit Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 015x Italian 150 Language Practicum
Units: 1 Terms Offered: FaSpSm English grammar as it relates to Italian in order to improve students' Italian language skills; explicit pronunciation and intonation practice. *Concurrent Enrollment:* ITAL 150 Credit Restriction: Not available for credit Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 020x Course in Reading Italian
Units: 2 For graduate students who wish help in meeting the Italian reading requirement for the PhD degree. Synoptic presentation of Italian grammar. Emphasis on development of reading skills. Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 120 Italian I
Units: 4 Terms Offered: FaSpSm Introduction to current Italian. Oral practice, hearing and reading comprehension; grammar necessary for simple spoken and written expression. *Prerequisite:* Italian placement exam. Instruction Mode: Lecture Grading Option: Letter

ITAL 122 Italian Basic Language in a Business Context
Units: 1 Terms Offered: FaSpSm Develops students' first semester language skills with an emphasis on the business context. Introduces students to the Italian economy and select business practices. May be taken in the same semester as ITAL 175. May be taken in the same semester as, or after completing, ITAL 120 or MPVA 260. May not be taken with or after completing ITAL 150. Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 150 Italian II
Units: 4 Terms Offered: FaSpSm Continuation of Italian I. *Prerequisite:* ITAL

120 or MPVA 260 Instruction Mode: Lecture Grading Option: Letter

ITAL 152 Italian Basic Language for the Professions
Units: 1 Terms Offered: FaSpSm Develops students' linguistic, cultural and interpersonal competencies in professional contexts. Introduces students to the Italian economy, workplace and business practices, including job searches. May be taken in the same semester as, or after completing, ITAL 150 or ITAL 220. May be taken after completing ITAL 175. May not be taken with or after completing ITAL 224. Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 175 Accelerated Italian for Speakers of Spanish and Other Romance Languages
Units: 4 Terms Offered: FaSp Accelerated introduction to written and spoken Italian for students with a high level of proficiency in Spanish or another Romance Language. Students completing this course may enroll in the third semester of the basic language sequence ITAL 220. *Prerequisite:* SPAN 220 or FREN 220 or PORT 220 Duplicates Credit in ITAL 120, ITAL 150 Instruction Mode: Lecture Grading Option: Letter

ITAL 220 Italian III
Units: 4 Terms Offered: FaSpSm Continuation of Italian II. Review of structure of the language, drill in aural and reading comprehension, practice in oral expression. *Prerequisite:* ITAL 150 or ITAL 175 Instruction Mode: Lecture Grading Option: Letter

ITAL 222 Italian Professional Internship: Communication and Culture
Units: 2 Terms Offered: FaSpSm Combined classroom discussion and supervised internship at companies. Practical experience in applying communication and cultural knowledge in a professional employment context. *Prerequisite:* ITAL 220 Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 224 Constructing Today's Italy Through the Lens of the Media
Units: 4 Terms Offered: FaSp Investigation of Italy through social networks, advertising, music, television and newspapers. Communicative skills developed through conversations with native speakers, online posts and YouTube. *Prerequisite:* ITAL 220 Instruction Mode: Lecture Grading Option: Letter

ITAL 235x Intermediate Conversational Italian
Units: 2 Terms Offered: FaSp Designed for students interested in maintaining and developing Italian language competency. Builds and reinforces vocabulary, idioms, communication skills and knowledge of Italian cultural aspects through discussion of contemporary topics. *Prerequisite:* ITAL 220. Registration Restriction: Not open to Italian majors Credit Restriction: Not available for Italian major credit Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 270gw Black Europe
Units: 4 Terms Offered: FaSp (Enroll in FREN 270gw)

ITAL 320 Critical Writing in Italian
Units: 4 Terms Offered: FaSpSm Advanced composition through critical reading of literary texts; comprehensive analysis of difficult grammatical structures and stylistics. *Prerequisite:* ITAL 224. Instruction Mode: Lecture Grading Option: Letter

ITAL 340g Italian and French Cinema and Society
Units: 4 Terms Offered: Fa Analysis of the global impact of cinema from the silent era to the 1990s; tracing the development of French and Italian cinematography and their effect on different cultures and periods; trends and genres such as commedia all'italiana, horror, spaghetti western, feminism and postcolonialism. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as FREN 340

ITAL 345 Contemporary Italy
Units: 4 Italian literature and arts in Italy following World War II. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 347 Italy Today: Youth, Family and Migration
Units: 4 Terms Offered: FaSp Contemporary social, political and economic issues through readings of recent Italian literature onsite. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 350g Gender and Sexuality in Renaissance Italy
Units: 4 Terms Offered: FaSp Interdisciplinary exploration of gender and sexuality in Italian renaissance literature and visual arts by male and female authors and artists from the fourteenth through the sixteenth century. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as SWMS 350

ITAL 352 The Holocaust in Italian Fiction and Film
Units: 4 Terms Offered: FaSp The transformation of the Italian Jewish community before, during and after World War II, through an examination of modern novels, essays and films. Taught in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 360g Italian Cinema
Units: 4 Terms Offered: FaSp Survey of Italian cinema in its relation to social transformation, from the silent era to the present. Weekly screenings, lectures, and discussions. Conducted in English. Satisfies New General Education in Category A: The Arts Duplicates Credit in former ITAL 446 Instruction Mode: Lecture Grading Option: Letter

ITAL 374gm Women Writers in Europe and America
Units: 4 Terms Offered: Sp (Enroll in COLT 374gm)

ITAL 380 Italian Women Writers
Units: 4 Selected poetry, prose, and drama by outstanding Italian women authors and their role in Italian society from the Middle Ages to 20th century. Taught in Italian. *Recommended Preparation:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 381 Storytelling in the Italian Tradition
Units: 4 Terms Offered: FaSp Reading and close textual scrutiny of major short stories from Boccaccio's Decameron to the present. Conducted in English. Duplicates Credit in former ITAL 462. Instruction Mode: Lecture Grading Option: Letter

ITAL 382g Dante
Units: 4 Terms Offered: FaSp Analysis of the Divina Commedia and other works. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ITAL 450 Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT 449

ITAL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Instruction Mode: Lecture Grading Option: Letter

ITAL 392 Seminar in Literary and Cultural Studies
Units: 4 Terms Offered: FaSp Selected topics in Italian literature and culture. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 393 Seminar in Italian Thought
Units: 4 Terms Offered: FaSp Introduction to important trends in recent Italian philosophy, political and social theory, and media studies. Emphasis to be determined by the department. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 401 Studies in Early Modernity
Units: 4 Max Units: 8 Terms Offered: FaSp Study and analysis of representative works and major intellectual, cultural, and artistic trends from the early modern period (pre-1800). Taught in Italian. *Prerequisite:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 402 Studies in Modernity
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of representative works and major intellectual, cultural, and artistic trends from the modern period (post-1800). Taught in Italian. *Prerequisite:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 403 Studies in Colonialism and Postcolonialism
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of colonialism and postcolonialism in Italian contexts. *Prerequisite:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 440 Futurism and Fascism in Italy
Units: 4 Literature, theatre, visual arts, and politics, from the Futurist Avant-Garde through the reign of Mussolini. *Recommended Preparation:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 461 Italian Theatre
Units: 4 Terms Offered: FaSp Italian dramatic literature from the earliest written documents to the present. Reading and close textual scrutiny of plays by major dramatists from the Renaissance to the present. Taught in Italian. *Prerequisite:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ITAL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in Italian literature, culture, and society. Conducted in Italian. *Prerequisite:* ITAL 224. Instruction Mode: Lecture Grading Option: Letter

ITAL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree in cognate fields. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 592 Practicum in Teaching Italian
Units: 2 Terms Offered: Fa Introduction to the approaches and methods of teaching Italian as a second language. Instruction Mode: Lecture Grading Option: CR/NC

Information Technology Program
All ITP courses are open to non-engineering majors. The "x" designation indicates that engineering students require prior departmental approval to count 100-level and above ITP courses for major credit.

ITP 101 Introduction to Business Information Technologies
Units: 2 Business technologies. Operating systems. Networks. Application software. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 104L Web Publishing
Units: 2 Terms Offered: FaSp Web publishing using HTML, CSS and other Web technologies. Concepts and theory of Web site creation, page layout and production. Introduction to advanced topics. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ITP 109 Introduction to Java Programming
Units: 2 Terms Offered: FaSp Introduction to object-oriented software design for business problems. Creation of console applications, windowed applications, and interactive Web applets. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 111 What is the Cloud?: An Introduction to DevOps
Units: 2 Terms Offered: FaSp Survey of Cloud Computing. Compose, secure, administer virtual networks. Cloud deployment models. Service delivery models. Cloud providers overview. Virtualization, containers, cloud infrastructure. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 115 Programming in Python
Units: 2 Terms Offered: FaSp Introduction to Python; intended for students without prior programming experience. Duplicates Credit in ITP 116 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 116 Accelerated Programming in Python
Units: 2 Terms Offered: FaSp Accelerated introduction to Python; intended for students with prior programming experience. *Recommended Preparation:* Prior programming experience Duplicates Credit in ITP 115 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 125L From Hackers to CEOs: Introduction to Information Security
Units: 2 Terms Offered: FaSp Introductory course in computer security. Fundamentals of information security management. Threats to information integrity. Ethical hacking concerns and practice. Policies and Procedures. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ITP 165 Introduction to C++ Programming
Units: 2 Terms Offered: FaSp Introduction to programming using C++, including variables, operators, conditionals, loops, arrays, vectors, strings, functions, files, structs, pointers, dynamic allocation and an introduction to classes. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 168 Introduction to MATLAB
Units: 2 Terms Offered: FaSp Fundamentals of MATLAB: a high-performance numeric computation and visualization environment. Overview of linear algebra and matrix manipulation; using 2-D and 3-D plotting routines; programming in MATLAB; basic numerical analysis. *Recommended Preparation:* MATH 118 or MATH 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 190 Introduction to Adobe Photoshop
Units: 2 Terms Offered: FaSp Digital tools for image creation, editing, composition, layout, web page development, professional page layout, and printing with color accuracy. Duplicates Credit in former ITP 090 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 211 Techniques of Visual Persuasion - Still Images
Units: 4 Terms Offered: FaSp Create compelling still images using photos to attract a viewer and motivate change. Use professional software to create real-world projects. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 215L Introduction to 3D Modeling, Animation, and Visual Effects
Units: 2 Terms Offered: FaSp An applied introduction to the techniques used for modeling, animating, texturing, lighting, rendering, and creating 3D content for games, cinematics, visual effects, animation, and visualizations. *Recommended Preparation:* knowledge of any 2D paint, drawing or CAD program Instruction Mode: Lecture, Lab Required Grading Option: Letter

ITP 216 Applied Python
Units: 2 Terms Offered: FaSp Development of practical Python programming skills through project-based applications; "Pythonic" ways of solving problems in modern computational domains. *Prerequisite:* ITP 115 or ITP 116 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 222 Linux and Containers
Units: 4 Terms Offered: FaSp Using and maintaining Linux systems; managing users, resources, networks; developer and scripting tools; container creation, configuration, publication; composing services. *Prerequisite:* ITP 111 Instruction Mode: Lecture Grading Option: Letter

ITP 228 Computer-Aided Modeling for 3D Product Design
Units: 2 Think, plan, and create in three-dimensional space using 3D printing technology and 3D modeling techniques for prototyping. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 230x Video Game Quality Assurance
Units: 4 Terms Offered: FaSp Survey game software development through quality assurance and in-depth analysis of the development cycle with a focus on bug testing systems and methodologies. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 249 Introduction to Data Analytics
Units: 4 Terms Offered: Fa Introduction to data analytics. Basics of databases, applied statistics, data visualization. Leverage data to make critical business decisions. Duplicates Credit in former ITP 250 and former ITP 251 Instruction Mode: Lecture Grading Option: Letter

ITP 256 Blockchain
Units: 4 Terms Offered: FaSp Explore blockchain technology, a secure and immutable way to record transactions. Learn the workings of cryptocurrencies and explore their impact on financial services, business and contracting. Instruction Mode: Lecture Grading Option: Letter

ITP 265 Object-Oriented Programming
Units: 4 Terms Offered: FaSp Continuation of the fundamentals of programming; problem solving skills within the object-oriented programming paradigm. *Prerequisite:* ITP 115 or ITP 165 Instruction Mode: Lecture Grading Option: Letter

ITP 280 Video Game Production
Units: 4 Terms Offered: FaSp History of video games; overview of game genres; phases of video game development (concept, preproduction, production, post-production); roles of artists, programmers, designers, and producers. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI-280

ITP 301 Front-End Web Development
Units: 4 Terms Offered: FaSp Concepts and technologies used to create front-end for web applications. Introduction to programming and client-side web development. User-driven website manipulation and animation. *Prerequisite:* ITP 104L or IML 300 Instruction Mode: Lecture Grading Option: Letter

ITP 302 Advanced Web Publishing
Units: 4 Terms Offered: FaSp Advanced topics in Web Publishing including HTML5, CSS3, CSS Pre-processors, CSS frameworks, static site generators and content management systems, responsive web design and web accessibility. *Prerequisite:* ITP 104L or IML 300 Instruction Mode: Lecture Grading Option: Letter

ITP 303 Full-Stack Web Development
Units: 4 Modern web development techniques and technologies used to create web applications from ground up. Topics include front-end, back-end, and web servers. *Prerequisite:* ITP 265 or CSCI 103L Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 304 Back-End Web Development
Units: 4 Terms Offered: FaSp Concepts and technologies used to create database-driven websites. Database design and implementation. Server-side development to connect web applications to databases. *Prerequisite:* ITP 301 Duplicates Credit in former ITP 300 Instruction Mode: Lecture Grading Option: Letter

ITP 305 Intermediate 3D Modeling and Procedural Asset Pipelines
Units: 4 Terms Offered: Sp Intermediate modeling techniques and procedural asset creation workflows for cinematics, games, animation, design, modeling, texturing, visualization and augmented/virtual reality. *Prerequisite:* ITP 215L or ACAD 187 or ACAD 188 or AME 101L or ARCH 207 or CE 107L Instruction Mode: Lecture Grading Option: Letter

ITP 308 Computer-Aided Design for Bio-Mechanical Systems
Units: 3 Concepts of computer-aided design in 2-dimensions and 3-dimensions. Creating advanced parts using extrusions, surfaces, and equation driven sketches. Forming assemblies, and sub-assemblies, for motion analysis *Recommended Preparation:* MATH 245, strength of materials knowledge Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as BME 308, ACAD 308

ITP 310 Design for User Experience
Units: 4 Terms Offered: FaSp Fundamental concepts, techniques, practices, workflows, and tools associated with the practice of user experience and interaction design in web and mobile applications. Duplicates Credit in former ITP 140 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 311

ITP 315x 3D Character Rigging and Animation
Units: 4 Terms Offered: Fa Explore the performance methodologies and advanced rigging processes used to bring life to 3D characters for games, cinematics and performance animation. *Prerequisite:* ITP 215L or ACAD 187 or ACAD 188 or AME 101L or ARCH 207 or CE 107L Credit Restriction: Not available for major credit in Electrical and Computer Engineering Instruction Mode: Lecture Grading Option: Letter

ITP 320 Enterprise Information Systems
Units: 4 Terms Offered: FaSp The role Information Systems play in an organization. Integration of Business Processes by using Enterprise Resource Planning Systems (ERP). Instruction Mode: Lecture Grading Option: Letter

ITP 325 Ethical Hacking and Systems Defense
Units: 3 Terms Offered: FaSp Hacking from a defense perspective. Hacker ethics and laws. Penetration testing. Vulnerability assessment. Securing workstations, servers, and networks. *Prerequisite:* ITP 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 330 Computational Thinking Through Programming
Units: 4 Terms Offered: FaSp Understand computational thinking and explain and teach programming principles to others. Use active learning and peer instruction to address common misconceptions in learning computing. *Corequisite:* ITP 115 or ITP 165 or CSCI 102L Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 333 Digital Infrastructure
Units: 4 Terms Offered: Fa Virtual machines, storage, networks and autoscaling on various Cloud platforms; serverless applications; managing users, security, performance and costs on the Cloud. *Prerequisite:* ITP 222 Instruction Mode: Lecture Grading Option: Letter

ITP 341 Android App Development
Units: 4 Terms Offered: FaSp App development for the Android open-source platform utilizing core mobile device functionalities, third-party API integration, and backend services. *Prerequisite:* ITP 265 or CSCI 103L Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 341

ITP 342 iOS App Development
Units: 4 Terms Offered: FaSp Introduction to the Swift programming language, various frameworks, and design patterns needed to develop applications for iOS mobile devices such as iPhones and iPads. *Prerequisite:* ITP 265 or CSCI 103 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 342

ITP 343 Mobile Development for Content and Media
Units: 1 Creating media-focused mobile applications. Topics include recording/playback, audio synthesis, stream mixing, and positional audio. *Corequisite:* ITP 342. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-343

ITP 344 Advanced iOS App Development
Units: 4 Terms Offered: FaSp App development for iOS devices using advanced functionalities including background data processing, network services and push notifications. *Prerequisite:* ITP 342 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 344

ITP 345 Advanced Android App Development
Units: 4 Terms Offered: FaSp Develop sophisticated applications for the Android open-source platform using advanced functionality including background threading, broadcast receivers, sensors and low-level interaction events. *Prerequisite:* ITP 341 Instruction Mode: Lecture Grading Option: Letter

ITP 348 Making Smart Devices: Introduction to Electronics/Wearables
Units: 4 Terms Offered: FaSp Design of electronic devices that interact with the physical world; electronic interfaces; development of software algorithms; micro-controller implementation. *Prerequisite:* ITP 109 or ITP 115 or ITP 165 *Recommended Preparation:* Students must have completed a course in object-oriented programming Registration Restriction: Not open to Electrical and Computer Engineering majors Duplicates Credit in former ITP 148 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 351 3D Character Modeling for Games
Units: 4 Terms Offered: FaSp Character design principles, visual communication and planning for games; polygonal construction, use of image guides and edge flows for realistic deformation. *Prerequisite:* ITP 215L or CTAN 452 *Recommended Preparation:* Any experience with polygonal modeling Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 356 Blockchain: Decentralized Applications
Units: 4 Terms Offered: FaSp Blockchain technology; transactions without the need for a trusted third-party; and decentralized applications on public blockchains. *Prerequisite:* ITP 256 Instruction Mode: Lecture Grading Option: Letter

ITP 357 Enterprise Network Design
Units: 3 Network technologies. Strategies for managing thousands of systems. Routers and managed switches. Integrated operating systems (IOS). Windows and Linux networking. Subnets. *Prerequisite:* ITP 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 360 Advanced Visual Effects and Compositing
Units: 4 Terms Offered: Fa Advanced techniques for visual effects creation including node-based digital compositing, multi-pass rendering, match-moving, camera tracking, and seamless coordination of live action and 3D content. *Prerequisite:* ITP 215L or ACAD 187 or ACAD 188 or AME 101L or ARCH 207 or CE 107L Instruction Mode: Lecture Grading Option: Letter

ITP 361 Character Rigging for Games
Units: 4 Terms Offered: FaSp Fundamentals of character rigging for video game production and development; optimization of character design, skeleton and mass properties for effective rigging; virtual rigs. *Prerequisite:* ITP 215L or CTAN 452 *Recommended Preparation:* Any experience with 3D character rigs Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 365 Managing Data in C++
Units: 4 Terms Offered: FaSp Data structures in C++ including vectors, linked lists, stacks, queues, trees, hash tables, graphs, and parallelism. *Prerequisite:* ITP 265 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 365

ITP 366 Blockchain: Advances and Use Cases
Units: 4 Terms Offered: FaSp Latest advances in blockchain and distributed ledger technologies. Critical analysis of new projects, proposals and protocols. The promise and technical feasibility of use cases. *Prerequisite:* ITP 256 Instruction Mode: Lecture Grading Option: Letter

ITP 368 Programming Graphical User Interfaces
Units: 4 Terms Offered: FaSp Programming applications with dynamic graphical user interfaces. Topics include events, controls, resources, data bindings, styles and user experience. *Prerequisite:* ITP 265 or CSCI 103L Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 368

ITP 370 Information Security Management
Units: 3 Terms Offered: Sp Management techniques for security projects. Security team management. Laws and regulations for information security. Disaster recovery. Security Audits. *Prerequisite:* ITP 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 371 Technical Character Animation for Games
Units: 4 Terms Offered: FaSp 3D character animation with a video game focus; movement clarity versus game reaction speed, LOD visibility and automated export systems. *Prerequisite:* ITP 215L or CTAN 452 *Recommended Preparation:* Any experience with 3D or 2D animation Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 375 Digital Forensics
Units: 3 Terms Offered: Fa Forensic science techniques. Digital evidence preservation and presentation. Processes and methodologies for digital analysis. *Prerequisite:* ITP 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 380 Video Game Programming
Units: 4 Terms Offered: FaSp Underlying concepts and principles required for programming video games (topics include vectors, transformations, 3-D math, geometric primitives, matrices). *Prerequisite:* CSCI 104 or ITP 365. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI-380

ITP 382 Mobile Game Development
Units: 4 Terms Offered: Sp Application of techniques used to develop games for mobile devices. Sprites, mobile input, mobile graphics and monetization. *Prerequisite:* ITP 265 or CSCI 103L Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 382

ITP 383 Database Systems: Concepts, Design and Implementation
Units: 4 Terms Offered: Sp (Enroll in ISE 382) Instruction Mode: Lecture Grading Option: Letter

ITP 387 Cloud Architecture and Applications
Units: 4 Survey of "Infrastructure as a Service" and online application development. Concepts include online storage, computation, virtualization, messaging, and monetization. *Prerequisite:* CSCI 104 or ITP 365 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 387

ITP 388 Developing Connected Devices
Units: 4 Terms Offered: FaSp Design and development of production-ready connected devices; PCB design; micro-controller logic; interfacing with the connected world. *Prerequisite:* ITP 348 Registration Restriction: Not open to Electrical Engineering majors Instruction Mode: Lecture Grading Option: Letter

ITP 392 Designing and Producing Video Games
Units: 4 Terms Offered: FaSp Roles of designers and producers in the video game industry. Managing development, facilitating teams, coordinating with stakeholders. Creation of budgets, pitches, and game design documents. *Prerequisite:* ITP 230 or ITP 280 Duplicates Credit in former ITP 391a, former ITP 391b, former ITP 393 Instruction Mode: Lecture Grading Option: Letter

ITP 404 Advanced Front-End Web Development
Units: 4 Terms Offered: Fa The technologies, techniques, conventions and best practices used in contemporary front-end web development. *Prerequisite:* ITP 301 or ITP 303 or ACAD 275 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 404

ITP 405 Advanced Back-End Web Development
Units: 4 Terms Offered: Sp Topics include Model-View-Controller (MVC) pattern, RESTful APIs, Object Relational Mapping (ORM), testing, and Node.js, an asynchronous server-side alternative using JavaScript. *Prerequisite:* ITP 303 or ITP 304 or ACAD 276 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ACAD 405

ITP 410 Social Media for Scientists and Engineers
Units: 2 Terms Offered: FaSp (Enroll in ENGR 410)

ITP 411 Techniques of Visual Persuasion - Moving Images
Units: 4 Terms Offered: FaSp Create compelling videos, along with audio and motion graphics, to attract and hold an audience that motivates change. Use professional software to create real-world projects. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 415 3-D Design and Prototyping
Units: 2 Explore the range of 3-D printing and prototyping technologies, and their application in modern industrial, design, and creative fields. *Prerequisite:* ITP 215L Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 422 Configuring Enterprise Resource Planning Systems
Units: 4 Business process integration is the core advantage of using ERP systems. Analyze, configure, and test business processes for a company from the ground up. *Prerequisite:* ITP 320 Duplicates Credit in former ITP 322 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 422

ITP 425 Web Application Security
Units: 4 Terms Offered: FaSp Examine web applications from an offensive security standpoint. Topics include information gathering, vulnerability discovery and validation, exploitation and privilege escalation techniques. *Prerequisite:* ITP 301 or ITP 325 or ACAD 275 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 425

ITP 430 Computational Education Capstone
Units: 4 Terms Offered: FaSp Computing Education capstone course; data exploration, algorithmic thinking; topical diversity in computer science education; current research practices; computing education curriculum development. *Prerequisite:* (ITP 115 and ITP 330) and (EDUC 435 or EDUC 436) *Recommended Preparation:* Students should complete at least three of the computing education minor courses before enrolling in ITP 430. Instruction Mode: Lecture Grading Option: Letter

ITP 435 Professional C++
Units: 4 Terms Offered: FaSp Applications of advanced concepts in C++ including lambda expressions, templates, secure coding, parallel programming, writing performant code, CMake and continuous integration. *Prerequisite:* CSCI 104L or ITP 365 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 435

ITP 439 Compiler Development
Units: 4 Terms Offered: Sp Practical applications of techniques used to develop a programming language compiler. *Prerequisite:* ITP 365 or CSCI 104L Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 439

ITP 442 Mobile App Project
Units: 4 Capstone course for Mobile App Development minor. Work in project teams to develop new mobile app from start to finish. Meet with client, create app design, develop, test, and demonstrate app to client. *Prerequisite:* ITP 341 or ITP 342 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ACAD 442

ITP 444 Digital Architecture
Units: 4 Terms Offered: Sp Composing provider-agnostic Cloud solutions; availability, performance and cost management; security and compliance. *Prerequisite:* ITP 333 Instruction Mode: Lecture Grading Option: Letter

ITP 445 Macintosh, OSX, and iOS Forensics
Units: 3 Digital forensics. Digital evidence. Apple. Mac. Macintosh. OSX. iOS. iPhone. iPad. *Prerequisite:* ITP 375. Instruction Mode: Lecture Grading Option: Letter

ITP 446 Cyber Breach Investigations
Units: 3 Terms Offered: Fa Cyber breaches. Data theft. Enterprise data analysis. Network forensic analysis. Server forensics. *Prerequisite:* ITP 375. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 447 Mobile Device Security and Forensics
Units: 3 Terms Offered: Sp Mobile device security. Mobile device forensics. Android. Blackberry. Windows phone. Symbian. *Prerequisite:* ITP 375. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 448 Cyber Litigation Support
Units: 3 Terms Offered: Sp Civil Litigation. Digital and Electronic Evidence. Electronic Discovery. eDiscovery. Electronically Stored Information. *Prerequisite:* ITP 375 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 449 Applications of Machine Learning
Units: 4 Hands-on approach to the fundamental modeling techniques and machine learning algorithms that enable students to build robust predictive models of real-world data and test their validity. *Prerequisite:* ITP 115 and ITP 249

Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 449

ITP 454x Enterprise Resource Planning, Design, and Implementation
Units: 3 Process and requirements to implement an Enterprise Resource Planning System (ERP). Set up server, implement ERP system, then transfer and configure database for case company. *Prerequisite:* ITP 320 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 456 Blockchain: Capstone
Units: 4 Terms Offered: FaSp Use decentralized blockchain technology to propose a use case of trustless peer-to-peer transactions. *Prerequisite:* ITP 356 and ITP 366 Instruction Mode: Lecture Grading Option: Letter

ITP 457 Network Security
Units: 4 Network policy and mechanism, firewalls, malicious code; intrusion detection, prevention, response; cryptographic protocols for privacy; risks of misuse, cost of prevention, and societal issues. *Prerequisite:* ITP 357. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 460 Web Application Project
Units: 4 Terms Offered: Sp Skills to plan, analyze, build, and launch professional Web sites with actual clients. Includes project management, documentation, technology assessment, security, UI, Q/A, and various methodologies. *Prerequisite:* ITP 303 or ITP 304 or ACAD 276 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 460

ITP 466 Building the High Tech Startup
Units: 4 Teach students the basic technologies and processes involved in building web and mobile startups. Students will be introduced to the different aspects of building a web startup including online business models, Product management, Agile development processes, technology platforms and operations, customer development and online marketing. Instruction Mode: Lecture Grading Option: Letter

ITP 468 Connected Devices Project
Units: 4 Capstone course for the Minor in Making and Connected Devices. Team-based interacting with real-world clients, designing a hardware system, developing firmware, and manufacturing a product. *Prerequisite:* ITP 348 and ITP 228 Registration Restriction: Not open to Electrical Engineering majors Instruction Mode: Lecture Grading Option: Letter

ITP 470 Information Technology Practicum
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Independent technology project related to specific topics under the direction of a faculty member. *Recommended Preparation:* appropriate 300-level course work to topic of study Registration Restriction: Not open to graduate students. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 475 Advanced Digital Forensics
Units: 4 Terms Offered: Sp Advanced forensic techniques. Live image analysis. Network level forensic investigation. Server forensic techniques. Deposition and trial. *Prerequisite:* ITP 375 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 476 Technologies for Interactive Marketing
Units: 4 Technologies, concepts and strategies in the emerging online advertising ecosystem. Strategies and tactics to drive traffic to a website and measure efficacy. Students will work with a real client and budget to craft and execute an online marketing plan. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ACAD 476

ITP 477 Software Based Engineering Design of Roadways
Units: 3 Orient students to the InRoads software and familiarize them with its capabilities to support engineering design of roadways. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 479 Cyber Law and Privacy
Units: 3 Cyber legal issues, search and seizure, 4th amendment and digital evidence, private searches, case law relating to search and seizure. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 480 Information Technology Internship
Units: 1, 2, 3, 4 Max Units: 08 Practical experience in applying information technology skills in real-world settings. Supervised internship at companies and start-ups. Balancing academic rigor with corporate challenges and deadlines. *Recommended Preparation:* knowledge of chosen function area Registration Restriction: Not open to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

ITP 481 Game Programming Professional Development
Units: 2 Terms Offered: Fa Application of mathematics, physics, geometry and programming algorithms in the context of video game programming practice. *Prerequisite:* ITP 380 Instruction Mode: Lecture Grading Option: Letter

ITP 482 Engineering Database Applications
Units: 3 Planning and implementation of engineering information systems that interface with a large database. Emphasis is placed on web-based data entry and retrieval. *Prerequisite:* (CE 108 or EE 155L or ITP 115 or ITP 165 or ITP 168 or ISE 150 or CSCI 102L or CSCI 103L) and (DSO 435 or ISE 382) Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ISE 482

ITP 483 Communication for Software Engineers
Units: 2 Terms Offered: Fa User-focused design, problem space vs solution space, data structures, algorithms, live coding challenges, engineering demonstrations and presentations. *Prerequisite:* CSCI 104L or ITP 365 *Recommended Preparation:* Experience with data structures and common algorithms Instruction Mode: Lecture Grading Option: Letter

ITP 484 Multiplayer Game Programming
Units: 3 Techniques for developing networked multiplayer games. Topics include Internet protocols, network topology, data streams, object sharing, client prediction, latency, and back-end databases. *Prerequisite:* ITP 380 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 485 Programming Game Engines
Units: 4 Terms Offered: FaSp Techniques for building the core components of a game engine; 2-D/3-D graphics, collision detection, artificial intelligence algorithms, shading, programming input devices. *Prerequisite:* ITP 380. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI-487

ITP 486 Securing and Auditing Enterprise Resource Planning Systems
Units: 3 Management and technical issues related to the security of ERP systems. Students will audit ERP systems and apply appropriate security controls. *Prerequisite:* ITP 320. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ISE-486

ITP 487 Enterprise Data Analytics
Units: 4 Terms Offered: Fa Methodology to store, organize, cleanse, harmonize and stage enterprise data for analytics. Report, visualize, slice and dice, forecast and predict trends. *Prerequisite:* ITP 249 or ITP 320 or DSCI 351 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 487

ITP 488 Managing Supply Chains with Advanced Planning & Optimization
Units: 3 Drivers and obstacles to the process of coordinating the flow of material/information along the logistics chain. Optimize the supply network, from raw materials to sales. Not available for major credit in engineering except toward undergraduate and graduate programs offered by the Epstein Department of Industrial and Systems Engineering. *Prerequisite:* ITP 320 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ISE-488

ITP 489 In-Memory Data Modeling and Analytics
Units: 4 Terms Offered: Sp Examines the design, architecture, and capabilities of in-memory databases and their application to real-time analytics. *Prerequisite:* ITP 249 or ITP 320 or DSCI 351 Instruction Mode: Lecture Grading Option: Letter

ITP 491 Level Design and Development for Video Games
Units: 4 Theories and practices of defining, prototyping, testing, and refining a video game level, development of game level documents, and the tools for managing the development process. *Prerequisite:* ITP 230 or ITP 280 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 496 The Startup Launchpad Lab
Units: 2 A real world, hands-on learning experience on what it's like to actually start a high-tech company. Students will work in teams to design, prototype and implement version 1.0 of a high tech web or mobile startup. *Prerequisite:* BAEP 452 and ITP 466 and ITP 476 *Corequisite:* BAEP 496 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 499 Special Topics
Units: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8 Max Units: max 8 Recent developments in computers and data processing. Instruction Mode: Lecture, Lab Grading Option: Letter

Journalism

JOUR 190 Introduction to Journalism
Units: 2 Survey of all media and outlets including print, broadcasting, public relations and online journalism, plus analysis of what it means to be a professional journalist. Instruction Mode: Lecture Grading Option: Letter

JOUR 200w The Power and Responsibility of the Press
Units: 4 Explores the role of journalism and social media in society - its influence on government, technology, business, national security, sports, science and entertainment. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

JOUR 201 Culture of Journalism: Past, Present and Future
Units: 4 Understanding key moments, debates and ideas that have shaped journalism in the United States from the Revolutionary War period through today. Examination of the social, cultural, political and technological aspects of journalism and its impact on the profession and public service. Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 205 Journalism Practicum
Units: 1, 2 Max Units: 04 Terms Offered: FaSpSm Field experience in journalism, public relations, or related field. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 206 Reporting and Writing Practicum
Units: 1 Max Units: 02 Report, write and distribute in-depth stories for diverse audiences; enhance understanding of news judgment; develop and maintain sources; engage communities through field reporting. Registration Restriction: Only open to journalism majors Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 207 Reporting and Writing I
Units: 3 Provides students with foundational skills to report, write and produce journalism content across multiple platforms, including broadcast, digital and text. *Concurrent Enrollment:* JOUR 206 and JOUR 321 Registration Restriction: Open only to Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 208 Media Law and Ethics
Units: 2 Introduction to the basics of the U.S. legal system and contemporary case law and ethics; impact of the Web on the practice of journalism; understanding essential legal frameworks and the rights and responsibilities of journalists. Instruction Mode: Lecture Grading Option: Letter

JOUR 210x Basics of News Production for Non-Majors
Units: 2 Max Units: 6.0 Terms Offered: FaSp Introduction to television, radio, and/or digital news production. Examination of issues in journalism. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 255 Advancing Journalism with Human-Centered Design
Units: 4 (Enroll in ACAD 255)

JOUR 256 Designing for News and Information
Units: 4 (Enroll in ACAD 256)

JOUR 300 Journalism and Society
Units: 4 Examination of media and society by applying concepts on power, ideology, discourse and representation to specific case studies from the field and practice of journalism. Instruction Mode: Lecture Grading Option: Letter

JOUR 307 Reporting and Writing II
Units: 3 Report, write, produce and distribute in-depth stories produced off beats on multiple platforms for diverse audiences; enhance understanding of news judgment; develop and maintain sources; engage communities through field reporting and emerging digital tools. *Prerequisite:* JOUR 207 and JOUR 321 *Concurrent Enrollment:* JOUR 206 and JOUR 320 Registration Restriction: Open only to Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 310 Investigative Reporting
Units: 4 Reportorial and analytical skills and techniques required for portraying and evaluating contemporary newsworthy events; lectures, discussions. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 311 Multiplatform Editing
Units: 4 Copyediting, headline writing, Search Engine Optimization and other production skills for preparation of content across platforms. Social responsibility and ethical framework also components of this course. *Prerequisite:* JOUR 307 and JOUR 320 Instruction Mode: Lecture Grading Option: Letter

JOUR 320 Introduction to Coding for Storytelling
Units: 2 Introduction to basic web technologies; conceive, design, code and produce an advanced multimedia story package. *Prerequisite:* JOUR 207 and JOUR 321 *Concurrent Enrollment:* JOUR 307 Registration Restriction: Open only to Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 321 Visual Journalism
Units: 2 Video for digital platforms, principles of photography, design for web and mobile platforms. Introduction to principles of digital news design, interactivity and presentation in interactive storytelling. *Concurrent Enrollment:* JOUR 207 Registration Restriction: Open only to Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 322 Introduction to Investigative and Data Journalism
Units: 2 Reportorial and analytical skills and techniques required for portraying and evaluating contemporary newsworthy events using basic data journalism techniques and tools for statistical analysis. *Prerequisite:* JOUR 307 and JOUR 320 Instruction Mode: Lecture Grading Option: Letter

JOUR 323 Journalism and the Audience
Units: 2 Build a personal website that features a culmination of your previous undergraduate journalism work; craft a professional digital profile using various social media platforms; understand the economics of the news business; prepare to enter the industry. Instruction Mode: Lecture Grading Option: Letter

JOUR 330 Photojournalism
Units: 4 Terms Offered: FaSp Emphasis on fundamental skills necessary for photojournalism including camera techniques, story ideas and digital darkroom. Instruction Mode: Lecture Grading Option: Letter

JOUR 340 Rewriting History: Reporting Rome
Units: 4 Develop reporting skills by studying historical unsolved Italian crimes. Visit crime scenes, examine evidence, interview sources, analyze media reports and write articles for each crime. Instruction Mode: Lecture Grading Option: Letter

JOUR 350 Introduction to Sports Media
Units: 4 Highlight norms, routines of content, including print, broadcast, video. Focus on opportunities, constraints posed by roles of reporters, fans, players, publicists, agents, leagues, teams. Instruction Mode: Lecture Grading Option: Letter

JOUR 371 Media Censorship and the Law
Units: 4 Terms Offered: FaSp (Enroll in COMM 371)

JOUR 372 Engaging Diverse Communities
Units: 2 Explores how to engage diverse local communities through participatory journalism and communication strategies. Focuses on using digital tools to increase engagement with communities via field reporting and mobile platforms to produce stories across platforms. *Prerequisite:* JOUR 307 and JOUR 320 Registration Restriction: Open only to Journalism majors Duplicates Credit in former ASCJ 440 Instruction Mode: Lecture Grading Option: Letter

JOUR 373 Journalism Ethics Goes to the Movies
Units: 4 Ethical issues facing journalists in the complex world of legacy media, social media and the Internet as dramatized in the movies and in the newsroom. Instruction Mode: Lecture Grading Option: Letter

JOUR 375 The Image of the Journalist in Popular Culture
Units: 4 The impact of conflicting images of reporters in movies and television on the American public's perception of newsgatherers in the 20th century. A decade-by-decade evaluation. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 372

JOUR 380 Sports, Business and Media in Today's Society
Units: 4 An inside look at the important stories, topical issues, trends and historical developments related to the growing influence of business and media on college and professional sports; identifying the key components and meeting the influencers in class that help shape the business side of sports, while recognizing the role the media plays in providing daily coverage across multiple platforms. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 382

JOUR 381 Entertainment, Business and Media in Today's Society
Units: 4 Terms Offered: FaSp An examination of the symbiotic relationship of the entertainment business and the media; press coverage of the entertainment industry; Hollywood's relationship with news

media. Instruction Mode: Lecture Grading Option: Letter

JOUR 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

JOUR 400 Interpretive Writing
Units: 4 Weekly assignments in the shorter forms of newspaper and magazine writing: essays, reviews, editorials, opinion-page articles, profiles; analyses of major 20th century journalists. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 401 Multiplatform Editing for Digital Audiences
Units: 6 Breaking news and real-time editing for digital audiences across platforms, including homepage, social media and mobile. Introduction to analytics for website and social media. Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 402 Advanced Video Reporting
Units: 6 Role of the broadcast journalism reporter; similarities and differences between print and electronic media; application of audio-video equipment; analysis and practical experience. *Prerequisite:* JOUR 307 Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 403 Television News and Sports Production
Units: 6 Production of television news and sports programs while developing video, writing and communication skills and managing content in collaboration with others under deadline pressure. *Prerequisite:* JOUR 307 Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 404 Produce and Host Sports Content in Studio A
Units: 2 Interview, present and design sports segments for television/video in Studio A. Instruction Mode: Lecture Grading Option: Letter

JOUR 405 Non-Fiction Television
Units: 4 Presentation and selection in non-fiction television programs including documentaries, electronic magazines and news series; ethical problems, field research, reporting, interviewing, pre-production. *Prerequisite:* JOUR 307 and JOUR 320 Instruction Mode: Lecture Grading Option: Letter

JOUR 406 Social Media Storytelling for Latinx Audiences
Units: 2 Create native journalistic content for current social media and emerging platforms with an emphasis on engaging content for Latinx audiences and underrepresented communities. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 406

JOUR 407 The World of Podcasting
Units: 4 Concentrates on practical, hands-on skills for the production and distribution of a non-fiction podcast. Instruction Mode: Lecture Grading Option: Letter

JOUR 408 Advanced Media Law
Units: 2 Advanced examination of the rights of journalists in the American legal system; understanding the First Amendment and seminal case law to provide a framework for the practice of journalism; recognizing ethical dilemmas confronting members of the media. *Prerequisite:* JOUR 208 and JOUR 307 and JOUR 320 Instruction Mode: Lecture Grading Option: Letter

JOUR 409 Radio Storytelling and Podcasts
Units: 4 Techniques for audio journalism, including effective use of sound, art of the interview, writing for the ear and crafting stories to engage listeners. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 410 Radio Documentary
Units: 4 In-depth reporting for public radio news: writing, editing, advanced vocal delivery. Production of long-form radio features and short documentaries. *Prerequisite:* JOUR 409. Instruction Mode: Lecture Grading Option: Letter

JOUR 411 Broadcast and Digital Writing for Video and Audio for Non-Majors
Units: 2 Develop a broad-based knowledge of broadcast news writing and reporting; recognize, research and develop stories; write and format broadcast stories in all forms and learn to produce finished news packages. Registration Restriction: Not open to Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 412 Podcasting: Origin Stories
Units: 2 A foundational understanding of the historic, cultural and theoretical underpinning of the podcast medium with an emphasis on critical listening. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 441

JOUR 414 Advanced Digital Media Storytelling
Units: 2 Production of a well-reported advanced multimedia package, with a blend of text, audio, video, photos, navigation and interactivity; final projects will be published by the Annenberg Media Center. *Prerequisite:* JOUR 322 and JOUR 372 Instruction Mode: Lecture Grading Option: Letter

JOUR 420 Advanced Photojournalism
Units: 4 Emphasis on advanced photojournalism techniques for complex photo storytelling; focus on style, content, design, expression and ethics. *Prerequisite:* JOUR 330. Instruction Mode: Lecture Grading Option: Letter

JOUR 422 Visual Journalism for Non-Majors
Units: 4 Emphasis on photographic storytelling in print, video and Web-based media; understanding of visual thinking and imagery techniques. Registration Restriction: Not open to Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 425 Advanced Radio News Production
Units: 4 Production of public radio news: producing real-time newscasts for Annenberg Radio News. Newsgathering, assigning stories, anchoring, interviewing, working with reporters, editing and producing live programming. *Prerequisite:* JOUR 409. Instruction Mode: Lecture Grading Option: Letter

JOUR 430 Writing the Film Review
Units: 4 Techniques of writing the film review; preparation and treatment of form and content; problems, responsibilities and ethics of film reviewing. Instruction Mode: Lecture Grading Option: Letter

JOUR 431 Feature Writing
Units: 4 Techniques of writing newspaper feature stories, including the profile, the light feature, the news feature, the in-depth story; the art of narrative writing. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 432 Sports Commentary
Units: 4 Techniques of reporting and writing sports columns and commentary for print, video, radio and Web-based media. Instruction Mode: Lecture Grading Option: Letter

JOUR 433 Writing About Science
Units: 4 Techniques of writing about science, including news, profiles, features and commentary. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 435 Writing Magazine Non-Fiction
Units: 4 A seminar in "how to" interview, research, write -- and place -- professional quality articles for a full range of magazines/newspapers including women's, sports, ethnic, local and national. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 440 Environmental Journalism
Units: 4 Techniques of reporting and writing about the environment. Includes both theory and practice needed for reporters specializing in this area of journalism. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 441 Sports Reporting
Units: 2 News and feature coverage of sporting events, including social and economic factors influencing sports in America. Instruction Mode: Lecture Grading Option: Letter

JOUR 443 Business Reporting
Units: 2 Techniques of reporting and writing about business, economics and finance. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 444 Reporting on Religion
Units: 4 Provides print, online and broadcast journalists with basic tools for reporting on the religion angle of news stories. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 446 Entertainment Reporting
Units: 2 Techniques of reporting and writing about the entertainment business, economics and finances. Analysis of the skills and background needed for reporters specializing in this area of the news. Instruction Mode: Lecture Grading Option: Letter

JOUR 447 Arts Reporting
Units: 2 Techniques of reporting and writing about the arts, including television, film, theatre, music, graphic arts, architecture and design. Instruction Mode: Lecture Grading Option: Letter

JOUR 448 Government and Public Affairs Reporting
Units: 4 Techniques for covering beats that are the foundation of daily newspaper reporting, including crime, education, immigration and local government. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 449 Reporting Los Angeles
Units: 2 Specialized reporting class focused on Los Angeles that requires intensive fieldwork in the neighborhoods, ethnic communities, and/or among local institutions. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 458 Media, Food and Culture
Units: 4 Analyzes the ways media tell the story of our food and examines the critical issues surrounding what we eat. Instruction Mode: Lecture Grading Option: Letter

JOUR 459 Fact and Fiction: From Journalism to the Docudrama
Units: 4 Historical, legal and ethical limitations to the misrepresentation of fact. Includes print and broadcast journalism, books, theatre, cinema and new technology. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM-459

JOUR 460 Social Responsibility of the News Media
Units: 4 News media as instruments of constructive social change; standards of ethics and aesthetics; interactions between news media and cultural settings; social responsibility of news media personnel. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 464

JOUR 462 Law of Mass Communication
Units: 4 Press law; government controls on the news media; legal responsibilities of the journalist. Instruction Mode: Lecture Grading Option: Letter

JOUR 465m Latino News Media in the United States
Units: 4 History and growing importance of Latino print and broadcast news media in covering immigration, discrimination, culture, social differences and other aspects of U.S. Latino life. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 464

JOUR 466m People of Color and the News Media
Units: 4 Reporting and portrayal of people of color in the United States; impact of racial diversity on media, employment and access, and development of media for individuals and communities of color. Open to non-majors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 466, AMST 456

JOUR 467 Gender and the News Media
Units: 4 Gender and news media evolving images of women and men in print and electronic media. Impact of gender in content and style of news, television and cinema. Open to non-majors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM-467, SWMS-467

JOUR 468m The American Press and Issues of Sexual Diversity
Units: 4 Examines how news media reflect and affect perception of gay/lesbian issues; provides historical-contemporary context; arms students to bypass rhetoric and knowledgeably evaluate facts. Instruction Mode: Lecture Grading Option: Letter

JOUR 469 Money, Markets and Media
Units: 4 Practical approach to understanding and writing about economic concepts through current events, case studies and historical examples. Instruction Mode: Lecture Grading Option: Letter

JOUR 470 Community Journalism
Units: 2 Survey of how local journalism functions in a community. Students work as editors/mentors to high school students, writing for school newspaper and other media. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 472 Strategies for Monetizing New Media
Units: 4 Learn strategies for how content creates value in a shifting media landscape. Work with a real client to create a sustainable media business model. Instruction Mode: Lecture Grading Option: Letter

JOUR 474 Interviewing and Profile Writing
Units: 2 Techniques of, and intensive application in researching and writing interviews and profiles for newspapers and magazines. *Prerequisite:* JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 475 Print and Digital Design for 21st Century Storytelling
Units: 4 Art, typography, and other graphic elements in publication design; traditional, contemporary, and advanced production methods, processes, and equipment; representative examples; practice in design. Instruction Mode: Lecture Grading Option: Letter

JOUR 476 Reporting Urban Affairs
Units: 4 Examination of U.S. urban issues with an eye toward history for context; study of emerging 21st century solutions for urban communities. Instruction Mode: Lecture Grading Option: Letter

JOUR 477 Web Analytics for News and Nonprofit Organizations
Units: 2 Introduction to using Web traffic and other audience behavior data to manage Websites and social media for news and nonprofit organizations. Instruction Mode: Lecture Grading Option: Letter

JOUR 478 Politics of Sports Writing
Units: 4 Critical examination of different styles of sports writing. Focus on the social context of sports writing and the relationship between sports and politics. Instruction Mode: Lecture Grading Option: Letter

JOUR 479 Storytelling for Action Sports
Units: 4 Learn how to cover action sports with cutting-edge technology. In-class lectures and industry guest speakers focus on topics such as gender, race and history. Instruction Mode: Lecture Grading Option: Letter

JOUR 480 Sports and Media Technology
Units: 4 Examine and analyze the ever-changing technology sector of the sports business and sports media world. Identify emerging technologies being developed in the sports industry and how they are being utilized to enhance the fan experience. Instruction Mode: Lecture Grading Option: Letter

JOUR 481 The Athlete, Sports Media and Popular Culture
Units: 4 Analysis of the images of the athlete and sports media helps us understand how sports dramatically affects such social issues as race, class and gender. Instruction Mode: Lecture Grading Option: Letter

JOUR 482 Comparative Media in Europe
Units: 4 Terms Offered: Sm Examines print, broadcast and public relations media and their interactive roles in multi-national and supra-national settings at sites in both Western and Eastern Europe. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 482 and PR 482

JOUR 483 Negotiating and Reporting Global Change
Units: 4 In-depth multimedia reporting on social, economic and political processes of global impact; combining intense fieldwork and specialized background knowledge. Instruction Mode: Lecture Grading Option: Letter

JOUR 484 American Religion, Foreign Policy and the News Media
Units: 4 Exploration of the influence of American religion on foreign policy from Colonial Era to present; how the news media, reporting on international stories, shapes public opinion. Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR 484, REL 484

JOUR 485 Sports Investigative Reporting
Units: 4 Produce compelling investigative sports stories culminating in an original and publishable final project. Instruction Mode: Lecture Grading Option: Letter

JOUR 488 Data-Driven Storytelling About Los Angeles
Units: 4 Students work with a decade's worth of data about Los Angeles to develop probing news narratives about the city around us. *Prerequisite:* JOUR 207 Instruction Mode: Lecture Grading Option: Letter

JOUR 489 Hands-on Disruption: Experimenting with Emerging Technology
Units: 2 Exploration and experimentation of emerging technologies through the lens of journalism and hands-on prototyping Instruction Mode: Lecture Grading Option: Letter

JOUR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

JOUR 492 Advanced Coding for Storytelling
Units: 2 Focuses on advanced coding techniques for the creation of dynamic, interactive, multimedia and data-driven news stories on the web. *Prerequisite:* JOUR 320 Instruction Mode: Lecture Grading Option: Letter

JOUR 493 Comics and Graphic Storytelling
Units: 4 Focus on comics as a medium to tell a broad range of stories and speak to diverse kinds of audiences. Develop a core vocabulary for thinking about comics as a medium and analyze how artists have drawn on that vocabulary in a range of contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 493

JOUR 494 Python Coding for Data Journalism
Units: 2 Python coding language to gather, parse and analyze data for investigative news reporting. Instruction Mode: Lecture Grading Option: Letter

JOUR 495 Journalism for Mobile and Emerging Platforms
Units: 2 Create video, audio and graphic news and information using mobile and emerging technology, such as phones, tablets and laptops, for non-broadcast platforms; understand ethical and legal issues related to journalists working on mobile and emerging platforms. Instruction Mode: Lecture Grading Option: Letter

JOUR 496 Interactive Media Design for Publishing
Units: 4 Design, test and distribute engaging news and publishing apps. Learn concepts of interactive design, color, type, UX, and more for digital mobile/tablet platforms. Instruction Mode: Lecture Grading Option: Letter

JOUR 497 Data Visualization and Interactive Tools
Units: 2 Present your data in tables, charts, graphs, maps, and complex multimedia pieces using readily available interactive tools. Instruction Mode: Lecture Grading Option: Letter

JOUR 498 Honors Seminar
Units: 2 Terms Offered: Sp Intensive study of a subject of contemporary relevance or of professional importance to journalists and public relations practitioners. Registration Restriction: Admission to Honors Program Instruction Mode: Lecture Grading Option: Letter

JOUR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in journalism. Instruction Mode: Lecture Grading Option: Letter

JOUR 500 Introduction to Newswriting and English-Language Reporting
Units: 2 Provides students whose first language is not English fundamental skills to report and write journalism content, enhancing ability to succeed in rigorous graduate journalism program. Instruction Mode: Lecture Grading Option: Letter

JOUR 503 Visual Literacy and Introduction to Documentary Storytelling
Units: 1 Terms Offered: Sm An introduction to visual literacy and documentary storytelling. Explore the choices behind visual storytelling that can be applied to long form video journalism. Instruction Mode: Lecture Grading Option: Letter

JOUR 504 Introduction to Emerging Technology
Units: 1 Terms Offered: Sm Introduction to software to produce augmented reality and virtual reality experiences using wearable devices (watches and glasses), sensors and drones. Instruction Mode: Lecture Grading Option: Letter

JOUR 505 The Practice: Journalism's Evolution as a Profession
Units: 1 Terms Offered: Sm Analyzes the history, ethics and evolution of journalism; Students will be introduced to key innovations and innovators in journalism history as well as multimedia platforms. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 508 Introduction to Video Reporting
Units: 1 Terms Offered: Sm Write, shoot and edit video under deadline; produce high quality work in the Media Center. Instruction Mode: Lecture Grading Option: Letter

JOUR 510 Special Assignment Reporting
Units: 2 Beat reporting with a deep dive into research, source development, and writing/reporting skills. Focus on current trends, history, major actors and key issues. Instruction Mode: Lecture Grading Option: Letter

JOUR 511 Introduction to Narrative Non-Fiction
Units: 1 Terms Offered: Sm Summer intensive focusing on long-form, narrative non-fiction; read and critique exemplary long-form pieces; write short exercises that prepare for longer ones. Instruction Mode: Lecture Grading Option: Letter

JOUR 512 Advanced Interpretive Writing
Units: 2 Terms Offered: Fa Analysis and writing of editorials, essays, Op-Ed page articles, profiles, and other shorter forms of journalism, combined with study of historic practitioners of those forms. Instruction Mode: Lecture Grading Option: Letter

JOUR 515 Introduction to Audio Storytelling
Units: 1 Terms Offered: Sm Introduction to audio reporting and production skills: recording, interviewing, writing and editing for audio, and vocal delivery. Skills applicable for broadcast, podcasting or Web. Instruction Mode: Lecture Grading Option: Letter

JOUR 517 Advanced Investigative Reporting
Units: 4 Terms Offered: Sp Advanced reportorial and analytical skills and techniques required for evaluating newsworthy events. Group research and publication of stories on important current topics. *Prerequisite:* JOUR 539 Instruction Mode: Lecture Grading Option: Letter

JOUR 519 Advanced Writing and Reporting for Magazine and the Web
Units: 4 Focus on reporting and writing for magazine and the web, learning fundamental production skills, and pitching stories in the freelance market Instruction Mode: Lecture Grading Option: Letter

JOUR 521 Documentary Pre-Production
Units: 2 Terms Offered: Sm Pre-production of video documentary including selection of topic, diversity, ethical and legal problems, research and reporting techniques, interviewing, writing, balanced presentation, visual and audio literacy. Instruction Mode: Lecture Grading Option: Letter

JOUR 522 Video Documentary Production
Units: 4 Terms Offered: Sp Production of video documentary including research and reporting techniques, writing, interviewing, field work, editing, legal issues, economics, aesthetics, balanced presentation, ethics, diversity and production problems. Instruction Mode: Lecture Grading Option: Letter

JOUR 523 Public Radio Reporting
Units: 2 Terms Offered: Fa Reporting for public radio-style news: writing, newsgathering, editing, vocal delivery. Techniques applicable for broadcast or Web audio stories. Instruction Mode: Lecture Grading Option: Letter

JOUR 524 Advanced Broadcast Reporting
Units: 4 Terms Offered: Sp Reporting, production and writing for broadcast and other video platforms; practical experience; role of the video broadcast journalist; similarities and differences between media. *Prerequisite:* JOUR 528 *Recommended Preparation:* JOUR 552 Instruction Mode: Lecture Grading Option: Letter

JOUR 525 This California Life: Storytelling for Radio and Podcasting
Units: 4 Terms Offered: Sp Advanced production techniques for public radio-style reports: writing, sound, editing, narrative voice. Techniques applicable for broadcast features or Web audio documentaries. Instruction Mode: Lecture Grading Option: Letter

JOUR 526 Advanced Broadcast News Production
Units: 3 Terms Offered: Fa Production of television news programs; preparation and treatment of form and content; procedures, problems and practice in planning and producing broadcast news materials. Instruction Mode: Lecture Grading Option: Letter

JOUR 527 Advanced Disruption: Innovation with Emerging Technology
Units: 2 Terms Offered: Sp Apply emerging technologies to tell innovative stories based on a production trip during spring break. Instruction Mode: Lecture Grading Option: Letter

JOUR 528 Summer Digital Journalism Immersion
Units: 3 Terms Offered: Sm A journalism immersion experience that orients and familiarizes students with the best practices and standards of cutting-edge multimedia, multi-platform fact gathering, reporting and storytelling. Instruction Mode: Lecture Grading Option: Letter

JOUR 531 Fall Digital Journalism Immersion
Units: 3 Terms Offered: Fa Students write, report, produce, code, promote (through social media) and publish/air cross-platform stories in a converged news environment. *Prerequisite:* JOUR 528 *Concurrent Enrollment:* JOUR 532 Instruction Mode: Lecture Grading Option: Letter

JOUR 532 Fall Digital Journalism Immersion Practicum
Units: 1 Terms Offered: Fa Report, write and distribute in-depth stories for diverse audiences; enhance understanding of news judgment; develop and maintain sources; engage communities through field reporting. *Prerequisite:* JOUR 528 *Concurrent Enrollment:* JOUR 531 Instruction Mode: Lecture Grading Option: Letter

JOUR 533 Web Journalism and Editorial Site Management
Units: 2 Report, edit, and manage a major news Website while operating its content management system; understand best standards and practices in online site management. Instruction Mode: Lecture Grading Option: Letter

JOUR 539 Introduction to Investigative Reporting
Units: 2 Terms Offered: Fa Focus on basic investigative reporting; understand its history, how to access records, identify

sources, use computer assisted reporting, report in a fair and ethical manner. Instruction Mode: Lecture Grading Option: Letter

JOUR 540 International Journalism Seminar I
Units: 3 Historical perspective of foreign correspondence; examination of the working conditions, problems and consequences of reporting from abroad. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PR 540

JOUR 542 Foreign Affairs Reporting
Units: 3 News stories analyzed, researched, and critiqued for validity and background; projects to include editorials, news stories, magazine articles or broadcast reports. Instruction Mode: Lecture Grading Option: Letter

JOUR 545 International Internships in the Media
Units: 1 Terms Offered: Sm Intensive field experience at international news media and public relations organizations. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as PR 545

JOUR 546 News, Numbers and Introduction to Data Journalism
Units: 2 Terms Offered: Sm An overview of the basic quantitative analysis tools and techniques essential to give perspective to a journalistic story or to put it in context. Instruction Mode: Lecture Grading Option: Letter

JOUR 547 Navigating the Media Marketplace
Units: 1 Terms Offered: Fa Explores the economics of the news industry and prepares students to navigate the journalism job market through practical exercises, practice interviews and cover letter-writing. Instruction Mode: Lecture Grading Option: Letter

JOUR 552 Television Reporting and Production
Units: 2 Terms Offered: Fa Writing, reporting and producing content for video and digital platforms; similarities and differences between media; application of audio-visual and digital equipment. *Prerequisite:* JOUR 528 Instruction Mode: Lecture Grading Option: Letter

JOUR 553 Coding and Programming for Storytelling
Units: 2 Terms Offered: Fa Sketch, design and code a website from scratch, using HTML, CSS and jQuery plug-ins to tell a rich multimedia story. Open only to journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 554 Reporting with Data
Units: 2 Focuses on intermediate quantitative journalism techniques including database and mapping analysis along with data visualization to execute stories and graphics. Instruction Mode: Lecture Grading Option: Letter

JOUR 555 Advanced Coding for Creative Storytelling
Units: 2 Focuses on advanced coding techniques for the creation of dynamic, interactive, multimedia and data-driven news stories on the web. *Prerequisite:* JOUR 553 Instruction Mode: Lecture Grading Option: Letter

JOUR 560 Seminar in Mass Communication Law
Units: 2 Terms Offered: Sm Analysis of major elements of mass communication law, legal issues in contemporary mass communication, and the impact of legal trends on professional journalists. Instruction Mode: Lecture Grading Option: Letter

JOUR 561 Fundamentals of Data Journalism Reporting
Units: 2 Execute data-driven projects and add context to news stories with advanced quantitative analysis tools and techniques. Instruction Mode: Lecture Grading Option: Letter

JOUR 567 The Power of Narrative
Units: 2 Explores outstanding narrative journalism across wide range of platforms, subjects. Through readings, discussions, guest lecture "salons," students learn reporting, writing skills necessary for in-depth storytelling. Instruction Mode: Lecture Grading Option: Letter

JOUR 568 The Art of (Micro) Food Journalism: Los Angeles and California
Units: 3 Food is a powerful lens for thinking about cities, community, climate, technology, culture - even our relationship to other species. Focus is on Los Angeles and California. Instruction Mode: Lecture Grading Option: Letter

JOUR 569 The Art of (Macro) Food Journalism: A Global View
Units: 3 Food is a powerful lens for thinking about cities, community, climate, technology, culture - even our relationship to other species. Focus is on the global. Instruction Mode: Lecture Grading Option: Letter

JOUR 570 Journalism Ethics Goes to the Movies Seminar
Units: 2 Understand ethical issues facing journalists as dramatized in the movies. Develop an ethical structure to use as journalists and consumers of news in the complex world of social media and the Internet. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 571 21st Century Sports Storytelling
Units: 3 Seminar in how to report and write sports: news, previews, profiles, features, columns. Instruction Mode: Lecture Grading Option: Letter

JOUR 572 Reporting on Entertainment and Popular Culture
Units: 3 Terms Offered: Fa Reporting about entertainment, popular culture and their impact on American society; survey of past media coverage and current practices. Instruction Mode: Lecture Grading Option: Letter

JOUR 574 Sports and Society
Units: 3 Develop and refine print and multimedia skills to work as a sports journalist. Gain perspective, context and background in how sports intersect with society. Instruction Mode: Lecture Grading Option: Letter

JOUR 575 Converged Media Center
Units: 2, 4 Terms Offered: Sp Advanced multimedia news production; preparation and treatment of form and content; procedures, problems, ethics, and practice in operating a daily, 24-7 news outlet. Instruction Mode: Lecture Grading Option: Letter

JOUR 576 The Image of the Journalist in Popular Culture Seminar
Units: 2 Study and analysis of the conflicting images of the journalist in popular culture and its impact on the public's perception of the media and news gatherers. Instruction Mode: Lecture Grading Option: Letter

JOUR 577 Monetization and the New Media
Units: 3 Understanding new media through an economic lens. Applying knowledge by creating, reporting and delivering a communications or business strategy model. Instruction Mode: Lecture Grading Option: Letter

JOUR 578 Reporting on Globalization
Units: 3 Understanding globalization, its origins, history and major characteristics. Developing skills in reporting, describing, analyzing, and responding to globalization. Instruction Mode: Lecture Grading Option: Letter

JOUR 579 Journalism Internship
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Field experience in journalism, public relations, or related field. Instruction Mode: Lecture Grading Option: Letter

JOUR 580 Reporting on Race and Justice
Units: 4 Develop the skills, critical thinking and expertise to report on the ongoing struggles over race, equality and justice in America. Instruction Mode: Lecture Grading Option: Letter

JOUR 581 Specialized Journalism: Research Methods
Units: 3 Advanced skills in the use of expert sources, scholarly resources, computer-assisted and investigative reporting in specialized journalism; social and ethical issues in specialized reporting. Instruction Mode: Lecture Grading Option: Letter

JOUR 582 Specialized Journalism: Reporting Decisions
Units: 2 Reporting and analysis of decision making; case studies and analytical tools in dissecting decisions for readers, listeners and viewers. Instruction Mode: Lecture Grading Option: Letter

JOUR 584 Specialized Reporting: Education, Youth and Learning
Units: 3 Terms Offered: Fa Reporting and writing on education; survey of historical and contemporary issues affecting children, families and public education. Instruction Mode: Lecture Grading Option: Letter

JOUR 585 Specialized Reporting: Religion
Units: 4 Terms Offered: Sp Reporting and writing on religion; survey of world religion, religion and public life-including politics, gender and science. Instruction Mode: Lecture Grading Option: Letter

JOUR 586 Specialized Reporting: Science
Units: 3 Reporting and writing on science; survey of scientific research fields and evaluation of evidence and claims. Instruction Mode: Lecture Grading Option: Letter

JOUR 588 Cities, Climate and Risk
Units: 3 Reporting and writing on urbanization, climate change and

environmental harm. Instruction Mode: Lecture Grading Option: Letter

JOUR 589 Specialized Reporting: The Changing U.S. Population
Units: 3 Terms Offered: Fa Reporting and writing on immigration and other forms of demographic change; survey of immigration, the journalism it has generated and the impact of coverage. Instruction Mode: Lecture Grading Option: Letter

JOUR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 591 Arts Writing Practicum
Units: 3 Terms Offered: Fa Intensive writing workshop on the craft of arts criticism and persuasive writing of different arts genres. Instruction Mode: Lecture Grading Option: Letter

JOUR 592 Arts Journalism: Storytelling and Production
Units: 3 Terms Offered: Fa Reporting and writing on the arts; strategies for arts journalism in the digital era; survey of essays and reviews by great critics. Instruction Mode: Lecture Grading Option: Letter

JOUR 593 Arts Criticism and Commentary
Units: 3 Terms Offered: Sp Writing workshops and independent fieldwork; development of critical skills to write socially valuable criticism and commentary about art, entertainment and culture. *Prerequisite:* JOUR 591. Instruction Mode: Lecture Grading Option: Letter

JOUR 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

JOUR 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

JOUR 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

JOUR 595 Critical Thinking: The Art and Science of Not Getting Fooled
Units: 3 Researching and writing about how not to get fooled as a journalist; includes research, writing and discussion. Open only to journalism and specialized journalism majors. Registration Restriction: Open only to Journalism and Specialized Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 596 Follow the Money: Business and Economics
Units: 3 Reporting and writing on business, economics and public finance; students produce a series of professional projects for publication. Instruction Mode: Lecture Grading Option: Letter

JOUR 597 Food Culture Journalism
Units: 4 Use the food lens to view the world with a special emphasis on Los Angeles, and learn good journalism practices with the aim of publishing. Instruction Mode: Lecture Grading Option: Letter

JOUR 598 Journalism Capstone Project
Units: 4 Terms Offered: Sp Production of a journalism capstone project with multimedia elements for a master's degree. Projects can be single stand-alone pieces, or series of pieces. *Prerequisite:* JOUR 531L Registration Restriction: Open only to Journalism majors Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSpSm Seminar in selected topics in journalism. Instruction Mode: Lecture Grading Option: Letter

Judaic Studies

JS 100gp Jewish History
Units: 4 Terms Offered: Fa Major ideas, personalities, and movements in Jewish history from antiquity to the present in light of the interaction of the Jews with the general culture. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

JS 180gp Judaism
Units: 4 Terms Offered: Sp Jewish beliefs, practices, and history from the biblical period to the present; Judaic contributions to Western civilization. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

JS 211gw The Holocaust
Units: 4 Terms Offered: FaSp Historical background and responses to the Holocaust, with special emphasis on ethical implications. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Global Era Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

JS 214 Zionism, Israel, and the Modern World
Units: 4 Terms Offered: Fa Ideas about nationalism, Zionism, and society-building; emphasis on self-definition in the Jewish state. Instruction Mode: Lecture Grading Option: Letter

JS 258gp Food, Faith and Conflict
Units: 4 Terms Offered: Sp Investigates how food and food traditions create and cross religious and social conflicts between Jews, Christians and Muslims by exploring faith, practice, thought and ethics. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture Grading Option: Letter

JS 300 American Jewish History
Units: 4 Terms Offered: Fa Patterns of immigration, acculturation, religious forms, and ethnic expression in America from the colonial period to the present. Instruction Mode: Lecture Grading Option: Letter

JS 314gp Holy War And History: Jews, Christians, Muslims
Units: 4 Terms Offered: Sp Investigates the engagement in war by Judaism, Christianity and Islam by examining history and theology and looks at religious justifications and condemnations of war. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

JS 315g Anti-Semitism, Racism and Other Hatreds
Units: 4 Terms Offered: FaSp History and contexts of anti-Semitism, racism and other discourses about difference examined through religious, national and cultural forms in Europe and in the U.S. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL 310, HIST 322

JS 321 Gender and Judaism
Units: 4 Terms Offered: FaSp An investigation into the ways in which gender has structured Jewish religious, social, political and intellectual life from the Biblical period through the present. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-321

JS 328gw Blacks and Jews: Conflicts and Alliances
Units: 4 Terms Offered: Sp Examination of the relationship between the American Jewish and African-American communities and what it teaches about race and coalition politics in American society. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former JS 428 Instruction Mode: Lecture Grading Option: Letter

JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era
Units: 4 Terms Offered: FaSp Explores the relationship between the Jewish people and political powers. Topics include politics in exile, changing relationships to power, and relations with the modern nation-state. Instruction Mode: Lecture Grading Option: Letter

JS 340 Modern Jewish History
Units: 4 Terms Offered: FaSp A survey of the major trends and themes of modern Jewish history. Examination of Jewish culture, society and politics from the Spanish Expulsion to the Second World War. *Recommended Preparation:* JS 100. Instruction Mode: Lecture Grading Option: Letter

JS 342 Reading in Two Directions: Connecting Law and Literature in Jewish Tradition
Units: 4 Investigates understandings of law, legal interpretation and the integration of law and narrative in Jewish texts by exploring how to examine legal and literary texts. Instruction Mode: Lecture Grading Option: Letter

JS 360m Identity, Community, and Service: Jews and Other Americans
Units: 4 Examination of relationships between identity, community and service by investigating ethno-religious organizations' attempts to serve members of their group and confront issues of injustice in society. Instruction Mode: Lecture Grading Option: Letter

JS 361 Scripture and Polemic in Judaism, Christianity and Islam
Units: 4 Terms Offered: FaSp Origins of Scriptures and their polemical environments in earliest Judaism, Christianity, and Islam. Scripture as polemic and legitimation, and cross-religious/cross-cultural interpretation and argument based on scriptural themes. Instruction Mode: Lecture Grading Option: Letter

JS 362 Terror and Resistance in Literature and the Media
Units: 4 Terms Offered: Sp Investigation of the multiple ways that people experience and represent incidents of terror in literature, film, music, and social media. Instruction Mode: Lecture Grading Option: Letter

JS 370gp Digs and Dispute: Religion and Archaeology in Israel
Units: 4 Terms Offered: FaSp Investigates contemporary conflicts in the discovery of the ancient world. Students will ask essential questions about the power of discovering and showcasing specific narratives. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 370

JS 374 Messiah: The History of an Idea
Units: 4 Terms Offered: Sp Exploration of the history of the idea of a messiah in Judaism from antiquity to today. Instruction Mode: Lecture Grading Option: Letter

JS 375 Issues of American Jewish Literature
Units: 4 Issues-oriented study of the human experience in America as expressed in the fiction, poetry, drama, memoirs, and literary criticism of America's Jews, using a dual approach incorporating both literary history and specific issues. Instruction Mode: Lecture Grading Option: Letter

JS 378 Jewish Magic in the Ancient World
Units: 4 Terms Offered: Sp A cross-cultural examination of different kinds of magical literature that describe miraculous practices in Jewish mainstream and marginal life in the ancient and classical periods. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 378

JS 379gm Mixing and Matching: Intermarriage in the 21st Century
Units: 4 Terms Offered: Sp An investigation into interethnic, interracial, and inter-religious marriage in the 21st century. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-379

JS 381 The Jew in American Society
Units: 4 Terms Offered: FaSp The changing sociological profile of the American Jew and changing organization of the American Jewish community as they developed over the 19th and 20th centuries. Instruction Mode: Lecture Grading Option: Letter

JS 382 Judaism as an American Religion
Units: 4 The development of American expressions of Judaism as part of the American religious context, from the perspective of the social scientific study of religion. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-382

JS 383 Jews in American Popular Culture
Units: 4 Terms Offered: FaSp Social and cultural history of American Jewish contributions to the arts, science, literature, economics and politics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-383

JS 389 Culture and Society in Israel: Inventing the Dream
Units: 4 Terms Offered: Sp Examination of the social forces that shaped and continue to shape culture and society in contemporary Israel. Instruction Mode: Lecture Grading Option: Letter

JS 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

JS 415 The American Jewish Experience in Film
Units: 4 A survey of American Jewish history through the medium of film, with particular emphasis on the experience of the post-war generation. Instruction Mode: Lecture Grading Option: Letter

JS 467 Modern Jewish Thought
Units: 4 Terms Offered: Sp Foundations of modern Jewish thought from the Western European Enlightenment to the present. Instruction Mode: Lecture Grading Option: Letter

JS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

JS 499 Special Topics
Units: 4 Selected topics in Judaic Studies. Instruction Mode: Lecture Grading Option: Letter

JS 501a Bible Texts
Units: 4 Terms Offered: FaSp Advanced grammar and reading. An introduction to principles of form criticism as applied to selected narrative and legal portions of the Pentateuch. Instruction Mode: Lecture Grading Option: Letter

JS 501b Bible Texts
Units: 4 Terms Offered: FaSp A critical evaluation of the biblical books of Amos and Hosea with a view to gaining an appreciation of the prophets' literary skill, their religious motivations, and the originality of their thought. Instruction Mode: Lecture Grading Option: Letter

JS 501c Bible Texts
Units: 4 Terms Offered: FaSp Critical readings in each of the biblical books of Ruth, Lamentations, Ecclesiastes, Esther, and Song of Songs, with a view toward gaining an appreciation of their literary and religious values. Knowledge of Hebrew required. Instruction Mode: Lecture Grading Option: Letter

JS 504 Modern Hebrew Literature
Units: 3 Terms Offered: Fa Reading of unvocalized texts primarily from modern Hebrew literature. A survey of the development of modern Hebrew literature, with an emphasis on short story and poetry. Knowledge of Hebrew required. Instruction Mode: Lecture Grading Option: Letter

JS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

JS 680 Boundaries of Jewish Normative Behavior
Units: 4 Terms Offered: Sp Institutions claiming Jewish authenticity and their treatment of Jews perceived to be deviant. Instruction Mode: Lecture Grading Option: Letter

Latin

LAT 020x Latin for Research
Units: 2 For students who wish to use Latin in their research, or who need help in meeting the reading requirement for the PhD Not available for degree credit. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAT 120 Latin I
Units: 4 Terms Offered: FaSp Essentials of Latin grammar and vocabulary. Instruction Mode: Lecture Grading Option: Letter

LAT 150 Latin II
Units: 4 Terms Offered: FaSp Essentials of Latin grammar and vocabulary, continued. Basic reading skills. *Prerequisite:* LAT 120. Instruction Mode: Lecture Grading Option: Letter

LAT 222 Latin III
Units: 4 Terms Offered: FaSp Reading Latin literature. Introduction to reading and translation of classical Latin prose and poetry. Extensive grammar review. *Prerequisite:* LAT 150. Instruction Mode: Lecture Grading Option: Letter

LAT 310 Latin Elegiac Poetry
Units: 4 Terms Offered: Irregular Selected poems of Catullus, Tibullus, Propertius, and Ovid; meter, style, and themes. *Prerequisite:* LAT 313, LAT 314, LAT 315, or LAT 316. Instruction Mode: Lecture Grading Option: Letter

LAT 312 Roman Satire
Units: 4 Terms Offered: Irregular Selected satires of Horace and Juvenal; history of the genre. Instruction Mode: Lecture Grading Option: Letter

LAT 313 Ovid and Classical Mythology
Units: 4 Selections from the Metamorphoses and Fasti; collateral reading on classical mythology. Instruction Mode: Lecture Grading Option: Letter

LAT 314 Catullus and Horace
Units: 4 Selected poems of Catullus and Odes of Horace. Instruction Mode: Lecture Grading Option: Letter

LAT 315 Cicero
Units: 4 Representative philosophical, oratorical, and rhetorical works; selected

letters. Instruction Mode: Lecture Grading Option: Letter

LAT 316 Roman Comedy
Units: 4 Selected plays of Plautus and Terence. Instruction Mode: Lecture Grading Option: Letter

LAT 317 The Roman Novel: Apuleius' "Golden Ass"
Units: 4 Terms Offered: FaSp A reading in Latin of substantial parts of Apuleius' novel, "The Golden Ass," with study of its cultural context and the development of the ancient novel. Instruction Mode: Lecture Grading Option: Letter

LAT 320 Vergil
Units: 4 Studies in the Aeneid or Eclogues and Georgics. Instruction Mode: Lecture Grading Option: Letter

LAT 322 Lucretius' De Rerum Natura
Units: 4 The didactic epic as a vehicle of Epicurean philosophy. Instruction Mode: Lecture Grading Option: Letter

LAT 325 Roman Historians
Units: 4 Readings from Sallust, Livy, and Tacitus. *Prerequisite:* LAT 222 or satisfactory completion of placement test. Instruction Mode: Lecture Grading Option: Letter

LAT 365 Latin Literature of the Silver Age
Units: 4 Readings in Seneca, Martial, Pliny, and other representative writers. Instruction Mode: Lecture Grading Option: Letter

LAT 385 Late and Medieval Latin
Units: 4 Selections from poets and prose writers from late antiquity to the 15th century. Instruction Mode: Lecture Grading Option: Letter

LAT 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

LAT 450 Readings in Latin Literature
Units: 4 Max Units: 12.0 Terms Offered: FaSp Readings in various authors and genres of Latin literature. *Prerequisite:* 300-level Latin course. Instruction Mode: Lecture Grading Option: Letter

LAT 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

LAT 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

Law

Courses numbered 500 and above are open only to law students except by special permission from the associate dean.

LAW 101w Law and the U.S. Constitution in Global History
Units: 4 By examining key constitutional moments involving race, rights, and revolutions, students will explore how legal meaning changes over time. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

LAW 200w Law and Society
Units: 4 Sources and structure of law; history of Bill of Rights emphasizing effect on criminal justice system; limits of law in solving problems in American society. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

LAW 201 Law and Politics
Units: 4 Examination of the rules and realities of American politics, and the role politics plays in American life and culture. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC 201

LAW 202 Wrongful Convictions
Units: 4 Explores the phenomenon of wrongful convictions from a variety of fields, including psychology, criminology, policing and law, and through documentary films of real cases. Seeks solutions to increase accuracy of criminal process. Instruction Mode: Lecture Grading Option: Letter

LAW 205 Introduction to Criminal Law
Units: 4 Provides a comprehensive analysis of the criminal justice system and an overview of the fundamentals of substantive criminal law. Instruction Mode: Lecture Grading Option: Letter

LAW 210p Fundamentals of the U.S. Legal System
Units: 4 Introduces the U.S. legal system and its relationship to basic principles of the rule of law. Examines lawmaking institutions, judicial processes and contemporary legal issues. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

LAW 212 Immigration Law for a New America
Units: 4 Examines current immigration law in America, the normative debates over immigration policies and the role the government plays in expanding or limiting immigration rights. Instruction Mode: Lecture Grading Option: Letter

LAW 220 The Legal Profession
Units: 2 Introduces students to the basic aspects of the legal profession. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 225 Current Court Cases
Units: 2 Exposes students to the impact of legal decisions on society through analysis of pending and recent cases on the court's docket. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 250w Children and the Law
Units: 4 Examines topics such as children's suggestibility, decision-making, and risk and resiliency all as they apply to legal settings. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

LAW 275p The Origin and Evolution of American Civil Rights Law
Units: 4 Traces the development of U.S. constitutional and statutory mechanisms designed to fulfill the promise of equality under the law. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

LAW 300 Concepts in American Law
Units: 4 The main concepts and topics in American law, in the historical, economic and cultural contexts in which they have developed. Instruction Mode: Lecture Grading Option: Letter

LAW 310w Global Justice for Mass Atrocities and Genocide
Units: 4 Learn about international law and courts trying these cases, while also reflecting on whether criminal trials are the best response to bringing healing and reconciliation to affected societies. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former Law 450 Instruction Mode: Lecture Grading Option: Letter

LAW 320p Law, Slavery, and Race
Units: 4 Studies how law, politics and culture interacted to shape the institution of slavery and the development of modern conceptions of race. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as HIST 320

LAW 324 Sports Law
Units: 4 Examines the relevance and application of legal structures to all participants in the sports enterprise by providing an overview of legal and ethical issues. *Recommended Preparation:* LAW 210p, Fundamentals of the U.S. Legal System Instruction Mode: Lecture Grading Option: Letter

LAW 350 Law and Entrepreneurship
Units: 4 Examines areas of the law that impact entrepreneurs, starting, operating and financing businesses. Topics include: selection of business entities; securities laws and issues that arise in fundraising; employment law; contracts; torts; intellectual property; global expansion; mergers and acquisitions; and IPOs. Instruction Mode: Lecture Grading Option: Letter

LAW 352 Introduction to Law and Economics
Units: 4 An exploration of core aspects of the US legal system (property, contracts, torts, criminal law, civil procedure) from the perspective of basic economics theory. Instruction Mode: Lecture Grading Option: Letter

LAW 402 Psychology and Law
Units: 4 Terms Offered: Sp Explores issues of responsibility and credibility. Intentional and unintentional behavior. Clinical biases. Topics include witness credibility, confessions, cults, hostages, battered persons, and repressed memories. Instruction Mode: Lecture Grading Option: Letter

LAW 403 Mental Health Law
Units: 4 Terms Offered: Sp Foundational legal and practice concepts at the intersection of law and psychology through three intersecting systems: the mental health, the criminal and the immigration systems. Instruction Mode: Lecture Grading Option: Letter

LAW 404 Law and Psychology: Examining the Criminal Justice Process
Units: 4 Terms Offered: FaSpSm Examination of the capacity of the criminal justice process to produce accurate verdicts. Application of psychological research on witnesses, detectives, suspects, judges and jurors. *Recommended Preparation:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

LAW 406 Individual Rights in U.S. Constitutional Law
Units: 4 Explores the U.S. Bill of Rights and the limits that the Constitution imposes on the state majority's ability to impose its will on an individual. Instruction Mode: Lecture Grading Option: Letter

LAW 444 Civil and Political Rights and Liberties
Units: 4 (Enroll in POSC 444)

LAW 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Individual research and readings. Registration Restriction: Open only to undergraduate students Credit Restriction: Not available for graduate credit Instruction Mode: Lecture Grading Option: Letter

LAW 493 The History of Discrimination at the University
Units: 4 Using USC as an example, this research seminar examines the historical relationship between discrimination and higher education. Instruction Mode: Lecture Grading Option: Letter

LAW 498 Law Internship
Units: 2, 4 Intensive experience with a law/social justice related non-profit organization, or public agency. *Prerequisite:* LAW 210p *Recommended Preparation:* 8 units of law courses Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 502 Procedure I
Units: 2, 3, 4 Terms Offered: Fa Consideration of the participants in litigation — private and public plaintiffs, defendants, and courts. Information exchange, process, outcomes, and costs of lawsuits. Instruction Mode: Lecture Grading Option: Numeric

LAW 503 Contracts
Units: 2, 3, 4 Terms Offered: Fa The interpretation and enforcement of promises and agreements. Instruction Mode: Lecture Grading Option: Numeric

LAW 504 Criminal Law
Units: 3 Terms Offered: Sp The crime problem and the legislative response to it through substantive criminal law; administration of criminal justice through police, prosecutorial, sentencing, and penological discretion. Instruction Mode: Lecture Grading Option: Numeric

LAW 505 Legal Profession
Units: 2, 3, 4 Functions of the lawyer in modern society; history and organization of the legal profession; the adversary system; equal access to justice; other problems of ethics and professional responsibility. Instruction Mode: Lecture Grading Option: Numeric

LAW 507 Property
Units: 2, 3, 4 Terms Offered: FaSp The idea of property as understood through economic and philosophical concepts. Rights in land, water and other natural resources. Forms of shared ownership (e.g., landlord and tenant), and a survey of mechanisms for controlling land use. Instruction Mode: Lecture Grading Option: Numeric

LAW 508 Constitutional Law: Structure
Units: 2, 3, 4, 5 Terms Offered: FaSp Considers the delineation of spheres of responsibility between the judiciary and legislature, the nation and the state, and the government and the individual. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 509 Torts I
Units: 2, 3, 4 Terms Offered: FaSp Individual's obligation not to harm others; bases for compensating persons who are harmed, either by holding responsible whoever is at fault or by invoking other principles of liability, including the efficiency of resource allocation and the spreading of losses. Instruction Mode: Lecture Grading Option: Numeric

LAW 510 Legal Research
Units: 0 or 1 Terms Offered: FaSpSm Examination of the basic sources of law for federal and California jurisdictions, utilizing a vast array of sources from books to computer-assisted research and analyzing research methodology and techniques. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 511a Legal Writing
Units: 1, 2 Terms Offered: Fa Two-semester course focusing on developing analytic and communication skills. Lawyers will analyze legal principles and incisively apply them to facts. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 511b Legal Writing
Units: 1, 2 Terms Offered: Sp Two-semester course focusing on developing analytic and communication skills. Lawyers will analyze legal principles and incisively apply them to facts. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 512 Law, Language and Values
Units: 2, 3, 4 An introduction to legal interpretation and normative reasoning. Among the topics addressed are statutory and common law interpretation, the rule of law, externalities, and inequality. Instruction Mode: Lecture Grading Option: Numeric

LAW 513 Effective Writing for Professionals
Units: 2 Terms Offered: FaSpSm Focuses on professional writing structure based on audience, tone, form and purpose. Instruction Mode: Lecture Grading Option: Numeric

LAW 515 Legal Research, Writing and Advocacy I
Units: 2, 3 Development of legal research, writing and advocacy skills. Emphasis on objective legal writing, including memoranda, and researching case law through primary and secondary sources. Instruction Mode: Lecture Grading Option: Numeric

LAW 516 Legal Research, Writing and Advocacy II
Units: 2 Terms Offered: Sp Continuation of LAW 515. Development of legal research, writing, and advocacy skills. Emphasis on persuasive legal writing, including appellate briefs, and researching statutory and administrative law. Participation in a moot court program. *Prerequisite:* LAW 515 Instruction Mode: Lecture Grading Option: Numeric

LAW 520 Introduction to U.S. Legal System
Units: 2 The basic structure of government in the U.S., including the constitutionally mandated division of power in the federal government and the federal system of power sharing between state and federal systems. A comparative perspective on selected substantive and procedural matters, such as common law reasoning, jury trials, adversary process, and various aspects of civil procedure. Open to LLM students only. Instruction Mode: Lecture Grading Option: Numeric

LAW 521 Topics in American Law
Units: 1, 2, 3, 4 Terms Offered: FaSp This course provides LLM and MCL students with a survey of various topics in American law, including criminal law, evidence, family law, constitutional law, torts, wills and trusts, administrative law and property law. Open to LLM and MCL students only. Instruction Mode: Lecture Grading Option: Numeric

LAW 522 Entertainment Law and Industry
Units: 2 Terms Offered: FaSpSm Provides a detailed survey of entertainment law, entertainment-related transactions and litigation, and legal issues facing the entertainment industry. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 525 Fundamentals of Intellectual Property Law
Units: 3 Focuses exclusively on issues related to copyright and fair use, trademark, trade secrets and related laws that seek to protect intellectual property. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 527 Intellectual Property: Copyright
Units: 2 Terms Offered: FaSpSm Provides an introduction to copyright law, the application of copyright laws in litigation, and the management of copyrighted works. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 528 Constitutional Law
Units: 2 Covers the delineation of spheres of responsibility between three branches of the federal government, the federal government and the states and the government and individuals. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 530 Fundamental Business Principles
Units: 1 Exposes students to everyday business and finance vocabulary, concepts and modes of analysis. Strongly recommended for students without significant prior business experience. Graded CR/D/F. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 531 Ethical Issues for Nonprofit, Government and Criminal Lawyers
Units: 3 Covers legal ethics issues with an emphasis on access to justice, nonprofit practice settings and duties of prosecutors and defense attorneys. Fulfills Legal Profession requirement. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 532 Constitutional Law: Rights
Units: 3 Examines constitutional rights

particularly ones protected under the Equal Protection/Due Process Clauses and related questions of judicial role and theories of interpretation. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 540 Topics in Legal Analysis
Units: 1 An analysis of legal writing and problem solving of a variety of 1L subjects designed to enhance legal skills through frequent simulations and individualized feedback. Registration Restriction: Open only to 1L JD Law Students Instruction Mode: Lecture Grading Option: Numeric

LAW 550 Law for Business
Units: 1 Max Units: 04 A student-run periodical that publishes student-written and peer-edited articles relevant to the intersection between law and business. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 551 Intellectual Property Trademark
Units: 2 Terms Offered: FaSpSm Explores U.S. trademark law. Topics include trademark infringement and dilution, trademark selection, clearance, enforcement, federal registration and maintenance, the tension between trademark rights and the First Amendment, trademark licensing and other transactions, trademark fair use and the right of publicity. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 559 Human Resource Compliance
Units: 2, 3 Terms Offered: FaSpSm Provides an overview of human resource related law, and various legal issues involved in the employment relationship. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 560 Academic and Professional Skills for U.S. Law Studies I
Units: 2 Terms Offered: Fa Explores and develops the legal communication and analytical skills necessary to the practice of law. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 561a Fundamentals of Legal Writing Skills
Units: 3 Terms Offered: Fa Explores purpose and form of legal documents and emphasizes effective communication. Registration Restriction: Open only to master students enrolled in the Certificate in U.S. Legal Studies program at USC Gould School of Law Duplicates Credit in former LAW 561 Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 561b Fundamentals of Legal Writing Skills
Units: 2 Explores purpose and form of legal documents and emphasizes effective communication. *Prerequisite:* LAW 561a Registration Restriction: Open only to master students enrolled in the Certificate in U.S. Legal Studies program at USC Gould School of Law Duplicates Credit in former LAW 561 Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 562 Introduction to U.S. Legal Culture and Practice
Units: 2 Terms Offered: Fa Explores the foundation for U.S. law and culture, including the historical and contemporary development of U.S. law. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 563 Presentation Skills for International Lawyers
Units: 2 Terms Offered: Fa Explores the art of public speaking and effective communication in legal settings. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 564 Persuasive Advocacy
Units: 2 Terms Offered: Sp Explores the communication and presentation skills necessary for persuasive legal advocacy. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 565 U.S. Common Law Analysis and Skills
Units: 2 Explores how judicial opinions interact with other sources of law and develop law in the U.S. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 566 Academic and Professional Skills for U.S. Law Studies II
Units: 1 Terms Offered: Sp Explores effective legal communication and professionalism skills. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 567 Introduction to Litigation in U.S. Courts
Units: 2 Terms Offered: FaSp Provides an overview of the United States legal system for those unfamiliar with common law courts, including the mechanics of the U.S. Court system in both criminal and civil courts, as well as more detailed analysis of torts and intellectual property disputes. Registration Restriction: Open only to law students Instruction Mode: Lecture Grading Option: Numeric

LAW 571 Organizational Conflict
Units: 3 Terms Offered: Sp Origin and types of conflicts which arise within organizations. Designing systems to prevent conflict from developing or escalating and developing a culture of collaboration and creativity. Instruction Mode: Lecture Grading Option: Numeric

LAW 572 Practical Mediation Skills Clinic
Units: 1, 2, 3, 4, 5 Max Units: 06 Terms Offered: FaSpSm Students learn basic and advanced mediation skills, practice their skills in simulated mediations, and upon certification by the instructor, mediate in the Los Angeles County courts. Instruction Mode: Lecture Grading Option: Numeric

LAW 574 Health Care Compliance
Units: 2, 3 Terms Offered: FaSpSm Provides background on about the importance of compliance for health care organizations and legal challenges facing the health care industry. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 579 Global Regulatory Compliance
Units: 2 Terms Offered: FaSp Introduction to regimes that regulate business practices on a global level and compliance of such regimes, such as Foreign Corrupt Practices Act, OECD Anti-Bribery Convention, and other regulations. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 580 Wicked Problems Practicum
Units: 1, 2 Max Units: 6 A year-long project addressing an urgent public policy issue that is both multifaceted and intractable. Instruction Mode: Lecture Grading Option: Numeric

LAW 581 Externship for Graduate and International Program Students
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm An externship allows a student to gain hands-on legal experience in legal settings. Students will be assigned to a legal services program, government agency or state or federal judge under faculty supervision. All externships include an initial orientation and subsequent academic assignments. A maximum of 8 units may be earned over two externships. Registration Restriction: Open only to USC Gould School of Law Graduate and International Students Instruction Mode: Lecture Grading Option: Numeric

LAW 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to USC Gould School of Law graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 598 Regulatory Compliance
Units: 2, 3 Terms Offered: FaSpSm Provides an overview of regulatory compliance law and the ways that various organizations ensure compliance with governing laws and regulations. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Numeric

LAW 600 Taxation
Units: 3 or 4 Federal tax statutes, technical issues and social problems involved in tax planning, tax litigation, and reform of the tax laws. Instruction Mode: Lecture Grading Option: Numeric

LAW 601 Advanced Legal Writing
Units: 2, 3 Requires students to draft legal documents they were not exposed to in the first-year writing course, such as client letters, demand letters, and contracts. Instruction Mode: Lecture Grading Option: Numeric

LAW 602 Criminal Procedure
Units: 2, 3, 4 Terms Offered: FaSpSm Criminal procedure in the courts, and the regulation of law enforcement by the courts through rules of evidence and interpretation of the Bill of Rights. Instruction Mode: Lecture Grading Option: Numeric

LAW 603 Business Organizations
Units: 3, 4, 5 Terms Offered: FaSp Organization of economic activity — especially the modern corporation — as institutions of social power. The roles of managers, owners, and public regulatory agencies in shaping processes of decision-making. Instruction Mode: Lecture Grading Option: Numeric

LAW 604 Real Estate Transactions Problems
Units: 1 Terms Offered: Fa Selected problems to supplement LAW 605. *Corequisite:* LAW 605. Instruction Mode: Lecture Grading Option: Numeric

LAW 605 Real Estate Transactions and Finance
Units: 2, 3, 4, 5 Terms Offered: Fa An in-depth look at the most prevalent transactions and finance tools related to both residential and commercial real estate. Topics include: purchase and sale of realty; property valuation; brokerage agreements; land conveyance and the recording acts; escrows, title insurance and closings; investment vehicles and deal structures; mortgage lending and commercial finance; and foreclosures. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 606 Land Use Controls
Units: 2, 3, 4 Concentrates on the major topics of Land Use and Environmental law in the 21st Century. Instruction Mode: Lecture Grading Option: Numeric

LAW 607 Gifts, Wills, and Trusts
Units: 3 or 4 Gratuitous transfer of wealth, especially the transmission of wealth from one generation to the next as a settlement of family affairs. Comparative analysis of the legal mechanisms of gifts, wills, and trusts. Introduction to problems of fiduciary administration. Instruction Mode: Lecture Grading Option: Numeric

LAW 608 Evidence
Units: 3 or 4 The purpose and character of trial. Problems of adversary presentation and the nature of proof. The basis for admission and exclusion of evidence in judicial proceedings. Instruction Mode: Lecture Grading Option: Numeric

LAW 609 Contemporary Issues in Human Resource Compliance
Units: 2 Terms Offered: FaSpSm Explores regulations and compliance issues as well as related problem-solving techniques in the workplace. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 610 Antidiscrimination Law
Units: 3, 4 Surveys federal constitutional and statutory mechanisms designed to fulfill the promise of equality under the law. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 612 California Civil Procedure
Units: 2, 3, 4 Examines the California rules of civil procedure. Emphasizes California law, with some discussion of the differences between state and federal procedure. Instruction Mode: Lecture Grading Option: Numeric

LAW 613 Corporate Governance
Units: 2 Terms Offered: FaSpSm Examines the purpose, evolution and history of corporate governance standards, priorities and culture of boards, shareholder/ stakeholder engagement, and corporate social responsibility, as it relates to law. Registration Restriction: Open only to the USC Gould School of Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 614 Accounting for Lawyers
Units: 2 or 3 The lawyer's skills needed to understand the financial affairs of a business client. Instruction Mode: Lecture Grading Option: Numeric

LAW 615 Election Law
Units: 2, 3 Consideration of legal regulation of the right to vote and otherwise to participate in the electoral process. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 617 History of American Law
Units: 2 or 3 Explores the interaction of law, culture, and politics in American society from the Revolution through the New Deal. Instruction Mode: Lecture Grading Option: Numeric

LAW 621 Gender Discrimination
Units: 1, 2, 3, 4 Analysis of the constitutional and statutory debates about the meaning of equality, and the recognition and accommodation of difference. Instruction Mode: Lecture Grading Option: Numeric

LAW 622 Money in Politics
Units: 2, 3 Studies the statutes and cases governing campaign finance in America and the latest research into their effects. Instruction Mode: Lecture Grading Option: Numeric

LAW 623 Family Law
Units: 3 or 4 Creating, regulating and dissolving family relationships. Explore moral and power relations among men, women, children and the state. Develop skills to help clients in families. Instruction Mode: Lecture Grading Option: Numeric

LAW 624 Water Law
Units: 2, 3 Covers the regulation of groundwater and surface water by the courts and the State Water Resources Control Board. Instruction Mode: Lecture Grading Option: Numeric

LAW 625 Remedies
Units: 3 or 4 Comparison of the remedial goals of contracts, torts, and property and the impact of procedural devices in law and equity. Damages, injunctions, specific performance and restitution. Remedial theory and transactional application. Instruction Mode: Lecture Grading Option: Numeric

LAW 626 International Investment Law and Arbitration
Units: 1, 2 Provides students with understanding of protection offered to foreign investment and investors through bilateral investment treaties and multilateral and regional investment and free trade agreements. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 627 Business Planning: Structuring and Financing a New Enterprise
Units: 3, 4 Covers each phase of the structuring, formation, financing and operation of a new media enterprise. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 628 Real Estate Joint Ventures Between Capital Sources and Developers
Units: 1, 2, 3, 4, 5 Explores real estate joint ventures, formed by institutional capital sources and local developers or operators, through review and discussion of hypothetical fact patterns and contract provisions. Various issues attached to real estate transactions are also explored, including topics such as: finance, development, zoning and purchase agreements for commercial property. *Prerequisite:* LAW 605 or LAW 629 Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 629 Real Estate Development, Entitlements and Zoning
Units: 2, 3, 4, 5 An end-to-end look at the various facets of the complex real estate development process, from land acquisition, to the sale and marketing of completed projects. Topics include: the relationship between developers and architects; zoning and land use controls; the subdivision and entitlements process; environmental issues related to development; the interplay between public entities and private developers; constitutional limits on governmental fees; construction contracts and lending; and real estate investment deal structures *Prerequisite:* LAW 605 Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 630 Mediation Clinic I
Units: 2, 3, 4 Terms Offered: FaSpSm Students receive the training required to become professional mediators for civil cases in the L.A. County Superior Court, and mediate these cases. Instruction Mode: Lecture Grading Option: Numeric

LAW 631 Mediation Clinic II
Units: 2, 3, 4 Continuation of LAW 630. *Prerequisite:* LAW 630. Instruction Mode: Lecture Grading Option: Numeric

LAW 632 Business for Lawyers
Units: 2, 3, 4 This course introduces law students to the tools, concept, and language of business. It is premised on the belief that to excel as a business lawyer, one must understand the business world from the perspective of the clients one counsels and assists. The course will cover, in compressed form, the basic subjects

from the MBA program which are most useful to lawyers. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 633 Business Principles in Law
Units: 2 Terms Offered: FaSpSm Focuses on fundamental business concepts, including, business strategy, management, sales and marketing, finance and risk, as they relate to law. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 634 Legal Analysis of Evidence
Units: 2, 3, 4 Legal analysis of the rules of Evidence using problems designed to improve analytic skills and problem-solving. Taken in conjunction with Evidence. *Corequisite:* LAW 608 Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 635 Employment Discrimination Law
Units: 2, 3 Examines the regulation of employment discrimination under federal law. Pays primary attention to issues of race, sex, age and disability discrimination. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 636 Labor Law
Units: 3 or 4 The interrelation of labor, business, and government in collective bargaining, federal regulation of union and management practices and pressures, especially through the Taft-Hartley Act. Instruction Mode: Lecture Grading Option: Numeric

LAW 637 International Trade Policy
Units: 1, 2, 3, 4 Examination of the institutions and laws that regulate international economic relations. Students will be introduced to the major international agreements and national laws that regulate international trade goods, services and capital. Instruction Mode: Lecture Grading Option: Numeric

LAW 640 Financial Institution Regulation
Units: 2 Terms Offered: FaSpSm Introduces foundational concepts on general financial institution compliance, including compliance methods and regulatory rules affecting banks, securities firms, funds, and financial services. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 642 Secured Transactions
Units: 2, 3, 4 This is a course on Chattel paper and secured transactions involving personal property under Article 9 of the Uniform Commercial Code and some related bodies of law. Instruction Mode: Lecture Grading Option: Numeric

LAW 644 Corporate Taxation
Units: 2, 3, 4 Tax principles and practice applicable to business, especially problems of formation, liquidation, and reorganization. *Prerequisite:* LAW 600. Instruction Mode: Lecture Grading Option: Numeric

LAW 645 Transactional Practice — The Syndicated Loan Agreement
Units: 4 Involves issues including loan restructuring; what loan agreements cover; how representations, covenants, default and financial and repayment terms interrelate; and how security documents fit in. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 647 Bankruptcy: Debtors and Creditors I
Units: 2 or 3 Bankruptcy of the poor, imprudent or unlucky, and of unsuccessful businesses. The mechanisms of our law for distributing the debtor's property and discharging his obligations. Instruction Mode: Lecture Grading Option: Numeric

LAW 648 Topics in Entertainment Law
Units: 1, 2, 3, 4 Max Units: 8.0 Contemporary topics in the field of entertainment law. Instruction Mode: Lecture Grading Option: Numeric

LAW 649 Insurance
Units: 2 or 3 The pooling of risks and distributing of losses. Actuarial foundation and contract problems of insurance. Instruction Mode: Lecture Grading Option: Numeric

LAW 650 Entertainment Law
Units: 2, 3, 4 Terms Offered: FaSp An examination of how the courts are handling selected, "cutting edge" topics in entertainment law. The topics will include the scope of and limitations on the right of publicity; fair use and parody defenses to copyright infringement; future technology clauses in rights contracts; and copyright and defamation issues arising in the online world. *Recommended Preparation:* Previous entertainment law courses recommended, but not required. Instruction Mode: Lecture Grading Option: Numeric

LAW 652 Computer Crime Law
Units: 2 Examines the legal and policy issues involved with the emergence of cyber crimes and cyber security issues, including government access and privacy issues. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 653 Music Law in Practice
Units: 1, 2, 3, 4 Terms Offered: FaSp Focus on contract drafting and negotiation issues relevant to an artist's pursuit of a career in the music business. Registration Restriction: Open only to law students Instruction Mode: Lecture Grading Option: Numeric

LAW 654 Television and Digital Media
Units: 2, 3, 4 An in-depth study of television industry legal concepts, contracts, business structures and economic models. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 655 Environmental Law
Units: 2, 3, 4 Focus on environmental law policy and practice. This course is a combination of regulatory and private law, with a special emphasis on disputes and regulations involving contamination in soil, water and air. Instruction Mode: Lecture Grading Option: Numeric

LAW 658 Mergers and Acquisitions
Units: 1, 2, 3, 4 Terms Offered: Sp Problems of integrating the corporate, securities, tax, business, antitrust, accounting and contractual aspects of corporate mergers and acquisitions. *Prerequisite:* LAW 603. Instruction Mode: Lecture Grading Option: Numeric

LAW 660 Trademark Law in Practice
Units: 1, 2, 3, 4 A rigorous introduction to a law of trademarks. A trademark can be any word, symbol, design, sound, fragrance or product configuration that is used to distinguish the goods or services of one person from those of another, and to indicate the origin of the goods or services. *Prerequisite:* LAW 772 or LAW 841 Instruction Mode: Lecture Grading Option: Numeric

LAW 661 National Security Law
Units: 2, 3, 4 Examination of the nature of United States' national security law, focusing on how it is created, violated and enforced. Instruction Mode: Lecture Grading Option: Numeric

LAW 662 Public International Law
Units: 2, 3, 4 Principles of international law involving relations among governments. The function of international tribunals and organizations. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 663 Health Care Law, Business and Finance
Units: 2 Terms Offered: FaSpSm Covers health care business fundamentals, financial risk and return, capital budgeting, and long-term financial analysis and planning, as it relates to law. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 664 Patient Privacy Law
Units: 2 Terms Offered: FaSpSm Emphasizes the Health Insurance Portability and Accountability Act (HIPAA) and other important federal and state privacy laws, and their enforcement. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 665 Art Law
Units: 2 or 3 Provides an overview, often from a litigation perspective, of legal issues affecting artworks and cultural property. Instruction Mode: Lecture Grading Option: Numeric

LAW 666a Trademark Moot Court
Units: 1 Terms Offered: Fa An intensive, two-semester course preparing students interested in U.S. trademark and unfair competition law for participation in the annual Saul Lefkowitz Moot Court Competition. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: In Progress to Numeric

LAW 666b Trademark Moot Court
Units: 2 Terms Offered: Sp An intensive, two-semester course preparing students interested in U.S. trademark and unfair competition law for participation in the annual Saul Lefkowitz Moot Court Competition. *Prerequisite:* LAW 666a Registration Restriction: Open only to the USC Gould School of Law Instruction Mode: Lecture Grading Option: In Progress to Numeric

LAW 667 Hale Moot Court Brief
Units: 2 Invitation-only course offered to second-year students as part of the Hale

Moot Court Honors Program. Students write an appellate brief. Open only to students in JD program (including dual degrees). Instruction Mode: Lecture Grading Option: Numeric

LAW 668 Hale Moot Court Oral Advocacy
Units: 1 Terms Offered: Sp Invitation-only course for students in the Hale Moot Court Honors Program. Students present an oral argument and judge first-year student rounds. *Prerequisite:* LAW 667. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 669 Moot Court Supervision
Units: 1, 2, 3 Max Units: 6.0 Terms Offered: FaSp Evaluation and supervision of the preparation of briefs and oral arguments in the Hale Moot Court honors competition. Instruction Mode: Lecture Grading Option: Numeric

LAW 670 Advanced Moot Court Oral Arguments
Units: 1, 2, 3 Max Units: 3.0 Terms Offered: Sp Preparation of oral arguments in approved moot court competitions, such as national and state prize rounds (other than Hale Moot Court Program). Registration Restriction: Open only to law students. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 671 Advanced Moot Court Briefs
Units: 1, 2, 3 Terms Offered: Sp Preparation of briefs in approved moot court competitions, such as national and state prize rounds (other than Hale Moot Court Program). Instruction Mode: Lecture Grading Option: Numeric

LAW 672 Jessup Moot Court Briefs
Units: 1, 2, 3 Terms Offered: Fa Students prepare for competition by writing a brief on the issues in a problem that is the basis for the Jessup International Moot Court Competition. Participation is by faculty selection only. Instruction Mode: Lecture Grading Option: Numeric

LAW 673 Deal Strategies in Business and Entertainment Law
Units: 3, 4 Examines the legal and business skills, concepts and practices, involved in structuring, drafting and negotiating financing, production and distribution deals in the entertainment industry. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 674 Advanced Secured Transactions Workshop
Units: 1 Provides hands-on experience in the various tasks typically required in structuring, documenting and closing a personal property secured transaction. *Corequisite:* LAW 642. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 675 Mental Health Law
Units: 2, 3, 4 Studies the important issues at the intersection of law and psychology/psychiatry, both civil and criminal. Instruction Mode: Lecture Grading Option: Numeric

LAW 676 Dealmaking
Units: 2 Covers the nuts and bolts of negotiating a deal with investors, and emphasizes legal concepts used in drafting key business agreements. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 677 Video Game Law
Units: 2 Covers the most essential topics in video game law, including: content creation and acquisition; distribution, publishing and marketing; brand management; user management; data security; esports; online gambling; virtual currency and property; and related international issues. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 678a Review of Law and Social Justice Staff
Units: 1, 2, 3, 4 Writing, source-checking, and preliminary editing of articles and comments for publication in the Review of Law and Social Justice. For second-year students serving as staff members on the Review. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 678b Review of Law and Social Justice Staff
Units: 1, 2, 3, 4 Writing, source-checking, and preliminary editing of articles and comments for publication in the Review of Law and Social Justice. For second-year students serving as staff members on the Review. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 679 Review of Law and Social Justice Writing
Units: 1, 2, 3, 4 Max Units: 4.0 Writing, source-checking, and preliminary editing of articles and comments for publication in the Review of Law and Social Justice. Instruction Mode: Lecture Grading Option: Numeric

LAW 680 Mediation Theory and Practice
Units: 2, 3 Develop knowledge and skills associated with the mediation process as a third party neutral. Explore mediation theories, practices, ethical issues and policies. Registration Restriction: Open only to Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 680a Review of Law and Social Justice Editing
Units: 1, 2, 3 Supervision of research and writing, and final editing of articles and comments for publication in the Review of Law and Social Justice. For officers of the Review. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 680b Review of Law and Social Justice Editing
Units: 1, 2, 3, 4 Supervision of research and writing, and final editing of articles and comments for publication in the Review of Law and Social Justice. For officers of the Review. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 681 Analytical Methods for Lawyers
Units: 2, 3, 4 Teaches important business and economic concepts that will assist with problems lawyers in every practice area routinely encounter. Instruction Mode: Lecture Grading Option: Numeric

LAW 682 Jessup Moot Court Oral Arguments
Units: 1 Terms Offered: Sp Students prepare oral arguments on the issues in a problem that is the basis for the Jessup International Moot Court competition. Participation is by faculty selection only. *Prerequisite:* LAW 672. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 683 Fact Investigation and Discovery
Units: 2, 3 Terms Offered: FaSp Introduction to a practice-oriented approach to interviewing and counseling clients. Enables students to develop a useful framework for effectively interviewing and representing clients. Instruction Mode: Lecture Grading Option: Numeric

LAW 684 Suing the Government
Units: 2, 3, 4 Terms Offered: FaSp Deals with suits against federal and state governments. Intended for aspiring government workers or representatives of plaintiffs who sue a government official or entity. Instruction Mode: Lecture Grading Option: Numeric

LAW 686 Civil Rights Law
Units: 3 Gives students operational significance to the abstractions presented in the Constitutional Law courses by investigating civil rights litigation. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 687 Immigration Detention and Appellate Clinic
Units: 4 Terms Offered: FaSpSm A one-semester clinical course where students represent non-citizens in appellate matters before the Board of Immigration Appeals and the U.S. Court of Appeals, and in petitions for writs of habeas corpus before the U.S. District Court. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 688 California Constitutional Law
Units: 3 Covers three broad categories related to the California constitution: general state constitutional law issues, the relationship between the state and federal constitutions and selected topics on the California constitution. *Recommended Preparation:* A federal constitutional law course is helpful as background for some of the fundamental principles Registration Restriction: Open only to JD and graduate-level students at the USC Gould School of Law Instruction Mode: Lecture Grading Option: Numeric

LAW 689 Digital Media Transactions
Units: 2, 3 Focuses on the business, legal, and financial issues that relate to the creation, financing, and exploitation of digital media. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 690 Entertainment Law in Practice
Units: 2 Develops legal, analytical, and client management skills required to represent entertainment industry clients in all areas of the entertainment industry. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 691 Cybersecurity and Cyber Crimes
Units: 2 Focuses on legal aspects of cyber risks in different business sectors, threats to cybersecurity and the necessary compliance frameworks for cybersecurity. Registration Restriction: Open only to USC

Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 692 Information Management and Risk
Units: 2 Teaches best practices for overseeing the development, implementation, maintenance and adherence to current privacy laws and regulations. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 694 Cyberlaw: Legal Issues Impacting Providers and Users of Internet Services
Units: 2 An overview of common legal issues impacting both providers and users of Internet services. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 697 Foreign Relations and National Security Law
Units: 2, 3, 4 Terms Offered: FaSp This course will examine the statutory, constitutional, and international legal structures that form the base of American diplomacy. Instruction Mode: Lecture Grading Option: Numeric

LAW 698 Equity and the Legal and Social Determinants of Health
Units: 2, 3 Explores how legal, social, racial, cultural and economic factors contribute to health disparities and the role that physicians and lawyers can play in advocating for patients and policy changes to promote health equity. Instruction Mode: Lecture Grading Option: Numeric

LAW 701 Child Interviewing Practicum
Units: 1, 2, 3, 4 Learn how to effectively interview child witnesses. Students will practice mock interviews, and may be eligible to conduct actual interviews of child witnesses. Registration Restriction: Open only to Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 702 Children, Sexuality and the Law
Units: 2, 3, 4 Explores laws designed to protect children from sexual abuse and exploitation, with a limited emphasis on foreign and international law for comparative perspective. Instruction Mode: Lecture Grading Option: Numeric

LAW 703a Children's Legal Issues
Units: 1, 2, 3, 4 Students will work on cases in the following areas: (1) Dependent and neglected children: All children who are wards of the court must have legal counsel. (2) Children with AIDS: Legal implications of such issues as health care and custody. (3) Guardianships or other temporary arrangements for children whose parents are terminally ill or are otherwise unable to care for them. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 703b Children's Legal Issues
Units: 1, 2, 3, 4 Students will work on cases in the following areas: (1) Dependent and neglected children: All children who are wards of the court must have legal counsel. (2) Children with AIDS: Legal implications of such issues as health care and custody. (3) Guardianships or other temporary arrangements for children whose parents are terminally ill or are otherwise unable to care for them. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 704 Poverty Law
Units: 2, 3, 4 Terms Offered: FaSp An introduction to the problem of poverty in the United States and to the response of government and the legal system to the problems of the poor. Instruction Mode: Lecture Grading Option: Numeric

LAW 705 Community Property
Units: 1, 2, 3 The law of community property, including disposition of property on dissolution of the marriage and questions of conflict of laws. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 706 Public Health Law and Policy
Units: 2, 3, 4 Introduces the legal and policy foundations of the global, federal, state, and local public health systems in the United States, including pandemic preparation and response. Instruction Mode: Lecture Grading Option: Numeric

LAW 707 Global Health, Law and Human Rights
Units: 1, 2, 3 Highlights the complex interactions between health, law and human rights, emphasizing the use of human rights in public health thinking and practice. Duplicates Credit in PM 577. Instruction Mode: Lecture Grading Option: Numeric

LAW 708 Contract Drafting, Analysis and Negotiation
Units: 2, 3, 4 Terms Offered: FaSpSm Covers the fundamentals of reviewing and analyzing business contracts and strategies for negotiating business issues with an emphasis on developing practical skills. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 709 Contract Drafting and Negotiation
Units: 2, 3, 4 Terms Offered: FaSp Contract Drafting and Negotiation will teach students the mechanics of drafting and negotiating sophisticated contracts from a variety of legal disciplines including entertainment law, real estate law and general corporate law. Instruction Mode: Lecture Grading Option: Numeric

LAW 710 Contract Drafting and Analysis
Units: 2, 3 Students present to the class their assessment of assigned contracts, then draft their own contracts, interpret a complex contract, followed by team-based rewrites. Instruction Mode: Lecture Grading Option: Numeric

LAW 711 Access to Justice Practicum
Units: 2, 3, 4 Real world advocacy projects involving issues such as civil rights, disability rights, foster care, welfare, and health care, among others. Instruction Mode: Lecture Grading Option: Numeric

LAW 712 Negotiation Theory and Application
Units: 2, 3 Terms Offered: FaSp Develops enhanced negotiation skills and a working understanding of ADR processes and procedures in an interactive classroom experience. Registration Restriction: Open only to USC Gould School of Law students Duplicates Credit in former LAW 638, LAW 845 Instruction Mode: Lecture Grading Option: Numeric

LAW 713 International Human Rights
Units: 2, 3, 4 Terms Offered: FaSp This course will address the international law and institutions which have developed since World War II for the protection of human rights. Instruction Mode: Lecture Grading Option: Numeric

LAW 714 U.S. Foreign Policy and International Law
Units: 1, 2, 3, 4 Discusses current U.S. foreign policy challenges and the underlying international legal issues and principles which shape them. Instruction Mode: Lecture Grading Option: Numeric

LAW 715 ADR Law and Policy: Mediation and Arbitration
Units: 2, 3, 4 Terms Offered: FaSpSm Exploration of the origin, development, and practice of mediation, arbitration and other forms of ADR, emphasizing the policies underlying these increasingly significant and evolving areas. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 716 Race and Gender in the Law
Units: 1, 2, 3, 4 Investigates the experience of women and people of color as they have encountered legal institutions and processes. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 717 Estate Planning
Units: 3 Terms Offered: FaSp Legal and tax considerations important to the lawyers advising their clients on the transmission of wealth from one generation to the next. Instruction Mode: Lecture Grading Option: Numeric

LAW 718 Sports Law in Practice
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Sports law is a blend of contract, labor, antitrust, agency, tax, intellectual property, tort, civil rights and constitutional law. Registration Restriction: Open only to Law majors. Instruction Mode: Lecture Grading Option: Numeric

LAW 719 Corporate Finance
Units: 2, 3, 4 Legal and economic aspects of corporate finance including capital structure, policy, mergers, takeovers, and freeze-outs; analysis of policy relating to present law and possible reforms. Instruction Mode: Lecture Grading Option: Numeric

LAW 720 Topics in Corporate Law
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Executive malfeasance, shareholder rights, securities class actions, asset securitizations, hedge fund regulation and corporate social responsibility from a theoretical and corporate finance framework. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 722 Litigating Land Use Cases
Units: 2 Covers leading land use appellate cases, developing and implementing winning strategies with clients, formulating and articulating sensible arguments and rebuffing flawed arguments. Instruction Mode: Lecture Grading Option: Numeric

LAW 723 Children and the Law
Units: 2 Explore areas of law that cover children and require students to think critically and practically about children's role in the legal system. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 724 Influencing Society and the Environment through Real Estate
Units: 1, 2 Terms Offered: FaSp Holistically studies how real estate laws and regulations are used to address today's most significant social and environmental policy issues. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 726 Stereotypes, Prejudice, and the Rule of Law
Units: 2, 3, 4 Terms Offered: FaSp An examination of the role of race (and other markers of social marginality) in the administration of justice in American courts. Instruction Mode: Lecture Grading Option: Numeric

LAW 727 Partnerships and Limited Liability Companies
Units: 2, 3, 4 Terms Offered: FaSp Deals with the formation, features and functions of general partnerships, limited partnerships and limited liability companies. Also focuses on business planning, recognizing business and legal objectives and selecting the appropriate entity to accomplish these objectives. Instruction Mode: Lecture Grading Option: Numeric

LAW 728 Legal Technology
Units: 2 Technology and innovation, including AI, blockchain, practice management, big data analytics and E-discovery software, are transforming the role of lawyers and the delivery of legal services. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 729 Law, Society and the University: the History of Discrimination
Units: 3 Explores the role of the university in the world, using USC as an example. Emphasizes original research into the twentieth-century history of the university as an active participant in political, economic, ideological and environmental trends in the city, the nation and the world. Registration Restriction: Open only to Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 730 Computer Science for Lawyers
Units: 1 Focuses on applied principles of litigation involving software, including mobile and web applications, databases and machine learning. Registration Restriction: Open only to graduate-level students at the USC Gould School of Law Instruction Mode: Lecture Grading Option: Numeric

LAW 732 Bioethics and Law Seminar
Units: 2, 3 Covers legal and law-related issues, including constitutional law perspectives, concerning biomedical technologies. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 733 Business Bankruptcy
Units: 2, 3 Reorganization of failing corporations under Chapter XI of the Bankruptcy Act. Claims, protective committees, plans, tax considerations. Instruction Mode: Lecture Grading Option: Numeric

LAW 734 Local Government Law
Units: 3 or 4 Study and evaluation of the municipal and regional legal institutions. Emphasis on the crises in financing and governing the urban society. Instruction Mode: Lecture Grading Option: Numeric

LAW 735 Diversity in Big Law
Units: 3 Explores some of the most important questions facing the legal profession today: What role does money play in the practice of law? Why have women and minorities lagged in advancing in the profession? Why has Big Law exploded? Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 736 Small Business Clinic I
Units: 2, 3, 4 Terms Offered: FaSpSm Students provide legal assistance to small businesses, entrepreneurs and non-profit organizations that cannot pay market rates for legal services. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 737 Small Business Clinic II
Units: 2, 3, 4 Terms Offered: Sp Continuation of Small Business Clinic I. *Prerequisite:* LAW 736. Instruction Mode: Lecture Grading Option: Numeric

LAW 738 E-Discovery Law
Units: 1, 2 Terms Offered: SpSm Focuses on the electronic storage of information (ESI) and how it works in the litigation discovery process. *Recommended Preparation:* Basic familiarity with the document discovery process in litigation Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 743 Federal Criminal Law
Units: 2, 3, 4 Covered topics include offenses relating to fraud and political corruption, terrorism, narcotics, money laundering, organized crime, false statements and obstruction of justice. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 744 Anatomy of an International Business Deal
Units: 2 Terms Offered: FaSp Focuses on developing practical skills a lawyer needs to successfully represent a party in any commercial transaction, including international business transactions. Instruction Mode: Lecture Grading Option: Numeric

LAW 746 Critical Race Theory
Units: 2, 3, 4 Intersectionality, destruction and critical historiography; specifically affirmative action in education, hate speech and immigration reform. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 748 Consumer Law
Units: 3 Structured around consumer transactions; studies contemporary consumer law; examines consumer law statutes in the context of the common law, primarily tort and contract. *Recommended Preparation:* Courses in Remedies and California Civil Procedure Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 749 Securities Regulation
Units: 2, 3, 4 Regulation by state and federal agencies of issuance of, and trading in, stocks, bonds, and other securities. Particular reference to SEC regulations. *Prerequisite:* LAW 603 Instruction Mode: Lecture Grading Option: Numeric

LAW 751 Sexual Orientation and the Law
Units: 2, 3, 4 Terms Offered: FaSp Explores the ways in which American law has responded to the diversity that exists within human sexual orientation. Instruction Mode: Lecture Grading Option: Numeric

LAW 753 Antitrust Law I
Units: 3 or 4 Laws designed to preserve and promote business competition, with heavy emphasis on the federal antitrust laws. Instruction Mode: Lecture Grading Option: Numeric

LAW 754 Antitrust and Intellectual Property Law
Units: 2, 3, 4 Covers the interface between antitrust law and intellectual property law. Instruction Mode: Lecture Grading Option: Numeric

LAW 757 Sex, Gender and the Law
Units: 1, 2, 3, 4 Terms Offered: FaSp Explores law's response to questions of sex discrimination and gender identity and expression, with emphasis upon legal issues facing transgender and intersex persons. Instruction Mode: Lecture Grading Option: Numeric

LAW 760a Interdisciplinary Law Journal Staff
Units: 1 or 2 Terms Offered: FaSp Source-checking and preliminary editing of articles and comments for publication in the Interdisciplinary Law Journal. For second-year students serving as staff members on the Journal. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 760b Interdisciplinary Law Journal Staff
Units: 1 or 2 Terms Offered: FaSp Source-checking and preliminary editing of articles and comments for publication in the Interdisciplinary Law Journal. For third-year students serving as staff members on the Journal. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 761 Interdisciplinary Law Journal Writing
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSp Students will write journal notes as members of the Interdisciplinary Law Journal. Instruction Mode: Lecture Grading Option: Numeric

LAW 762a Interdisciplinary Law Journal Editing
Units: 1, 2, 3 Terms Offered: FaSp Supervision and final editing of articles and comments for publication in the Interdisciplinary Law Journal. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 762b Interdisciplinary Law Journal Editing
Units: 1, 2, 3 Terms Offered: FaSp Supervision and final editing of articles and comments for publication in the Interdisciplinary Law Journal. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 763 Federal Courts: The Federal System II
Units: 3, 4, 5 Terms Offered: FaSpSm Problems of adjudication in a federal system. Allocation of authority between federal and state courts and among Congress, the Executive and the Courts; choice of federal and state law; jurisdiction of federal courts and significant rules of practice. Instruction Mode: Lecture Grading Option: Numeric

LAW 764 International Business Transactions
Units: 3 or 4 Survey of legal aspects of international trade and investment transactions, including tax considerations. Instruction Mode: Lecture Grading Option: Numeric

LAW 765 Intellectual Property Litigation
Units: 1, 2, 3, 4 Analyzes selected contributions to intellectual property scholarship and explores some challenging problems in contemporary intellectual property law. Registration Restriction: Open only to Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 766 Writing for Publication Seminar
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Special seminars to provide a forum for students who wish to produce a paper for academic publication to receive guidance and feedback. Instruction Mode: Lecture Grading Option: Numeric

LAW 767a Law Review Staff I
Units: 1 or 2 Writing, source-checking, and preliminary editing of articles and comments for publication in the Southern California Law Review. For second-year students serving as staff members on the Review. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 767b Law Review Staff I
Units: 1 or 2 Writing, source-checking, and preliminary editing of articles and comments for publication in the Southern California Law Review. For second-year students serving as staff members on the Review. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 768 Law Review Writing
Units: 1, 2, 3, 4 Max Units: 4.0 Writing, source-checking and preliminary editing of articles and comments for publication in the Southern California Law Review. Instruction Mode: Lecture Grading Option: Numeric

LAW 769a Law Review Editing
Units: 1, 2, 3 Terms Offered: FaSp Supervision of research and writing, and final editing of articles and comments for publication in the Southern California Law Review. For officers of the Review. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 769b Law Review Editing
Units: 1, 2, 3 Terms Offered: FaSp Supervision of research and writing, and final editing of articles and comments for publication in the Southern California Law Review. For officers of the Review. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 770 Technology Transactions
Units: 2, 3 Provides students with the foundation for advising clients on transactions involving patents, trade secrets and other technology-related rights. Instruction Mode: Lecture Grading Option: Numeric

LAW 771 Intellectual Property and Technology Law Clinic I
Units: 2, 3, 4, 5 Terms Offered: Fa Provides law students with the ability to represent clients (under the supervision of the professor) in cutting-edge issues of intellectual property and technology law. *Corequisite:* LAW 772 or LAW 841. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 772 Intellectual Property
Units: 2 or 3 The protection of intellectual property and encouragement of creativity. Explores copyright, trademarks, patents, and selected state law theories. Instruction Mode: Lecture Grading Option: Numeric

LAW 773 Internet Law
Units: 2, 3, 4 Terms Offered: Fa Integration of cyberspace and the Internet into existing legal structures. Topics include: First Amendment issues; intellectual property, privacy and child protection; criminal activity and governance and jurisdictional activities. Instruction Mode: Lecture Grading Option: Numeric

LAW 775 Immigration Law
Units: 2, 3, 4, 5 The development of immigration law to its present state. Instruction Mode: Lecture Grading Option: Numeric

LAW 776 Immigration Clinic I
Units: 2, 3, 4, 5 Terms Offered: FaSpSm Students represent clients before Immigration and Customs Enforcement, the Immigration Court, and certain law enforcement agencies in cases including applications for relief under the Violence Against Women Act, for asylum, and for relief against deportation. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 777 Administrative Law and Regulatory Policy
Units: 1, 2, 3, 4 Legal principles subject to judicial control and the alternative ways in which agencies can be organized to serve their purposes. Instruction Mode: Lecture Grading Option: Numeric

LAW 778 Sales Transactions
Units: 2, 3, 4 Analysis of the buying and selling of goods both in domestic and international transactions with a heavy focus on Article 2 of the Uniform Commercial Code. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 780 Intellectual Property and Technology Law Clinic II
Units: 2, 3, 4, 5 Terms Offered: FaSpSm Continuation of LAW 771. Instruction Mode: Lecture Grading Option: Numeric

LAW 781 Externship I
Units: 2, 4, 10, 12 Terms Offered: FaSpSm An externship allows a student to gain hands-on legal experience in legal settings. Students will be assigned to a legal services program, government agency, or state or federal judge under faculty supervision. All externships include a classroom component. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 782 Externship II
Units: 2, 4, 10, 12 Terms Offered: FaSp Advanced externship. All externships include a classroom component. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 788 Racial Ambiguity Blues
Units: 1, 2, 3 Terms Offered: FaSp Examines the three prevailing concepts of race currently used in the American legal system: biological race, performed race and physical race. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 791 Law and Society
Units: 2, 3, 4 Covers a wide range of perspectives and examples from diverse legal settings to understand law as broader than statutes, judicial decisions and regulations, but rather as a social phenomenon embedded in culture, politics and markets. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 792 Law and Philosophy Seminar
Units: 2, 3, 4 Examination of the best scholarly work currently done by legal, moral and political philosophers. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 796 Immigration Clinic II
Units: 2, 3, 4, 5 Terms Offered: Sp Continuation of LAW 776. Enrollment restricted to law students. *Prerequisite:* LAW 776. Instruction Mode: Lecture Grading Option: Numeric

LAW 798 Law, Mental Health and Ethics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Focuses on one or two topics per year at the intersection of law, mental health and ethics and explores them from an interdisciplinary perspective. Instruction Mode: Lecture Grading Option: Numeric

LAW 801 Venture Capital and Emerging Companies
Units: 2, 3 Introduces students to the unique legal and financial aspects of the venture capital industry and the skills needed to represent entrepreneurs and venture capital investors. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 803 Foundations of Private Law
Units: 2, 3 Terms Offered: FaSp Contemporary theories of property and contract law, as a means to understand the theoretical foundations of these areas of law. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 804 Information Privacy Law
Units: 2 Surveys the legal framework concerning information privacy in the U.S., including developments in constitutional, tort, contract, property and statutory law to address emerging privacy threats. Registration Restriction: Open only to law students Instruction Mode: Lecture Grading Option: Numeric

LAW 805 Corporate Governance: Theory and Practice
Units: 2,3 Terms Offered: FaSp Introduction to the foundational policy debates in corporate law, as well as some of the fundamental economic concepts that informs those debates. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 808 Medical-Legal Community Partnership Seminar and Practicum
Units: 1, 2, 3, 4 Max Units: 05 Medical and law students, in conjunction with public policy advocates, work together to identify and improve health outcomes for vulnerable populations. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 809 Deposition Strategies and Techniques
Units: 2, 3 Emphasizes strategies and tactics in asking and objecting to questions at a deposition in a civil case. Students will conduct mock depositions. *Corequisite:* LAW 608 Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 810 Patent Law
Units: 3, 4 Terms Offered: Sp Patent laws, litigation, and the process of prosecuting the patent application. The concept of invention and ownership of rights under patents. Instruction Mode: Lecture Grading Option: Numeric

LAW 811 Health Law and Policy
Units: 2, 3, 4 Explores the statutes and regulations that govern the health care system and the policies that shape its development. Instruction Mode: Lecture Grading Option: Numeric

LAW 813 Arbitration in the United States
Units: 3 Introduces students to the range of issues addressed by the Federal Arbitration Act and state arbitration laws. Instruction Mode: Lecture Grading Option: Numeric

LAW 816 Dealmaking in the Entertainment Industry
Units: 1, 2 Examines the major components of deals in the entertainment industry, and provides students the opportunity to learn real-world negotiating skills in the process. Instruction Mode: Lecture Grading Option: Numeric

LAW 817 International Arbitration
Units: 3 Examines methods of dispute resolution used in other countries and compares them to those employed in the United States. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 819 ADR Ethics
Units: 1, 2 Provides law students, lawyers and professional neutrals with an in-depth examination of the rules guiding our behavior in various dispute resolution processes. Registration Restriction: Open only to law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 820 Pretrial Advocacy
Units: 3 or 4 Examines conceptual and practical aspects of interviewing, counseling, negotiation, settlement, drafting, and formal advocacy in the handling of legal cases. Instruction Mode: Lecture Grading Option: Numeric

LAW 821 Trial Advocacy
Units: 3 or 4 Terms Offered: FaSp Examines decision-making by counsel in the litigation of cases. Emphasis is given to decisions involving tactics and strategies and their implications for the functioning of legal institutions and substantive doctrine. Extensive use of simulated trial practice exercises. Instruction Mode: Lecture Grading Option: Numeric

LAW 822 Alternative Dispute Resolution Clause Drafting
Units: 1 Explores a variety of contract provisions, and teaches students the important drafting skills necessary to achieve a client's goal. Instruction Mode: Lecture Grading Option: Numeric

LAW 824 Arbitration Advocacy
Units: 1, 2 Helps students understand the basic approaches to preparing and presenting cases in the arbitration context. Registration Restriction: Open only to Law School students. Instruction Mode: Lecture Grading Option: Numeric

LAW 825 International Arbitration Competition
Units: 1, 2, 3 Max Units: 6 Covers basic aspects of international commercial arbitration and prepares a USC Law School team for participation in the Willem C. Vis International Commercial Arbitration Moot. Instruction Mode: Lecture Grading Option: Numeric

LAW 826 Employment Dispute Mediation
Units: 1, 2 Provides hands-on experience in mediation of the complex issues of disability, wage and hour, sex and sex harassment, age, race, religion, and national origin. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 827 Counseling the Startup Company
Units: 2, 3, 4 Terms Offered: Sp Role of the attorney in startup firms: business plan, employment agreements, lease, stock option plan, financing documents and distribution and strategic partnership arrangements. Instruction Mode: Lecture Grading Option: Numeric

LAW 828 Mediation Advocacy
Units: 3 Introduces students to the process of mediation, explores the philosophical approaches to mediation and different styles of mediating, develops a working knowledge of the stages of mediation, and cultivates students' skills to become effective advocates throughout each stage of the process. Instruction Mode: Lecture Grading Option: Numeric

LAW 829 Cross-Cultural Dispute Resolution
Units: 2 Brings an international perspective to understanding the impact of culture in the most commonly used international and domestic dispute resolution practices (negotiation, mediation, and arbitration). Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 830 Law Firm Economics and the Public Interest
Units: 1 Introduces students to the tools needed to work in a large law firm pro bono practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 831 International Business Negotiations
Units: 2 Simulated negotiation of an international transaction; will address legal and related business issues that commonly arise in international deals. Registration Restriction: Open only to law students Instruction Mode: Lecture Grading Option: Numeric

LAW 832 Special Education Dispute Resolution
Units: 2 Surveys the continuum of options available to, and emerging issues considered by, contemporary special education dispute resolution professionals. Instruction Mode: Lecture Grading Option: Numeric

LAW 833 Labor Arbitration
Units: 2 Introduces students to the National Labor Relations Act, collective bargaining and the labor arbitration process. Students also prepare labor arbitration briefs. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 834 Veterans Legal Practicum
Units: 3, 4 Max Units: 08 Allows students to hone their legal skills while representing veterans of the United States Armed Forces in administrative proceedings. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 835 Transactional Due Diligence
Units: 1 Prepares students to handle due diligence projects at the level of a first-year or second-year transactional associate through hands-on, practical training. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 836 Prosecutorial Ethics Seminar
Units: 2 An exploration of a prosecutor's obligation to ensure that "justice" is done in criminal cases. Delve into the complexities of the various roles prosecutors play in our criminal justice system, from investigation through sentencing. Registration Restriction: Open only to Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 837 Diversity: Legal and Social Perspectives
Units: 2, 3 Examine legal and social perspectives on the concept of diversity. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 838 Patent Drafting and Prosecution
Units: 3 Students learn how to prepare and prosecute U.S. patent applications, as well as an overview of design and foreign patent prosecution. Registration Restriction: Open

only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 839 Copyright Law in Practice
Units: 2, 3, 4 Study of federal copyright law, analysis of property rights and interests created thereunder. Manner in which these rights can be exploited in the various entertainment media. *Prerequisite:* LAW 772 or LAW 841 Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 841 Copyright, Trademark and Related Rights
Units: 3 An introductory survey of statutory and case law, and underlying policy issues, concerning copyright, trademark and certain related legal rights. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 842 Partnership Taxation
Units: 2, 3, 4 Explores the fundamentals of federal income taxation of partners and partnerships, including classification, formation, operations, distributions, disposition of partnership interests, partnership terminations and the drafting of partnership agreements. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 843 Tax Policy Seminar
Units: 2, 3, 4 Students will write and present papers discussing topics in tax policy. Instruction Mode: Lecture Grading Option: Numeric

LAW 844 Prepare for Trial Like a Master
Units: 1 Allows students to practice trial techniques and covers cutting-edge techniques in trial preparation. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 845 Negotiation Skills
Units: 2, 3 Develops students' negotiating skills through role plays, reflection and instructor feedback. Registration Restriction: Open only to USC Gould School of Law students Duplicates Credit in LAW 712 Instruction Mode: Lecture Grading Option: Numeric

LAW 849 International Human Rights Clinic I
Units: 4, 5 Students work under close faculty supervision on cases and projects that involve the application of international law to address human rights violations. Instruction Mode: Lecture Grading Option: Numeric

LAW 850 International Human Rights Clinic II
Units: 4 or 5 Continuation of the International Human Rights Clinic. *Prerequisite:* LAW 849. Instruction Mode: Lecture Grading Option: Numeric

LAW 851 Topics in Criminal Law and Criminology
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Selected topics in criminal law or criminology. May be repeated with permission of the instructor as topics vary. Instruction Mode: Lecture Grading Option: Numeric

LAW 853 Divorce and Family Mediation
Units: 2 Learn the practice and theory required to navigate many family law issues, including divorce, property, custody and immigration disputes. Instruction Mode: Lecture Grading Option: Numeric

LAW 854 Legal Innovations Lab
Units: 2, 3 Students work in teams to develop innovative ways of addressing shortcomings in our legal systems to improve access, quality, efficiency and global integration and prosperity. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 855 Topics in Maritime and Admiralty Law
Units: 2, 3, 4 Max Units: 6.0 Terms Offered: FaSp Taught in honor of James Ackerman, USC Law graduate of 1948, this class examines selected topics in maritime and admiralty law. May be repeated with permission of the instructor as topics vary. Instruction Mode: Lecture Grading Option: Numeric

LAW 858 Law and Psychology
Units: 2, 3, 4 Examines the psychological factors that hinder the making of accurate factual findings. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 860 International Criminal Law
Units: 4 Covers the prosecution, trial and punishment of individuals suspected of crimes considered among the most serious violations of international humanitarian and human rights law. Instruction Mode: Lecture Grading Option: Numeric

LAW 863 International Negotiations and Mediation
Units: 2, 3, 4 Introduction to negotiation and mediation from an international perspective. Development of essential skills for effective client representation in negotiation and mediation. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 865 Legislative Policy Practicum
Units: 3 Provides students with an opportunity to participate in realworld advocacy on juvenile justice issues. Instruction Mode: Lecture Grading Option: Numeric

LAW 866 Counterterrorism, Privacy and Civil Liberties
Units: 2, 3, 4 Terms Offered: FaSpSm Explores the spectrum of interrelated legal and policy issues known as "homeland security" since the events of September 11, 2001. Instruction Mode: Lecture Grading Option: Numeric

LAW 867 Corporate Fraud
Units: 2, 3, 4 Terms Offered: FaSpSm Introduces law students to the real world issues of major civil and criminal corporate fraud. Instruction Mode: Lecture Grading Option: Numeric

LAW 868 Organizational Ombuds
Units: 2 Terms Offered: FaSp Provides practical foundation in the theories, policies and ethical issues of ombuds practice in a variety of workplaces. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 869 Family Law Mediation Clinic
Units: 2, 4 Teaches the skills and substantive area of the law necessary to successfully mediate cases in the Edelman Children's courthouse in Monterey Park. *Prerequisite:* LAW 630 Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 870 Legal Writing Fellows
Units: 1, 2, 3, 4 Max Units: 7.0 Terms Offered: FaSpSm Assist in teaching writing and advocacy. Responsibilities include helping prepare lesson plans and drafting writing assignments and sample answers; leading class exercises; and judging first-year moot court practice rounds. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 871 First Amendment
Units: 2, 3, 4 Terms Offered: FaSp Freedom of expression (political speech, symbolic expression, obscenity, commercial speech, defamation), rights of access to the media, religious protection and prohibition of establishment of religion. Instruction Mode: Lecture Grading Option: Numeric

LAW 872 Advanced Legal Writing and Advocacy: Appellate Advocacy
Units: 1, 2, 3, 4 Terms Offered: FaSp Students will research, write, and rewrite an appellate brief and may work on motions and oral advocacy as well. Instruction Mode: Lecture Grading Option: Numeric

LAW 873 Judicial Opinion Writing
Units: 2, 3, 4 Students write a majority opinion and a dissenting opinion based on cases pending before the U.S. Supreme Court. This is a writing-intensive course. Instruction Mode: Lecture Grading Option: Numeric

LAW 875 Constitutional Theory Seminar
Units: 1, 2, 3, 4 Seminar course devoted to different methods of reading the Constitution. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 880 Equality and Difference
Units: 2, 3 Comparative look at the legal treatment of religious, racial, cultural, gender and sexual differences and differences in physical and mental ability. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 881 Constitutional Innovation
Units: 2, 3, 4 Examines the U.S. Constitution in transnational perspective. The focus is democracy; slavery, emancipation, and freedom; empire; and governmental structures. Instruction Mode: Lecture Grading Option: Numeric

LAW 882 Advanced Legal Writing for Pretrial Practice
Units: 2, 3 The art of persuasive legal writing: how to strategize, analyze and ultimately persuade through the types of writing routinely crafted by litigators. Registration Restriction: Op Instruction Mode: Lecture Grading Option: Numeric

LAW 883 Advanced Legal Writing for Business Lawyers
Units: 2 Students interested in business law and other transactional practice areas will develop the skills to communicate clearly, concisely and correctly in a business law setting. Registration Restriction: Open only to USC Gould School of Law students

Instruction Mode: Lecture Grading Option: Numeric

LAW 887 Religious Freedom and its Limits
Units: 2, 3 Surveys constitutional doctrines pertaining to the Free Exercise and Establishment Clauses of the First Amendment and the emergent doctrine regarding the application of the federal Religious Freedom Restoration Act and its state offspring. Instruction Mode: Lecture Grading Option: Numeric

LAW 890 Directed Research
Units: 1, 2, 3, 4 One CR/D/F unit for a research proposal approved by a full- or part-time faculty supervisor; up to four graded units with academic dean's approval of proposal by LLM or third-year JD student to produce a publishable paper under full-time professor. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 891 Post-Conviction Justice Project I
Units: 1, 2, 3, 4, 5 Terms Offered: FaSpSm A year-long clinical program where second and third year students provide legal representation to men and women serving life terms in California prisons. Under faculty supervision students represent clients on a variety of post-conviction matters, including parole hearings, state and federal habeas petitions, clemency applications and resentencing hearings and appeals. Experiential units. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 892 Post-Conviction Justice Project II
Units: 1, 2, 3, 4, 5 Terms Offered: Sp Continuation of LAW 891. Experiential units. *Prerequisite:* LAW 891 Registration Restriction: Open only to USC Gould School of Law students Duplicates Credit in LAW 895 Instruction Mode: Lecture Grading Option: Numeric

LAW 893 Advanced Clinical Training
Units: 1, 2, 3, 4, 5 Max Units: 10.0 Terms Offered: FaSp For third-year students who wish to continue their clinical training. Instruction Mode: Lecture Grading Option: Numeric

LAW 894 Advanced Mediation Clinic
Units: 1, 2, 3, 4 Max Units: 08 Students learn mediation skills, conduct live mediations and help to run the regular Mediation Clinic. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 895 Post-Conviction Justice Project II (Writing)
Units: 1,2,3,4,5 Terms Offered: Sp Alternate continuation of LAW 891, fulfilling the Writing requirement. *Prerequisite:* LAW 891 Registration Restriction: Open only to USC Gould School of Law students Duplicates Credit in LAW 892 Instruction Mode: Lecture Grading Option: Numeric

Library and Information Management

LIM 500 Fundamentals of Library and Information Science
Units: 3 Terms Offered: FaSpSm An overview of the history of recorded knowledge from ancient times to the digital age informed by the cultural implications of those eras. Open only to MMLIS students. Registration Restriction: Open only to Library and Information Science majors. Instruction Mode: Lecture Grading Option: Letter

LIM 501 Fundamentals of Library Leadership and Management
Units: 3 Terms Offered: FaSpSm Fundamentals of library leadership and management from past, present and future perspectives, including selected case studies. Registration Restriction: Open only to Library and Information Science majors. Instruction Mode: Lecture Grading Option: Letter

LIM 502 Collection Development and Management
Units: 3 Terms Offered: FaSpSm The development of library collections in all formats emphasizing clientele interest, usage patterns, bibliographical and Website sources. Open only to MMLIS students. Instruction Mode: Lecture Grading Option: Letter

LIM 503 Information Description, Organization, and Retrieval
Units: 3 Terms Offered: FaSpSm An overview and critical analysis of current practices of information organization, cataloguing, access and reference services, including a conceptual understanding of these skills. Registration Restriction: Open only to Library and Information Science students Instruction Mode: Lecture Grading Option: Letter

LIM 504 Research Methods in Library and Information Management
Units: 3 An overview of research methods in information management including the conceptualization of research problems, literature reviews, research design, sampling, measurement, data collection and data analysis. Open only to MMLIS students. Registration Restriction: Open only to Library and Information Science students. Instruction Mode: Lecture Grading Option: Letter

LIM 510 Academic Librarianship
Units: 3 An examination of current research and future trends in academic librarianship, emphasizing the necessary partnership among information culture and technology, academic research and instruction. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Registration Restriction: Open only to Library and Information Science students. Instruction Mode: Lecture Grading Option: Letter

LIM 511 Instructional Strategies for Information Professionals
Units: 3 Terms Offered: FaSpSm An overview of research in learning emphasizing the role of academic librarians as instructors and facilitators of information navigation. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to Library and Information Management/ Science students Instruction Mode: Lecture Grading Option: Letter

LIM 512 Instructional Technologies for Educators
Units: 3 An overview and critical analysis of past and current instructional technologies used primarily in academic libraries. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 513 Multicultural Information Perspectives
Units: 3 An examination of critical issues, theories and research in educating and serving diverse populations with an emphasis on social, cultural and linguistic imperatives. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 520 Library Information Systems Analysis and Design
Units: 3 The analysis and design of information systems from the perspectives of information theory, technology, retrievability, storage and shelf life, copyright, privacy and related issues. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 521 Database Management Systems for Information Professionals
Units: 3 An overview of and instruction in the skills required to build library and archival relational databases including data integrity, security, maintenance and extraction. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 522 Metadata and Taxonomies
Units: 3 Terms Offered: FaSpSm An overview of developing and assessing metadata for digital resources including the different types of metadata schema, data dictionaries, taxonomies and emerging metadata standards. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to library and information management/ science majors Instruction Mode: Lecture Grading Option: Letter

LIM 523 Information Delivery in the Digital Environment
Units: 3 An inventory and description of digital competencies, assessments and techniques followed by instruction, practice and testing of these competencies in simulated situations. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 530 Library Resource Management
Units: 3 An overview and assessment of planning, design, allocation and implementation of library finance and resource distribution in a variety of settings. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 531 Global Perspectives in Librarianship
Units: 3 An investigation of the theory and practice of librarianship in the context of international approaches to knowledge creation, research, learning, information discovery and presentation. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 532 The Social Context of Information
Units: 3 An examination of information in the context of social networks, media, and other cultural structures that inform teaching, learning and research. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 533 Operations Research in Libraries
Units: 3 Overview of theory and best practices in operations research and how it can be applied in a broad range of library and other information-focused settings. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 534 Library Fundraising and Development
Units: 3 Terms Offered: FaSpSm An overview of fundraising and development including the internal organization of the fundraising and development enterprise, the cultivation of donors and related issues. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to library and information management/science majors Instruction Mode: Lecture Grading Option: Letter

LIM 535 Library Information Sources and Services
Units: 2 Terms Offered: FaSpSm Overview of concepts, components and developments in reference and user services. Learn to think critically about information and become better information seekers and users. Registration Restriction: Open only to library and information management/science students Instruction Mode: Lecture Grading Option: Letter

LIM 536 Library Project Management
Units: 2 Terms Offered: FaSpSm Working in teams and delivering effective presentations is reinforced through an introduction to project management. A project management plan, research paper and presentation are required. *Prerequisite:* LIM 535 Registration Restriction: Open only to library and information management/science students Instruction Mode: Lecture Grading Option: Letter

LIM 537 Legal, Ethical and Strategic Fundamentals for Library Managers
Units: 2 Terms Offered: FaSpSm Evidence-based decision making, assessment, legal and ethical frameworks and scenario planning applied to leadership and management competencies in library environments. *Prerequisite:* LIM 536 Registration Restriction: Open only to library and information management/science students Instruction Mode: Lecture Grading Option: Letter

LIM 550 Information Behaviors, Ethics and Policy
Units: 3 Terms Offered: FaSpSm A study of information behaviors, policies and ethics including social networks, the interactive effects of information on users, users on information. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to library and information management/science majors Instruction Mode: Lecture Grading Option: Letter

LIM 551 Advanced Research Methods in Library and Information Management
Units: 3 Building on LIM 504, this course provides advanced research methods and analytical techniques and the application of these skills to complex library issues. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 552 Strategic Information and Competitive Analysis
Units: 3 Terms Offered: FaSpSm Searching sophisticated for-fee and free sources of information unique to particular industry client groups, synthesizing and translating information ethically to critical intelligence. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to MMLIS and GCRT-LIM students Instruction Mode: Lecture Grading Option: Letter

LIM 553 Corporate and Business Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in corporate librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 554 Science Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in science librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 555 Social Science Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in social science librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 556 Health Sciences Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in health sciences librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 557 Cinematic Arts Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in cinematic arts librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 558 Art and Museum Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in art and museum librarianship including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 559 Marketing and Communications Strategies for Libraries
Units: 3 An introduction to essential marketing concepts such as brand platform, value proposition and message development and their application in a library environment. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 560 Rare Books and Manuscripts
Units: 3 An overview of the organization, management, public and technical service operations and outreach involved in the development and operation of rare and special collections. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 561 Library Program Development and Evaluation
Units: 3 An overview of library program development and evaluation with an emphasis upon linking student learning outcomes to library programs. Qualitative and quantitative methods are covered. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 562 Library and Information Technology Management
Units: 3 Terms Offered: FaSpSm Overview of management of library information technologies including computer networks, design, architecture, cloud technologies, data management and technology planning as well as emerging technologies. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to MMLIS and GCRT-LIM students Instruction Mode: Lecture Grading Option: Letter

LIM 563 Partnerships and Collaborations in Libraries
Units: 3 Terms Offered: FaSpSm How information professionals collaborate with nonprofit, for-profit (private) and governmental organizations. Theory and practice emphasizing critical analysis of policies, services, and trends. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to library and information management/science students Instruction Mode: Lecture Grading Option: Letter

LIM 591 Research and Professional Applications
Units: 2 Max Units: 10.0 Terms Offered: FaSpSm Apply concepts learned during the MMLIS program and investigate research questions and professional problems of concern to employers, their institutions and the profession at large. Open only to Library and Information Science majors. Registration Restriction: Open only to: Library and Information Science majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

LIM 593 Independent Research in Library and Information Management
Units: 2 Max Units: 04 Terms Offered: FaSpSm Opportunity to pursue

independent research in an area of interest above and beyond normal course offerings. Proposal, research and written report/paper required. *Prerequisite:* LIM 535 and LIM 536 and LIM 537 Registration Restriction: Open only to library and information management/science students Instruction Mode: Lecture Grading Option: Credit/No Credit

LIM 595 Internship in Library and Information Management
Units: 2 Terms Offered: FaSpSm Supplements the academic learning experience with temporary employment (paid or unpaid) in the information professions. Supervised by host organization and overseen by MMLIS faculty member. *Prerequisite:* LIM 535 and LIM 536 and LIM 537 Registration Restriction: Open only to library and information management/science students Instruction Mode: Lecture Grading Option: Credit/No Credit

LIM 598 Capstone in Library and Information Management
Units: 3 Terms Offered: FaSpSm Student-driven research or project-based experience that integrates the knowledge from course work and applies it to current issues in the field. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to library and information management/science students Instruction Mode: Lecture Grading Option: Credit/No Credit

LIM 599 Special Topics in Library and Information Management
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in library and information management. *Prerequisite:* GSBA 502 and GSBA 509 and GSBA 510 and LIM 500 and LIM 502 and LIM 503 and LIM 504 Registration Restriction: Open only to library and information management/science majors Instruction Mode: Lecture Grading Option: Letter

Linguistics

LING 110Lg In a Word
Units: 4 Terms Offered: FaSp Words as a gateway to the human mind. How words are stored, comprehended and retrieved. How words are constructed. Words and concepts. Words and social constructs. The processing and the acquisition of words in normal and atypical children and adults. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Grading Option: Letter

LING 115gw Language and Society
Units: 4 Terms Offered: FaSp Discourse patterns among diverse social groups in institutional and interpersonal settings; interrelationships among language practices and gender, socioeconomic status, ethnicity; social structures and cultural values as reflected in language policies and practices. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

LING 125 Hindi I
Units: 4 Terms Offered: Fa Introduction to current Hindi. Oral practice, listening and reading comprehension; grammar necessary for simple spoken and written expression. Instruction Mode: Lecture Grading Option: Letter

LING 155 Hindi II
Units: 4 Terms Offered: Sp Continuation of LING 125. Reading of simple Hindi prose, practice in pronunciation, the grammar essential for reading comprehension and writing. *Prerequisite:* LING 125. Instruction Mode: Lecture Grading Option: Letter

LING 210g Introduction to Linguistics
Units: 4 Empirical study of the sounds and structures of human language; syntax and semantics; language change; linguistic universals. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

LING 255 Hindi III
Units: 4 Terms Offered: Fa Continuation of LING 155; intensive work in listening comprehension, oral communication, reading and writing short essays; introduction of readings and periodicals related to Hindi culture and civilization. *Prerequisite:* LING 155. Instruction Mode: Lecture Grading Option: Letter

LING 265x Hindi IV
Units: 4 Terms Offered: Sp Reading of modern Hindi authors, review of grammar, composition, oral conversation, and collateral reading. *Prerequisite:* LING 255. Instruction Mode: Lecture Grading Option: Letter

LING 275Lg Language and Mind
Units: 4 Terms Offered: FaSp Language within cognitive science: speech physiology and acoustics, language acquisition, reading, language disorders, perception and mental representation of words, linguistic diversity and computer analysis of speech. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as PSYC-275

LING 285Lg Human Language and Technology
Units: 4 Terms Offered: FaSp Study of human linguistic competence and technologies that simulate it. Phonetics, vibration and signal processing, speech recognition, neural networks. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

LING 295g The Ancient Near East: Culture, Archaeology, Texts
Units: 4 An investigation of the peoples of the ancient Near East, focusing upon the writings which they produced, their languages and scripts, and their archaeological remains. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

LING 301 Introduction to Phonetics and Phonology
Units: 4 Terms Offered: Fa A survey of topics in phonetics and phonology. *Prerequisite:* LING 210. Duplicates Credit in former LING 401a. Instruction Mode: Lecture Grading Option: Letter

LING 302 Introduction to Syntax
Units: 4 Terms Offered: Fa A survey of topics in syntax. *Prerequisite:* LING 210g Duplicates Credit in former LING 402a Instruction Mode: Lecture Grading Option: Letter

LING 303 Introduction to Semantics and Pragmatics
Units: 4 Terms Offered: FaSp Introduction to meaning in natural language and the methods from logic applied to its study. *Prerequisite:* LING 210g Instruction Mode: Lecture Grading Option: Letter

LING 307 Introduction to Speech-Language Pathology
Units: 4 Terms Offered: FaSp Introduces the breadth of possible communication disorders with a particular focus on the duties of the professionals who assist people with these disorders. Explores both the diagnostic criteria and common interventions for disorders such as Language Impairment, stuttering, swallowing, and dementia. *Recommended Preparation:* LING 210 Instruction Mode: Lecture Grading Option: Letter

LING 322g Language Contact and Language Acquisition
Units: 4 Terms Offered: Sp The emergence of new languages, spoken and signed, in socio-historical situations, where linguistic input is degraded and insufficient to support the ordinary language acquisition process. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

LING 325g Language and Number
Units: 4 Terms Offered: FaSp Analysis of the formal properties of linguistic expressions of number with the goal of understanding the structures that underlie language and numerical reasoning. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

LING 374 Language and Society in East Asia
Units: 4 (Enroll in EALC 374)

LING 375 Sociolinguistics
Units: 4 Linguistic and cultural pluralism in the U.S.; distributional and structural characteristics of selected urban and minority dialects; the relationship between dialects and "media standard." *Prerequisite:* LING 210. Instruction Mode: Lecture Grading Option: Letter

LING 380 Languages of the World
Units: 4 Introduction to the world's linguistic diversity; number of languages spoken and where; grammatical structure and social function of selected languages. Instruction Mode: Lecture Grading Option: Letter

LING 385Lg Human Language as Computation
Units: 4 Terms Offered: Fa Study of language as a complex natural system that requires elaborate mental computation. Satisfies New General Education in

Category F: Quantitative Reasoning
Instruction Mode: Lecture, Lab Required
Grading Option: Letter

LING 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

LING 401 Advanced Phonology
Units: 4 Advanced study of topics in phonology. *Prerequisite:* LING 301. Duplicates Credit in former LING 401b. Instruction Mode: Lecture Grading Option: Letter

LING 402 Advanced Syntax
Units: 4 Terms Offered: Sp Advanced study of topics in syntax. *Prerequisite:* LING 210, LING 302. Duplicates Credit in former LING 402b. Instruction Mode: Lecture Grading Option: Letter

LING 403 Advanced Semantics
Units: 4 Topics in the theory of meaning in natural language. *Prerequisite:* LING 303 Duplicates Credit in former LING 201 Instruction Mode: Lecture Grading Option: Letter

LING 405 Child Language Acquisition
Units: 4 Universal characteristics of child language; stages of acquisition of phonology, syntax, semantics; processes and dimensions of development; psychological mechanisms; communicative styles. Duplicates Credit in former LING 395. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-405

LING 406 Psycholinguistics
Units: 4 Experimental and theoretical aspects of how spoken and written language is produced and understood, learned during childhood, and affected by brain damage. *Prerequisite:* LING 210 or PSYC 100. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-406

LING 407 Atypical Language
Units: 4 Analysis of atypical language and language pathologies throughout the lifespan and their relevance to current linguistic and cognitive science theory. *Prerequisite:* LING 210 or PSYC 100. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-407

LING 409 Linguistic Structure of English
Units: 3 An overview of the syntactic, semantic, pragmatic structures of English as they relate to the theoretical literature on language acquisition. Instruction Mode: Lecture Grading Option: Letter

LING 410 Second Language Acquisition
Units: 4 Theories of second language acquisition in children and adults; comparison of first and second language acquisition including psychological, social, and individual factors. *Prerequisite:* LING 210. Duplicates Credit in former LING 396. Instruction Mode: Lecture Grading Option: Letter

LING 411x Linguistics and Education
Units: 4 Practical classroom approaches to children's language; relationships between writing, reading, and speaking; social and regional dialects; traditional, structural, and generative-transformational grammars. Instruction Mode: Lecture Grading Option: Letter

LING 412 Language and Law
Units: 4 Terms Offered: Sp Linguistic principles which bear on the interpretation of government statutes and the litigation of legal disputes. Speech act theory; ambiguity; courtroom discourse; contracts and advertisements; jury instructions; the Plain Language Movement. Instruction Mode: Lecture Grading Option: Letter

LING 415 Phonetics
Units: 4 Familiarization with the articulation and transcription of speech sounds. Also vocal tract anatomy, acoustics, speech technology, non-English sounds, perception. Includes laboratory exercises. Instruction Mode: Lecture Grading Option: Letter

LING 433 Children's Learning and Cognitive Development
Units: 4 (Enroll in PSYC 433)

LING 450 New Horizons in Forensic Speaker Identification
Units: 4 Overview of methods used to identify voices on the basis of their characteristic speech patterns. Instruction Mode: Lecture Grading Option: Letter

LING 465 Philosophy of Language
Units: 4 (Enroll in PHIL 465)

LING 466 Word and Phrase Origins
Units: 4 Introduction to historical-comparative word study; history of ideas concerning language relationships; types of semantic change; hidden metaphors in English word-stock. Instruction Mode: Lecture Grading Option: Letter

LING 480 Linguistic Structures
Units: 4 Analysis of grammatical structures of an individual language. Instruction Mode: Lecture, Discussion Grading Option: Letter

LING 485 Field Methodology
Units: 4 Elicitation techniques and methodological principles; recording and analysis of phonological, syntactic, and semantic structures; practical approaches to procedures used in urban, rural, and "primitive" settings. Instruction Mode: Lecture Grading Option: Letter

LING 486 Natural Language Processing
Units: 4 Introduction to modern neural network approaches to natural language processing, based on Deep Learning. Recursive and recurrent neural networks; backpropagation; Ngram models. *Prerequisite:* LING 385Lg Instruction Mode: Lecture Grading Option: Letter

LING 487 Speech Synthesis and Recognition
Units: 4 Introduction to speech synthesis and speech recognition technologies from both a phonetics point of view and a computational point of view. *Prerequisite:* LING 285Lg Instruction Mode: Lecture Grading Option: Letter

LING 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

LING 497 Honors Thesis
Units: 4 Terms Offered: FaSp Writing of the honors thesis. Registration is restricted to honors students. Instruction Mode: Lecture Grading Option: Letter

LING 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Investigation of selected topics in linguistics. Instruction Mode: Lecture Grading Option: Letter

LING 501a Experimental Methods in Linguistics
Units: 3 Univariate and bivariate statistical methods with applications to linguistic research; introduction to statistical computer packages. *Prerequisite:* LING 501a. Duplicates Credit in former LING 601. Instruction Mode: Lecture Grading Option: Letter

LING 501b Experimental Methods in Linguistics
Units: 3 The application of advanced multivariate statistical methods to linguistic research. *Prerequisite:* LING 501a. Duplicates Credit in former LING 601. Instruction Mode: Lecture Grading Option: Letter

LING 505a Seminar in Linguistics
Units: 1 Exploration of the professional world of linguistics for first semester graduate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 505b Seminar in Linguistics
Units: 1 Preparation and presentation of M.A./Ph.D. screening papers; discussion of student research. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 505c Seminar in Linguistics
Units: 1 Colloquium for presentation and discussion of student research paper. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 512 Linguistic Variation and Language Changes
Units: 3 Terms Offered: Fa Linguistic relationships among various correlates of variation: social, psychological, and chronological. Focus on dialectical, registral, and historical variation; the constraints of production and perception in different modes and situations. Instruction Mode: Lecture Grading Option: Letter

LING 513 Spanish Morphology and Phonology
Units: 3 Terms Offered: FaSp (Enroll in SPAN 513)

LING 514 Spanish Syntax
Units: 3 Terms Offered: FaSp (Enroll in SPAN 514)

LING 515 Spanish Grammar in Discourse
Units: 3 Terms Offered: FaSp (Enroll in SPAN 515)

LING 527 Second Language Acquisition
Units: 3 Terms Offered: Sp Concepts and issues in theoretical approaches to the study of non-primary language acquisition; e.g., linguistic and processing universals, language transfer, language learnability, fossilization. Instruction Mode: Lecture Grading Option: Letter

LING 530 Generative Syntax
Units: 3 Introduction to syntax; transformational-generative syntax. Instruction Mode: Lecture Grading Option: Letter

LING 531a Phonology
Units: 3 Terms Offered: Fa Traditional views of phonology; generative phonology; current developments in phonological research and theory. Instruction Mode: Lecture Grading Option: Letter

LING 531b Phonology
Units: 3 Terms Offered: Sp Traditional

views of phonology; generative phonology; current developments in phonological research and theory. Instruction Mode: Lecture Grading Option: Letter

LING 532 Current Issues in Syntactic Theory
Units: 3 Original literature, focusing whenever possible on issues in comparative syntax and their implications for universal grammar. Course complements LING 530. Instruction Mode: Lecture Grading Option: Letter

LING 533 Language Universals and Typology
Units: 3 Introduction to language universals and typology. Instruction Mode: Lecture Grading Option: Letter

LING 534 Semantics
Units: 3 Current linguistic approaches to the semantics of natural language; analysis of concepts of meaning and reference. Instruction Mode: Lecture Grading Option: Letter

LING 535 Syntax and Grammatical Theory
Units: 3 Terms Offered: Sp Principles and comparison of modern theories of grammar with special reference to syntax. Instruction Mode: Lecture Grading Option: Letter

LING 536 Advanced Semantics
Units: 3 Terms Offered: Sp Intensive work in semantic theory, in preparation for a research specialization in the area. Instruction Mode: Lecture Grading Option: Letter

LING 537 Advanced Syntax
Units: 3 Max Units: 9.0 Topics in advanced formal syntax; current literature leading to open questions in research; survey of important and controversial issues of current theoretical relevance. Instruction Mode: Lecture Grading Option: Letter

LING 538 Selected Topics in Romance Syntax
Units: 3 Max Units: 9.0 Terms Offered: Sp Overview of selected topics in Romance Syntax within a comparative perspective and their contribution towards the understanding of a general theory of grammar. Instruction Mode: Lecture Grading Option: Letter

LING 539 Japanese/Korean Syntax and Theoretical Implications
Units: 3 Max Units: 9.0 Critical discussion of selected papers and dissertations on Japanese/Korean syntax and consideration of their theoretical implications. Instruction Mode: Lecture Grading Option: Letter

LING 540 Field Methods in Linguistics
Units: 3 Max Units: 6.0 Terms Offered: Sp Recording and analysis of a living language as employed by a native speaker of that language. Instruction Mode: Lecture Grading Option: Letter

LING 541 Field Methods in Second Language Acquisition
Units: 3 Research design and methodology; data collection, coding, and analysis; ethical considerations. Instruction Mode: Lecture Grading Option: Letter

LING 542 Historical Linguistics
Units: 3, 2 years Terms Offered: Sp Principles of language change; the comparative method; structural and social factors in language change. Instruction Mode: Lecture Grading Option: Letter

LING 546 Comparative Indo-European Linguistics
Units: 3 Analysis of the phonological, morphological, and syntactic structures of Proto-Indo-European, and its development in the various branches of Indo-European. Instruction Mode: Lecture Grading Option: Letter

LING 547 Morphology
Units: 3 Max Units: 12.0 Terms Offered: FaSpSm Introduction to morphology: words versus sentences, the grammar of words, the various notions of "lexicon," the architecture of the phonological component. This course is in preparation for advanced work in linguistic theory. Instruction Mode: Lecture Grading Option: Letter

LING 548 Lexical Semantics
Units: 3 Terms Offered: Sp Languages group meaning elements together in different ways to form words. Consideration of how to identify these elements and how speakers map them into lexico-syntactic units. Instruction Mode: Lecture Grading Option: Letter

LING 550 Advanced English Linguistics
Units: 3 The analysis of problems in the grammatical description and history of English. Instruction Mode: Lecture Grading Option: Letter

LING 555 Comparative Germanic Linguistics
Units: 3 Nature and relationship of changes that led to the differentiation of the individual Germanic languages. Instruction Mode: Lecture Grading Option: Letter

LING 557 Structure of the Chinese Language
Units: 4 (Enroll in EALC 557)

LING 561 Topics and Issues in East Asian Linguistics
Units: 4 Max Units: max 12 (Enroll in EALC 561)

LING 573 Sociolinguistics
Units: 3 Theoretical approaches to language in social context; discourse analysis, ethnography of communication, variation theory. Instruction Mode: Lecture Grading Option: Letter

LING 574 Advanced Sociolinguistics
Units: 3 Max Units: 9.0 Current issues in sociolinguistic theory. Instruction Mode: Lecture Grading Option: Letter

LING 576 Psycholinguistics
Units: 3 Theories of acquisition; sentence and discourse processing; language and thought. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-576

LING 579 Child Language Development
Units: 3 Terms Offered: Sp Acquisition of grammatical, discourse, and conversational competence; strategies and structures. Instruction Mode: Lecture Grading Option: Letter

LING 580 General Phonetics
Units: 3 Terms Offered: Sp Familiarization with articulation, transcription, production, and acoustic analysis of the speech sounds found in the world's languages. Also speech technology, perception, and disorders. Includes laboratory exercises. Instruction Mode: Lecture Grading Option: Letter

LING 581 Topics in Advanced Phonology
Units: 3 Max Units: 9.0 Topics in advanced formal phonology; theoretical issues in the interface of phonology with other areas of linguistics; literature study on themes of current theoretical relevance. *Recommended Preparation:* LING 531a, LING 531b. Instruction Mode: Lecture Grading Option: Letter

LING 582 Experimental Phonetics
Units: 3 Terms Offered: FaSp Source-filter theory, acoustic correlates of speech sounds, vocal tract and auditory physiology, coarticulation and motor coordination, speech technology including synthesis and recognition, experimental design and statistics, and speech perception. *Prerequisite:* LING 580. Instruction Mode: Lecture Grading Option: Letter

LING 585 Computational Linguistics
Units: 3 Using hands-on and research techniques, study of the role of linguistic knowledge and the procedures that implement it in computational systems that process natural language. Instruction Mode: Lecture Grading Option: Letter

LING 586 Advanced Psycholinguistics
Units: 3 Max Units: 9.0 Current issues in psycholinguistic theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-586

LING 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 593x Practicum in Teaching the Liberal Arts: Linguistics
Units: 2 Terms Offered: FaSp Practical principles for the long-term development of effective teaching within college disciplines. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 595 Directed Readings
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Letter

LING 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Research trends as reflected primarily in the current periodical literature. Instruction Mode: Lecture Grading Option: Letter

LING 602 Seminar in Experimental Methods in Linguistics
Units: 3 Topics in quantitative methods in linguistics research, e.g., covariance structure analysis, multi-dimensional scaling, log linear model, meta analysis. Instruction Mode: Lecture Grading Option: Letter

LING 610 Seminar in Linguistic Theory
Units: 3 Max Units: 12.0 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter

LING 615 Seminar in Linguistics Structures
Units: 3 Max Units: 12.0 Terms Offered: Fa Analysis of the synchronic or diachronic phonology, morphology, and syntax of individual languages. Instruction Mode: Lecture Grading Option: Letter

LING 627 Seminar in Second Language Acquisition
Units: 3 Max Units: 12.0 Terms Offered: FaSp Readings in second language acquisition as the framework for a discussion and research-oriented seminar. Instruction Mode: Lecture Grading Option: Letter

LING 631 Seminar in Phonological Theory
Units: 3 Max Units: 12.0 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Letter

LING 632 Seminar in Phonetics
Units: 3 Max Units: 12.0 Terms Offered: FaSp Readings in phonetic theory and current research as the framework for a discussion-oriented class. *Prerequisite:* LING 580. Instruction Mode: Lecture Grading Option: Letter

LING 635 Seminar in Syntax
Units: 3 Max Units: 12.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

LING 636 Seminar in Semantics
Units: 3 Max Units: 12.0 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHIL-636

LING 645 Seminar in Language Change
Units: 3 Max Units: 12.0 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter

LING 675 Seminar in Sociolinguistics
Units: 3 Max Units: 12.0 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter

LING 676 Seminar in Psycholinguistics
Units: 3 Max Units: 12.0 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-676

LING 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LING 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LING 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LING 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LING 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Materials Science

MASC 110L Materials Science
Units: 4 Terms Offered: FaSp Chemical bonding and structure in crystalline, amorphous, and molecular solids; tendency and mechanisms for chemical change; homogeneous and heterogeneous equilibria. *Prerequisite:* high school chemistry. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MASC 310 Materials Behavior and Processing
Units: 4 Terms Offered: FaSp Principles of mechanical behavior and processing of materials. Relationships between mechanical properties, microstructure and processing methods. Composites and nonmetallics included. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 312

MASC 334L Mechanical Behavior of Materials
Units: 4 Terms Offered: Fa (Enroll in CE 334L)

MASC 350L Nanostructured Materials: Design, Synthesis and Processing
Units: 4 Terms Offered: Fa Structure, properties, synthesis, processing and design of metallic, ceramic, polymeric, electronic, photonic, composite, nanophase and biomaterials; nanostructures, microfabrication and smart materials. *Prerequisite:* (CHEM 105aLg or CHEM 115aLg or MASC 110L) and PHYS 152L Instruction Mode: Lecture, Lab Required Grading Option: Letter

MASC 439 Principles of Semiconductor Processing
Units: 3 Principles relevant to semiconductor processing are covered. Topics include bulk and epitaxial crystal growth, photolithography, evaporation, sputtering, etching, oxidation, alloying, and ion implantation. *Prerequisite:* MASC 110, EE 338. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 439

MASC 440 Materials and the Environment
Units: 3 Terms Offered: Sp Interactions of metals, alloys and composite materials with liquid and gaseous corrosive environments; corrosion protection by alloying and application of inhibitors and metallic or organic coatings. Instruction Mode: Lecture Grading Option: Letter

MASC 455 Computational Materials I: Introduction to Atomistic Simulation
Units: 4 Terms Offered: FaSp Introduction to materials modeling using molecular dynamics simulation methods that include interatomic potentials, and hands-on materials simulation projects on high-performance computing cluster at USC. *Recommended Preparation:* Introductory differential and integral calculus. Instruction Mode: Lecture Grading Option: Letter

MASC 456 Computational Materials II: Properties and Processing Simulations
Units: 4 Terms Offered: FaSp Computational modeling and simulations of materials and processes using MD simulations, three simulation projects that include structural, thermodynamic, mechanical behavior, and data analysis *Prerequisite:* MASC 455 *Recommended Preparation:* Introductory calculus and basic knowledge of metals, ceramics and polymers Instruction Mode: Lecture Grading Option: Letter

MASC 471 Applied Quantum Mechanics for Engineers
Units: 4 (Enroll in EE 471)

MASC 472 Polymer Science and Engineering
Units: 4 Terms Offered: Fa (Enroll in CHE 472)

MASC 475 Physical Properties of Polymers
Units: 4 Terms Offered: Sp (Enroll in CHE 475)

MASC 476 Chemical Engineering Materials
Units: 4 Terms Offered: Fa (Enroll in CHE 476)

MASC 483 Introduction to Machine Learning for Materials
Units: 4 Terms Offered: Fa Introduction to machine learning (ML) for materials applications; basic concepts of machine learning, statistics and probability. *Recommended Preparation:* Basic Python programming and basic calculus Instruction Mode: Lecture Grading Option: Letter

MASC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content will be selected each semester to reflect current trends and developments in the field of materials science. Instruction Mode: Lecture Grading Option: Letter

MASC 501 Solid State
Units: 4 Terms Offered: Sp Atomic electronic states, molecular bonding, crystal structures, diffraction, reciprocal lattice, Brillouin zones, crystal binding, lattice vibrations, specific heat, anharmonic effects, energy bands, metals, conductivity. *Prerequisite:* EE 471 or EE 539 *Recommended Preparation:* Graduate level mathematical methods (such as vector analysis, linear algebra, complex variables, transforms, ordinary and partial second order differential equations, etc.) for engineers Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 501

MASC 502 Advanced Solid State
Units: 3 Terms Offered: Fa Semiconductors, dielectrics and metals, thermoelectric effects, magnetism, magnetic resonance and superconductivity. *Prerequisite:* MASC 501. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-502

MASC 503 Thermodynamics of Materials
Units: 4 Terms Offered: Fa Classical thermodynamics, chemical potential, pure phases and mixtures; interphase relationships; binary and ternary solutions; free energy and activity; galvanic cell, electrochemical potential and Pourbaix diagram. Instruction Mode: Lecture Grading Option: Letter

MASC 504 Diffusion and Phase Equilibria
Units: 4 Terms Offered: Sp Phase equilibria, phase diagrams, diffusion, planar defects, nucleation and growth, spinodal decomposition, phase transformation. *Prerequisite:* MASC 503 Instruction Mode: Lecture Grading Option: Letter

MASC 505 Crystals and Anisotropy
Units: 4 Terms Offered: Fa Stereographic

projection; Laue back reflection method; crystal orientation; line and planar crystalline defects; tensors; susceptibility; permeability and permittivity; stress and strain; piezoelectricity; elasticity. *Recommended Preparation:* course work in matrix algebra and tensors on the level of AME 509 or AME 525 Instruction Mode: Lecture Grading Option: Letter

MASC 506 Semiconductor Physics
Units: 4 Terms Offered: FaSp (Enroll in EE 506)

MASC 507 Micro- and Nano-Fabrication Technology
Units: 4 Terms Offered: Sp (Enroll in EE 507)

MASC 511 Materials Preparation
Units: 3 Principles and techniques of materials preparation; purification, crystal growth from liquid and vapor phases, sintering. *Prerequisite:* MASC 504. Instruction Mode: Lecture Grading Option: Letter

MASC 512 Thin Film Science and Technology
Units: 4 Terms Offered: Fa Application of thin film science and technology; vapor phase growth of thin films, their characterization, properties and applications. *Recommended Preparation:* Upper-division or graduate-level preparation in thermodynamics and quantum mechanics or solid-state physics. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

MASC 514L Processing of Advanced Semiconductor Devices
Units: 3 Terms Offered: Fa Statistical design of experiments, vapor deposition of thin film dielectrics, plasma etching, advanced lithography, in-situ sensors, process monitoring, quality control, assurance/ reliability. *Prerequisite:* EE 504. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MASC 515 Basics of Machine Learning for Materials
Units: 4 Terms Offered: Sp Introduction to machine learning, basics of python programming and data science tools; hands-on projects of materials and process modeling based on machine learning methods. *Recommended Preparation:* Basic Python programming, Calculus, Linear Algebra, and Probability. Basic knowledge of atomistic simulations (MASC 575 and MASC 576) Instruction Mode: Lecture Grading Option: Letter

MASC 520 Mathematical Methods for Deep Learning
Units: 4 Terms Offered: Sp Understanding deep learning: for PhD students in engineering, physical and life sciences and computer science with mathematical background. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE 520, PTE 520

MASC 523 Principles of Electrochemical Engineering
Units: 3 Electrochemical techniques; mass, charge, and heat transfer; electrochemical thermodynamics and electrode kinetics; electrochemical reactors; optimization; materials and corrosion; experimental modeling of industrial processes. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-523

MASC 524 Techniques and Mechanisms in Electrochemistry
Units: 3 Modern electrochemistry; in-situ techniques; in-situ probes of the near-electrode region; ex-situ emersion techniques; cyclic voltammetry, electroxidation, electrochemical reduction, reactive film formation, enzyme electrochemistry. Instruction Mode: Lecture Grading Option: Letter

MASC 534 Materials Characterization
Units: 4 Terms Offered: Fa Characterization of solid structure by X-ray diffraction, electron microscopy, atomic force and tunneling microscopy and elemental analysis by photoemission, X-ray fluorescence, Auger, energy loss spectroscopies. *Recommended Preparation:* Undergraduate physics, chemistry, mathematics; graduate level preparation in quantum mechanics or solid-state physics Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 534

MASC 535L Transmission Electron Microscopy
Units: 4 Transmission electron microscopy and techniques. Specimen-electron beam interaction, electron diffraction and image formation. X-ray microanalysis. Laboratory involves hands-on training on the transmission electron microscope. *Recommended Preparation:* MASC 505. Duplicates Credit in former MASC 536L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MASC 539 Engineering Quantum Mechanics
Units: 3 (Enroll in EE 539)

MASC 551 Mechanical Behavior of Engineering Materials
Units: 4 Terms Offered: FaSp Mechanical properties of materials; macroscopic mechanical behavior related to structure and microstructure of the material; elementary dislocation theory related to basic strengthening mechanisms; fatigue and fracture; nanomaterials. *Recommended Preparation:* Undergraduate introduction to chemistry and the equivalent of MASC 310 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 551

MASC 559 Creep
Units: 3 Terms Offered: Sp Behavior of engineering materials at elevated temperatures; thermal stresses; creep mechanisms; interpretation of creep data; methods of predicting long-term strains. Duplicates Credit in former AME 559 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 559

MASC 560 Fatigue and Fracture
Units: 3 Terms Offered: Sp Behavior of materials under cyclic and static fatigue; plastic instability; life-time predictions; brittle and ductile fracture; crack propagation and plastic blunting. Duplicates Credit in former AME 560 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 560

MASC 561 Dislocation Theory and Applications
Units: 4 Terms Offered: Sp Elasticity theory; types, sources, motion, interaction of dislocations; stress fields and strain energies; partial dislocations and stacking faults; principles of work-hardening. *Recommended Preparation:* The equivalent of MASC 310, MASC 505 and MASC 551 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 561

MASC 562 Failure Analysis
Units: 3 Terms Offered: Sp Apply fundamental Materials Science concepts to "real-world" material/product failures. Identify causes of material failures using analytical methodology/tools. Develop practical solutions to prevent future failures. *Recommended Preparation:* Undergraduate materials or materials selection courses Instruction Mode: Lecture Grading Option: Letter

MASC 564 Composites Processing
Units: 4 Terms Offered: Sp The science and technology underlying processes used to manufacture composite parts/structures from the perspectives of process selection, materials and process efficiency, and sustainability. *Recommended Preparation:* MASC 310 or equivalent; Read 4 issues of Composites World (free on-line publication) Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

MASC 570 Introduction to Photovoltaic Solar Energy Conversion
Units: 3 Introduction to the physical principles, implementation materials, devices, and manufacturing costs of solar cells and panels for photovoltaic conversion of solar radiation to electricity. Instruction Mode: Lecture Grading Option: Letter

MASC 575 Basics of Atomistic Simulation of Materials
Units: 4 Terms Offered: FaSp Introduction to atomistic modeling and simulations of materials using Molecular Dynamics and Monte Carlo methods, basic concepts and how to characterize materials properties. Instruction Mode: Lecture Grading Option: Letter

MASC 576 Molecular Dynamics Simulations of Materials and Processes
Units: 4 Terms Offered: Sp Modeling of materials and processes such as mechanical, thermodynamical, and transport properties using Molecular Dynamics simulation, interatomic potentials including long-range coulomb interactions and quantum corrections. *Prerequisite:* MASC 575 *Recommended Preparation:* Basics of Molecular Dynamics Instruction Mode: Lecture Grading Option: Letter

MASC 583 Materials Selection
Units: 4 Terms Offered: Fa Materials selection in relationship to design and fabrication, economic considerations, methodology of selection, performance parameters; case studies. *Recommended Preparation:* Undergraduate level course in materials (equivalent to MASC 310) Duplicates Credit in former AME 588 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 588

MASC 584 Fracture Mechanics and Mechanisms
Units: 3 Terms Offered: Fa Failure modes, stress concentrations, complex stress analysis, linear elastic fracture mechanics, yielding fracture mechanics, experimental methods, environmental assisted fracture

and fatigue. *Prerequisite:* AME 403 Duplicates Credit in former AME 584 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 584

MASC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MASC 594a Master's Thesis
Units: 2 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 594b Master's Thesis
Units: 2 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 594z Master's Thesis
Units: 0 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 598 Materials Science Seminar
Units: 1 Max Units: 02 Seminar in Materials Science research. Instruction Mode: Lecture Grading Option: Credit/No Credit

MASC 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Instruction Mode: Lecture Grading Option: Letter

MASC 601 Advanced Semiconductor Device Physics
Units: 4 Terms Offered: Sp (Enroll in EE 601)

MASC 610 Molecular Beam Epitaxy
Units: 3 Basic principles, ultra high vacuum, machine considerations, source purity and calibrations temperature measurements, surface morphology and chemistry, growth procedures, III-V, II-VI and silicon MBE. *Prerequisite:* MASC 501, MASC 503. Instruction Mode: Lecture Grading Option: Letter

MASC 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Laboratory study of specific problems by candidates for the degree Engineer in Materials Science. Instruction Mode: Lecture Grading Option: Credit/No Credit

MASC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MASC 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Mathematics

MATH 040x Basic Mathematical Skills
Units: 4 Terms Offered: FaSp Review of Algebra. Real numbers, linear equations and inequalities, functions, graphs, systems of equations, exponents, polynomials, factoring, rational expressions, radicals, quadratic equations and solutions. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 108g Contemporary Precalculus
Units: 4 Terms Offered: FaSp Equations and inequalities; functions; graphs; polynomial and rational functions; exponential, logarithmic, and trigonometric function; analytic geometry. *Prerequisite:* MATH 040 or passing of placement exam. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 114gx Foundations of Statistics
Units: 4 Terms Offered: FaSpSm An introduction to the basic tools of statistics. Descriptive statistics; probability; expected value; normal approximation sampling; chance models; tests of significance. *Recommended Preparation:* MATH 040 or math placement exam. Satisfies New General Education in F Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 117g Introduction to Mathematics for Business and Economics
Units: 4 Terms Offered: FaSp Functions, graphs, polynomial and rational functions, exponential and logarithmic functions, matrices, systems of linear equations. *Prerequisite:* MATH 040 or math placement exam. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 118gx Fundamental Principles of Calculus
Units: 4 Terms Offered: FaSp Derivatives; extrema. Definite integral; fundamental theorem of calculus. Extrema and definite integrals for functions of several variables. *Prerequisite:* MATH 108 or MATH 117 or placement exam in MATH. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 125g Calculus I
Units: 4 Terms Offered: FaSpSm Limits; continuity, derivatives and applications; antiderivatives; the fundamental theorem of calculus; exponential and logarithmic functions. *Prerequisite:* MATH 108 or math placement exam. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 126g Calculus II
Units: 4 Terms Offered: FaSpSm A continuation of MATH 125g: trigonometric functions; applications of integration; techniques of integration; indeterminate forms; infinite series; Taylor series; polar coordinates. *Prerequisite:* MATH 125g Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 127 Enhanced Calculus II
Units: 4 Terms Offered: FaSp Applications of integration, review of techniques of integration, infinite sequences and series, some beginning linear algebra, ordinary differential equations. Designed for students who earn a score of 4 or 5 on the Advanced Placement Calculus AB Examination, or a score of 3 or 4 on the BC Examination. Admission to course by departmental approval. Duplicates Credit in MATH 126g and MATH 129 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 129 Calculus II for Engineers and Scientists
Units: 4 Terms Offered: FaSpSm Trigonometric functions; applications of integration; techniques of integration; indeterminate forms; infinite series; Taylor series; polar coordinates. Engineering and physics applications. *Prerequisite:* MATH 125 Duplicates Credit in MATH 126 and MATH 127 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 200 Elementary Mathematics from an Advanced Standpoint
Units: 4 Terms Offered: FaSp An explication of arithmetic and geometry, including the algebraic operations, number bases, plane and solid figures; and coordinate geometry. *Prerequisite:* MATH 040 or math placement exam. Instruction Mode: Lecture Grading Option: Letter

MATH 208x Elementary Probability and Statistics
Units: 4 Terms Offered: FaSp Descriptive statistics, probability, discrete and continuous random variables, expectation and variance, sampling, Central Limit Theorem, estimation, hypothesis testing, correlation and regression. Emphasis on health science. *Prerequisite:* MATH 118 or MATH 125. Instruction Mode: Lecture Grading Option: Letter

MATH 225 Linear Algebra and Linear Differential Equations
Units: 4 Terms Offered: FaSp Matrices, systems of linear equations, vector spaces, linear transformations, eigenvalues, systems of linear differential equations. *Prerequisite:* MATH 126g or MATH 127 or MATH 129 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 226g Calculus III
Units: 4 Terms Offered: FaSp Vectors, vector valued functions; differential and integral calculus of functions of several variables; Green's theorem, Divergence theorem, Stoke's theorem. *Prerequisite:* MATH 126g or MATH 127 or MATH 129 Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 227 Enhanced Calculus III
Units: 4 Terms Offered: FaSp A continuation of MATH 127; vectors and vector spaces functions of several variables, partial

differential equations, optimization theory, multiple integration; Green's Stokes', divergence theorems. *Prerequisite:* MATH 127 or MATH 225. Duplicates Credit in MATH 226. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 229 Calculus III for Engineers and Scientists
Units: 4 Terms Offered: FaSpSm A continuation of MATH 129; vectors, vector valued functions; differential and integral calculus of functions of several variables; Green's theorem. Engineering and physics applications. *Prerequisite:* MATH 126, or MATH 127, or MATH 129 . Duplicates Credit in MATH 226 and MATH 227. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 235 Linear Algebra and Applications
Units: 4 Terms Offered: FaSp Matrices, systems of linear equations, vector spaces, linear transformations, eigenvalues, linear differential equations, singular value decomposition, image compression, graphs, networks and linear programming. *Prerequisite:* MATH 126g or MATH 127 or MATH 129 Duplicates Credit in MATH 225 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 245 Mathematics of Physics and Engineering I
Units: 4 Terms Offered: FaSp First-order differential equations; second-order linear differential equations; determinants and matrices; systems of linear differential equations; Laplace transforms. *Prerequisite:* MATH 226g or MATH 227 or MATH 229 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 265 Mathematical and Computational Methods for Neuroscience
Units: 4 Terms Offered: Irregular Differential calculus of multivariable functions, optimization, elementary linear algebra and matrix theory, principal component analysis, elementary differential equations, systems, qualitative theory, numerical methods, scientific computation. *Prerequisite:* MATH 125g *Recommended Preparation:* MATH 126g or MATH 127 or MATH 129 or equivalent or AP credit for Calculus BC Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 290 Mathematical Reasoning and Problem Solving
Units: 4 Terms Offered: FaSp Preparation for reading and writing proofs with applications from major branches of mathematics, focusing on axiomatic structures and transformations that preserve structure. *Prerequisite:* MATH 126g or MATH 127 or MATH 129 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 307 Statistical Inference and Data Analysis I
Units: 4 Terms Offered: Fa Probability, counting, independence, distributions, random variables, simulation, expectation, variance, covariance, transformations, law of large numbers, Central limit theorem, estimation, efficiency, maximum likelihood, Cramer-Rao bound, bootstrap. *Prerequisite:* MATH 118gx or MATH 125g or MATH 126g or MATH 127 or MATH 129 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 308 Statistical Inference and Data Analysis II
Units: 4 Terms Offered: Sp Confidence intervals, hypothesis testing, pvalues, likelihood ratio, nonparametrics, descriptive statistics, regression, multiple linear regression, experimental design, analysis of variance, categorical data, chi-squared tests, Bayesian statistics. *Prerequisite:* MATH 307. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 370 Applied Algebra
Units: 4 Terms Offered: Irregular Induction, Euclidean algorithm, factorization, congruence classes, Rings, RSA algorithm, Chinese remainder theorem, codes, polynomials, fundamental theorem of algebra, polynomial multiplication, Fourier transform, and other topics. *Prerequisite:* (MATH 226g or MATH 227 or MATH 229) and (MATH 225 or MATH 245) Instruction Mode: Lecture Grading Option: Letter

MATH 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MATH 395 Seminar in Problem Solving
Units: 2 Max Units: 08 Terms Offered: FaSp Systematic approach to solving non-standard and competition level math problems on inequalities, infinite sums and products, combinatorics, number theory and games. *Recommended Preparation:* MATH 126g or MATH 127 or MATH 129 Instruction Mode: Lecture Grading Option: Letter

MATH 400 Foundations of Discrete Mathematics
Units: 4 Terms Offered: Irregular Methods of proof, predicate calculus, set theory, order and equivalence relations, partitions, lattices, functions, cardinality, elementary number theory and combinatories. *Prerequisite:* MATH 225 or MATH 226g or MATH 227 or MATH 229 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 407 Probability Theory
Units: 4 Terms Offered: FaSp Probability spaces, discrete and continuous distributions, moments, characteristic functions, sequences of random variables, laws of large numbers, central limit theorem, special probability laws. *Prerequisite:* MATH 226g or MATH 227 or MATH 229 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 408 Mathematical Statistics
Units: 4 Terms Offered: Sp Principles for testing hypotheses and estimation, confidence intervals, methods of moments, maximum likelihood, information inequality, likelihood ratio tests, goodness of fit and nonparametric methods. *Prerequisite:* MATH 407 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 410 Fundamental Concepts of Modern Algebra
Units: 4 Terms Offered: FaSp Sets; relations; groups; homomorphisms; symmetric groups; Abelian groups; Sylow's theorems; introduction to rings and fields. *Prerequisite:* MATH 225; *Recommended Preparation:* One 400-level Mathematics course, excluding MATH 450. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 425a Fundamental Concepts of Analysis
Units: 4 Terms Offered: FaSp The real number system, metric spaces, limits, continuity, derivatives and integrals, infinite series. *Prerequisite:* MATH 226g or MATH 227 or MATH 229 *Recommended Preparation:* one 400-level Mathematics course, excluding MATH 450 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 425b Fundamental Concepts of Analysis
Units: 4 Terms Offered: Sp Implicit function theorems, Jacobians, transformations, multiple integrals, line integrals. *Prerequisite:* MATH 425a *Recommended Preparation:* one 400-level Mathematics course, excluding MATH 450 Instruction Mode: Lecture Grading Option: Letter

MATH 430 Theory of Numbers
Units: 4 Terms Offered: Fa Introduction to the theory of numbers, including prime factorization, congruences, primitive roots, N-th power residues, number theoretic functions and certain diophantine equations. *Prerequisite:* MATH 126g or MATH 127 or MATH 129 Instruction Mode: Lecture Grading Option: Letter

MATH 432 Applied Combinatorics
Units: 4 Terms Offered: Sp Mathematical induction, counting principles, arrangements, selections, binomial coefficients, generating functions, recurrence relations, inclusion-exclusion, symmetric groups, graphs, Euler and Hamiltonian circuits, trees, graph algorithms; applications. *Prerequisite:* MATH 225 or MATH 226g or MATH 227 or MATH 229 Instruction Mode: Lecture Grading Option: Letter

MATH 434 Geometry and Transformations
Units: 4 Terms Offered: Fa The Euclidean plane and its isometries. Models for the hyperbolic metric, isometries, linear fractional maps, geodesics. Gluing constructions. Knot theory and invariants. *Prerequisite:* MATH 226g or MATH 227 or MATH 229 Instruction Mode: Lecture Grading Option: Letter

MATH 435 Vector Analysis and Introduction to Differential Geometry
Units: 4 Terms Offered: Sp Vectors, elements of vector analysis, applications to curves and surfaces, standard material of differential geometry. Prerequisites may be waived for qualified students with consent of instructor. *Prerequisite:* (MATH 226g or MATH 227 or MATH 229) and (MATH 225 or MATH 245) Instruction Mode: Lecture Grading Option: Letter

MATH 440 Topology
Units: 4 Terms Offered: Fa Cardinals, topologies, separation axioms. Compactness, metrizability, function spaces; completeness; Jordan curve theorem. *Recommended Preparation:* upper-division MATH course. Instruction Mode: Lecture Grading Option: Letter

MATH 445 Mathematics of Physics and Engineering II
Units: 4 Terms Offered: FaSp Vector field theory; theorems of Gauss, Green,

and Stokes; Fourier series and integrals; complex variables; linear partial differential equations; series solutions of ordinary differential equations. *Prerequisite:* MATH 245 or (MATH 225 and MATH 226g) or (MATH 225 and MATH 227) or (MATH 225 and MATH 229) Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 446 Machine Learning through Python
Units: 4 Terms Offered: Fa Probabilistic model building, linear predictors, neural networks, classification, unsupervised learning, principal components, clustering, model validation, Machine Learning pipelines, programmatic data wrangling. *Prerequisite:* MATH 226g and (MATH 225 or MATH 245) and MATH 407 *Recommended Preparation:* ITP 115 or equivalent Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 447 Mathematics of Machine Learning
Units: 4 Terms Offered: FaSp Mathematical aspects of Machine Learning. PAC Learning, VC-dimension and complexity. Linear predictors (regression, perceptron, SVM). Convex learning and gradient descent. Neural networks and backpropagation. *Prerequisite:* (MATH 226g or MATH 227 or MATH 229) and (MATH 208x or MATH 407) and (MATH 225 or MATH 245) Instruction Mode: Lecture Grading Option: Letter

MATH 450 History of Mathematics
Units: 4 Terms Offered: Sp Evolution of mathematical ideas and techniques as seen through a study of the contributions of eminent mathematicians to the formulation and solution of celebrated problems. *Prerequisite:* MATH 225 or MATH 245; *Recommended Preparation:* upper-division MATH course. Instruction Mode: Lecture Grading Option: Letter

MATH 458 Numerical Methods
Units: 4 Terms Offered: Fa Rounding errors in digital computation; solution of linear algebraic systems; Newton's method for nonlinear systems; matrix eigenvalues; polynomial approximation; numerical integration; numerical solution of ordinary differential equations. *Prerequisite:* MATH 225 or MATH 245. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI-458

MATH 465 Nonlinear Dynamics in Science and Engineering
Units: 4 Terms Offered: Sp Nonlinear models, bifurcations, discrete and continuous dynamics, stability, dissipative and reversible systems, Poincare maps, Lyapunov exponents, fractal dimension. Applications stressed: Economics, Engineering, Biology, Physics. *Prerequisite:* MATH 225 or MATH 245. Instruction Mode: Lecture Grading Option: Letter

MATH 466 Dynamic Modeling
Units: 4 Terms Offered: Fa Formulation and study of models arising in population dynamics, growth of plankton, pollution in rivers, highway traffic, morphogenesis and tidal dynamics: stability, oscillations, bifurcations, chaos. The lab will consist of computer simulation of models using commercially available software. *Prerequisite:* MATH 225 or MATH 245. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 467 Theory and Computational Methods for Optimization
Units: 4 Terms Offered: Fa Methods for static, dynamic, unconstrained, constrained optimization. Gradient, conjugate gradient, penalty methods. Lagrange multipliers, least squares, linear, nonlinear dynamic programming. Application to control and estimation. *Prerequisite:* (MATH 226g or MATH 227 or MATH 229) and (MATH 225 or MATH 245) Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 471 Topics in Linear Algebra
Units: 4 Terms Offered: Sp Polynomial rings, vector spaces, linear transformations, canonical forms, inner product spaces. *Prerequisite:* MATH 225; *Recommended Preparation:* MATH 410. Instruction Mode: Lecture Grading Option: Letter

MATH 475 Introduction to Theory of Complex Variables
Units: 4 Terms Offered: Sp Complex numbers and functions. Power series, analytic functions, harmonic functions. Complex integration, Cauchy's theorem, Cauchy's formula. Conformal mapping. Applications in physics and engineering. *Prerequisite:* MATH 226g or MATH 227 or MATH 229 Instruction Mode: Lecture Grading Option: Letter

MATH 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MATH 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Lectures on advanced material not covered in regularly scheduled courses. No more than two registrations allowed. Instruction Mode: Lecture Grading Option: Letter

MATH 500 Graduate Colloquium
Units: 2 Lectures directed to mathematics graduate students by faculty of the department and by outside speakers. Problem solving workshops. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 501 Numerical Analysis and Computation
Units: 3 Terms Offered: Sp Linear equations and matrices, Gauss elimination, error estimates, iteration techniques; contractive mappings, Newton's method; matrix eigenvalue problems; least-squares approximation, Newton-Cotes and Gaussian quadratures; finite difference methods. *Prerequisite:* linear algebra and calculus. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-501

MATH 502a Numerical Analysis
Units: 3 Terms Offered: Fa Computational linear algebra; solution of general nonlinear systems of equations; approximation theory using functional analysis; numerical solution of ordinary and partial differential equations. *Prerequisite:* MATH 425a and MATH 471. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-502A

MATH 502b Numerical Analysis
Units: 3 Terms Offered: Sp Computational linear algebra; solution of general nonlinear systems of equations; approximation theory using functional analysis; numerical solution of ordinary and partial differential equations. *Prerequisite:* MATH 425a and MATH 471. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-502B

MATH 504a Numerical Solution of Ordinary and Partial Differential Equations
Units: 3 Terms Offered: Sp Initial value problems; multistep methods, stability, convergence and error estimation, automatic stepsize control, higher order methods, systems of equations, stiff problems; boundary value problems; eigen-problems. *Prerequisite:* MATH 501 or MATH 502a. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-504A

MATH 504b Numerical Solution of Ordinary and Partial Differential Equations
Units: 3 Terms Offered: Fa Computationally efficient schemes for solving PDE numerically; stability and convergence of difference schemes, method of lines; fast direct and iterative methods for elliptic equations. *Prerequisite:* MATH 501 or MATH 502a. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-504B

MATH 505a Applied Probability
Units: 3 Terms Offered: Fa Populations, permutations, combinations, random variables, distribution and density functions conditional probability and expectation, binomial, Poisson, and normal distributions; laws of large numbers, central limit theorem. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-505A

MATH 505b Applied Probability
Units: 3 Terms Offered: Sp Markov processes in discrete or continuous time; renewal processes; martingales; Brownian motion and diffusion theory; random walks, inventory models, population growth, queuing models, shot noise. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-505B

MATH 507a Theory of Probability
Units: 3 Terms Offered: Fa Probability spaces; distributions and characteristic functions; laws of large numbers, central limit problems; stable and infinitely divisible laws; conditional distributions. *Prerequisite:* MATH 525a or MATH 570. Instruction Mode: Lecture Grading Option: Letter

MATH 507b Theory of Probability
Units: 3 Terms Offered: Sp Dependence, martingales, ergodic theorems, second-order random functions, harmonic analysis, Markov processes. Instruction Mode: Lecture Grading Option: Letter

MATH 508 Filtering Theory
Units: 3 Theory of random differential equations and stochastic stability; optimum linear and nonlinear filtering, with discussion of asymptotic behavior of filter. *Prerequisite:* MATH 507a. Instruction Mode: Lecture Grading Option: Letter

MATH 509 Stochastic Differential Equations
Units: 3 Brownian motion, stochastic integrals, the Ito formula, stochastic differential equations, analysis of diffusion processes, Girsanov transformation, Feynmann-Kac formula, applications. *Prerequisite:* MATH 505a, MATH 505b or

MATH 507a, MATH 507b. Instruction Mode: Lecture Grading Option: Letter

MATH 510a Algebra
Units: 3 Terms Offered: Fa Group Theory: Isomorphism theorems, group actions, Sylow's theorems, simple and solvable groups; Field Theory: Galois correspondence, radical extensions, algebraic and transcendental extensions, finite fields. *Prerequisite:* MATH 410, MATH 471. Instruction Mode: Lecture Grading Option: Letter

MATH 510b Algebra
Units: 3 Terms Offered: Sp Commutative Algebra: Integrality, Hilbert Basis theorem, Hilbert Nullstellensatz; Modules: modules over PIDs, chain conditions, tensor products; Noncommutative Rings: Jacobson radical, Artin-Wedderburn theorem, Maschke's theorem. *Prerequisite:* MATH 410, MATH 471. Instruction Mode: Lecture Grading Option: Letter

MATH 511aL Data Analysis
Units: 4 (Enroll in PM 511a) Instruction Mode: Lecture, 3 hours; laboratory, 1 hour.

MATH 511bL Data Analysis
Units: 4 (Enroll in PM 511b)

MATH 512 Financial Informatics and Simulation (Computer Labs and Practitioner Seminar)
Units: 3 Terms Offered: FaSp Experimental laboratory trading for financial markets using double auctions: handling statistical packages for data analysis. Practical training in virtual market environments, using financial trading system software. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 520 Complex Analysis
Units: 3 Terms Offered: Sp Theory of analytic functions — power series and integral representations, calculus of residues, harmonic functions, normal families, approximation theorems, conformal mapping, analytical continuation. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 525a Real Analysis
Units: 3 Terms Offered: Fa Measure and integration over abstract measure spaces, Radon-Nikodym theorem, Fubini's theorem, convergence theorems, differentiation. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 525b Real Analysis
Units: 3 Terms Offered: Sp Metric spaces, contraction principle, category, Banach spaces, Riesz representation theorem, properties of Lp Hilbert spaces, orthogonal expansions, Fourier series and transforms, convolutions. *Prerequisite:* MATH 525a. Instruction Mode: Lecture Grading Option: Letter

MATH 530a Stochastic Calculus and Mathematical Finance
Units: 3 Stochastic processes revisited, Brownian motion, Martingale theory, stochastic differential equations, Feynman-Kac formula, binomial models, basic concepts in arbitrage pricing theory, equivalent Martingale measure. *Recommended Preparation:* MATH 225, MATH 407. Duplicates Credit in the former MATH 503. Instruction Mode: Lecture Grading Option: Letter

MATH 530b Stochastic Calculus and Mathematical Finance
Units: 3 Terms Offered: Sp Advanced topics in stochastic analysis, asset pricing in continuous time, stochastic control, Hamilton-Jacobi-Bellman equations, incomplete markets, American options, exotic options, term structure of interest rates. Duplicates Credit in the former MATH 506. Instruction Mode: Lecture Grading Option: Letter

MATH 532 Combinatorial Analysis
Units: 3 Terms Offered: Fa Inversion formulas, generating functions and recursions, partitions, Stirling numbers, distinct representatives, Ramsey's theorem, graph theory, block designs, difference sets, finite geometrics, Latin squares, Hadamard matrices. Instruction Mode: Lecture Grading Option: Letter

MATH 533 Algebraic Combinatorics
Units: 3 Terms Offered: Irregular Walks in graphs, random walks, group actions on boolean algebras, Young diagrams and tableaux, the Matrix-Tree Theorem. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 533

MATH 535a Differential Geometry
Units: 3 Terms Offered: Fa Elementary theory of manifolds, Lie groups, homogeneous spaces, fiber bundles and connections. Riemannian manifolds, curvature and conjugate points, second fundamental form, other topics. *Prerequisite:* MATH 440. Instruction Mode: Lecture Grading Option: Letter

MATH 535b Differential Geometry
Units: 3 Terms Offered: Sp Elementary theory of manifolds, Lie groups, homogeneous spaces, fiber bundles and connections. Riemannian manifolds, curvature and conjugate points, second fundamental form, other topics. *Prerequisite:* MATH 440. Instruction Mode: Lecture Grading Option: Letter

MATH 540 Topology
Units: 3 Terms Offered: Sp Initial and final topologies, function spaces, algebras in C(Y), homotopy, fundamental group, fiber spaces and bundles, smashes, loop spaces, groups of homotopy classes, cw-complexes. *Prerequisite:* MATH 440. Instruction Mode: Lecture Grading Option: Letter

MATH 541a Introduction to Mathematical Statistics
Units: 3 Terms Offered: Sp Parametric families of distributions, sufficiency. Estimation: methods of moments, maximum likelihood, unbiased estimation. Comparison of estimators, optimality, information inequality, asymptotic efficiency. EM algorithm, jackknife and bootstrap. *Prerequisite:* MATH 505a or MATH 407 or MATH 408. Instruction Mode: Lecture Grading Option: Letter

MATH 541b Introduction to Mathematical Statistics
Units: 3 Terms Offered: Fa Hypothesis testing, Neyman-Pearson lemma, generalized likelihood ratio procedures, confidence intervals, consistency, power, jackknife and bootstrap. Monte Carlo Markov chain methods, hidden Markov models. *Prerequisite:* MATH 541a. Instruction Mode: Lecture Grading Option: Letter

MATH 542 Analysis of Variance and Design
Units: 3 Terms Offered: Sp Least squares estimation in the linear model, analysis of variance and covariance, F-test, multiple comparisons, multiple regression, selection of variables; introduction to experimental design. *Recommended Preparation:* Linear algebra, multivariable calculus, statistics Instruction Mode: Lecture Grading Option: Letter

MATH 543 Nonparametric Statistics
Units: 3 Terms Offered: Irregular Distribution-free methods for comparisons of two or more samples, tests of randomness, independence, goodness of fit; classification, regression. Comparison with parametric techniques. *Recommended Preparation:* Multivariable calculus, statistics Instruction Mode: Lecture Grading Option: Letter Crosslisted as PM 543

MATH 544L Multivariate Analysis
Units: 3 Terms Offered: SpSm (Enroll in PM 544L)

MATH 545 Introduction to Time Series
Units: 3 Terms Offered: Fa Transfer function models; stationary, nonstationary processes; moving average, autoregressive models; spectral analysis; estimation of mean, autocorrelation, spectrum; seasonal time series. *Recommended Preparation:* Linear algebra, multivariable calculus, statistics Instruction Mode: Lecture Grading Option: Letter Crosslisted as PM 545

MATH 547 Mathematical Foundations of Statistical Learning Theory
Units: 3 Terms Offered: Fa Binary classification, empirical risk minimization, support vector machines, voting algorithms and AdaBoost, Vapnik-Chervonenkis combinatorics, concentration-of-measure inequalities, sparse recovery problems, high-dimensional convex geometry. *Prerequisite:* MATH 407 or MATH 408 Instruction Mode: Lecture Grading Option: Letter

MATH 548 Sequential Analysis
Units: 3 Sequential decision procedures: sequential probability-ratio tests, operating characteristic, expected sample size, two-stage procedures, optimal stopping, martingales, Markov processes; applications to gambling, industrial inspection. *Prerequisite:* MATH 407 or MATH 408. Instruction Mode: Lecture Grading Option: Letter

MATH 550 Statistical Consulting and Data Analysis
Units: 3 Terms Offered: Fa Coverage of modern statistical methods as applied to practical consulting and data analysis, and the use of the R statistical language. *Recommended Preparation:* Familiarity with basic statistics and probability is desirable Duplicates Credit in former MATH 650 Instruction Mode: Lecture Grading Option: Letter

MATH 555a Partial Differential Equations
Units: 3 Terms Offered: Fa Second-order partial differential equations of elliptic, parabolic, and hyperbolic type; in particular, potential and wave equations. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 555b Partial Differential Equations
Units: 3 Terms Offered: Sp Second-order partial differential equations of elliptic, parabolic, and hyperbolic type; in particular, potential and wave equations. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 565a Ordinary Differential Equations
Units: 3 Terms Offered: Fa Existence, uniqueness and continuation of solutions, differential inequalities, linear systems, Sturm-Liouville theory, boundary value problems, Poincare-Bendixson theory, periodic solutions, perturbations, stability, fixed point techniques. *Prerequisite:* MATH 425ab. Instruction Mode: Lecture Grading Option: Letter

MATH 565b Ordinary Differential Equations
Units: 3 Terms Offered: Sp Existence, uniqueness and continuation of solutions, differential inequalities, linear systems, Sturm-Liouville theory, boundary value problems, Poincare-Bendixson theory, periodic solutions, perturbations, stability, fixed point techniques. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 570a Methods of Applied Mathematics
Units: 3 Terms Offered: Fa Metric spaces, compactness, completion, fixed-point theorems, abstract spaces, linear operators, functionals, duality, conjugates, Lp spaces, Fourier transform. Applications from Engineering, Natural and Social sciences. *Recommended Preparation:* Linear Algebra and Calculus. Instruction Mode: Lecture Grading Option: Letter

MATH 570b Methods of Applied Mathematics
Units: 3 Terms Offered: Sp Measure theory, convergence, Lebesgue spaces, Riesz's theorem, Integration theorems, compact and self-adjoint operators, spectral theory, resolution of the identity, differential operators, quantum mechanics. Instruction Mode: Lecture Grading Option: Letter

MATH 572 Applied Algebraic Structures
Units: 3 Terms Offered: Fa Elementary predicate logic, model theory, axiomatic set theory; relations, functions, equivalences; algebraic and relational structures; graph theory; applications of lattices, Boolean algebras; groups, rings, field. Instruction Mode: Lecture Grading Option: Letter

MATH 574 Applied Matrix Analysis
Units: 3 Terms Offered: Fa Equivalence of matrices; Jordon canonical form; functions of matrices; diagonalization; singular value decomposition; applications to linear differential equations, stability theory, and Markov processes. Instruction Mode: Lecture Grading Option: Letter

MATH 576 Applied Complex Analysis and Integral Transforms
Units: 3 Terms Offered: Fa
Review of basic complex analysis; integral transforms of Laplace, Fourier, Mellin, and Hankel; applications to solutions of ordinary and partial differential equations; Wiener-Hopf technique. *Prerequisite:* MATH 475 or MATH 520. Instruction Mode: Lecture Grading Option: Letter

MATH 577a Computational Molecular Biology Laboratory
Units: 2 Terms Offered: Sp (Enroll in BISC 577a, BISC 577b)

MATH 577b Computational Molecular Biology Laboratory
Units: 2 Terms Offered: Fa (Enroll in BISC 577a, BISC 577b)

MATH 578a Computational Molecular Biology
Units: 3 Terms Offered: FaSp Applications of the mathematical, statistical and computational sciences to data from molecular biology. Algorithms for genomic sequence data: sequence and map assembly and alignment, RNA secondary structure, protein structure, gene-finding, and tree construction. *Prerequisite:* CSCI 570. *Recommended Preparation:* familiarity with the concepts of basic molecular biology as covered in BISC 320. Instruction Mode: Lecture Grading Option: Letter

MATH 578b Computational Molecular Biology
Units: 3 Terms Offered: FaSp Applications of the mathematical, statistical and computational sciences to data from molecular biology. Statistics for genomic sequence data: DNA sequence assembly, significance of alignment scores, hidden Markov models, genetic mapping, models of sequence evolution, and microarray analysis. *Prerequisite:* MATH 505a, MATH 541a. *Recommended Preparation:* familiarity with the concepts of basic molecular biology as covered in BISC 320. Instruction Mode: Lecture Grading Option: Letter

MATH 580 Introduction to Functional Analysis
Units: 3 Basic functional analysis in Banach and Hilbert spaces. Weak topologies, linear operators, spectral theory, calculus of vector-valued functions. Banach algebras. *Prerequisite:* MATH 525a, MATH 525b. Instruction Mode: Lecture Grading Option: Letter

MATH 585 Mathematical Theory of Optimal Control
Units: 3 Terms Offered: Fa Deterministic control: calculus of variations; optimal control; Pontryagin principle; multiplier rules and abstract nonlinear programming; existence and continuity of controls; problem of Mayer; dynamic programming. *Prerequisite:* MATH 570 and MATH 525a. Instruction Mode: Lecture Grading Option: Letter

MATH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 592 Computational Molecular Biology Internship
Units: 3 Industrial or genome-centered internship for students in the Computational Molecular Biology master's program. Real-world experience in applications. Instruction Mode: Lecture Grading Option: Letter

MATH 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 595 Practicum in Teaching the Liberal Arts: Mathematics
Units: 2 Terms Offered: FaSp Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Course content will be selected each semester to reflect current trends and developments in the field of mathematics. Instruction Mode: Lecture Grading Option: Letter

MATH 600 Topics in Numerical Analysis
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 601 Optimization Theory and Techniques
Units: 3 Terms Offered: SpSm Necessary and sufficient conditions for existence of extrema with equality constraints; gradient methods; Ritz methods; eigenvalue problems; optimum control problems; inequality constraints; mathematical programming. *Prerequisite:* MATH 502a, MATH 502b. Instruction Mode: Lecture Grading Option: Letter

MATH 602 Galerkin Approximation Methods in Partial Differential Equations
Units: 3 Galerkin methods of approximating solutions of elliptic boundary value problems in one and several dimensions; includes the use of spline functions and triangularizations. Instruction Mode: Lecture Grading Option: Letter

MATH 605 Topics in Probability
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 606 Topics in Stochastic Processes
Units: 3 Max Units: 12.0 Terms Offered: FaSpSm Theoretic and applied topics of current interest in discrete and continuous time stochastic processes and in stochastic differential equations. *Recommended Preparation:* graduate level course in probability theory or stochastic processes.

Instruction Mode: Lecture Grading Option: Letter

MATH 610 Topics in Algebra
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 612 Topics in Commutative Ring Theory
Units: 3 Max Units: 12.0 Localization, structure of Noetherian rings, integral extensions, valuation theory, graded rings, characteristic functions, local algebra, dimension theory. *Prerequisite:* MATH 510a, MATH 510b. Instruction Mode: Lecture Grading Option: Letter

MATH 613 Topics in Representation Theory
Units: 3 Max Units: 12 Terms Offered: Irregular Structure and representation theory of various algebraic structures, such as groups, Lie algebras, Hopf algebras, algebraic groups, or group schemes. *Prerequisite:* MATH 510a and MATH 510b Instruction Mode: Lecture Grading Option: Letter

MATH 614 Topics in Algebraic Geometry
Units: 3 Max Units: 12 Terms Offered: Irregular Introduction to both classical and modern aspects of algebraic geometry. Topics include aspects of commutative algebra, algebraic curves, algebraic varieties and schemes, and sheaf cohomology. *Prerequisite:* (MATH 510a and MATH 510b) or (MATH 535a and MATH 540) *Recommended Preparation:* Familiarity with some ideas of commutative algebra and algebraic geometry Instruction Mode: Lecture Grading Option: Letter

MATH 620 Topics in Complex Analysis
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 625 Topics in Real Analysis
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 630 Topics in Number Theory
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 635 Topics in Differential Geometry
Units: 3 Max Units: 12.0 Topics to be chosen from the following: geometry of complex manifolds, relations between topology and curvature, homogeneous spaces, symmetric spaces, geometry of submanifolds. *Prerequisite:* MATH 535a, MATH 535b. Instruction Mode: Lecture Grading Option: Letter

MATH 641 Topics in Topology
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 647 Topics in Statistics
Units: 3 Max Units: 12 Terms Offered: Irregular Current methods, techniques, and results in statistics, data science and machine learning. Instruction Mode: Lecture Grading Option: Letter

MATH 655 Topics in Partial Differential Equations
Units: 3 Max Units: 12.0 Terms Offered: FaSpSm Topics to be chosen from the following: Elliptic, Parabolic, Hyperbolic, and Dispersive PDEs, Conservation Laws, Mathematical Fluid Dynamics and Variational Methods. *Prerequisite:* MATH 525a; *Recommended Preparation:* MATH 555a. Instruction Mode: Lecture Grading Option: Letter

MATH 665 Topics in Ordinary Differential Equations
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 680 Nonlinear Functional Analysis
Units: 3 Calculus in Banach spaces, degree theory, fixed point theorems. Study of compact, monotone, accretive and nonexpansive operators. *Prerequisite:* MATH 580. Instruction Mode: Lecture Grading Option: Letter

MATH 681 Selected Topics in Functional Analysis
Units: 3 Max Units: 12.0 Course content will vary with professor and academic year offered. It will include topics of current interest in both linear and nonlinear functional analysis and their applications. Instruction Mode: Lecture Grading Option: Letter

MATH 685 Topics in Mathematical Control Theory
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 689 Topics in Mathematical Physics
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 700 Seminar in Numerical Analysis
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 705 Seminar in Probability
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 710 Seminar in Algebra
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 725 Seminar in Analysis
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 730 Seminar in Number Theory
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 735 Seminar in Differential Geometry
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 740 Seminar in Topology
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 761 Seminar in Programming and Computability
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 765 Seminar in Ordinary Differential Equations
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 780 Seminar in Functional Analysis
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Microbiology and Immunology

MBIO 310 Principles of Microbiology and Immunology
Units: 2 Fundamental concepts of microbiology and immunology. Bacterial, viral and fungal diseases are correlated with host responses; oral manifestations of infectious disease. Emphasis on sanitation and sterilization. Instruction Mode: Lecture Grading Option: Letter

MBIO 501 Immunology
Units: 2 Fundamentals of immunology; basic immunopathology, especially concerning the oral cavity, including immunogenetics; hypersensitivities and inflammation; auto-immune diseases. Instruction Mode: Lecture Grading Option: Letter

Medical Biophysics

MBPH 550 Seminar in Medical Biophysics
Units: 1 Max Units: 4 Terms Offered: FaSp Seminar course in which students make oral and written presentations based on original research, published journal articles, or research proposals. Instruction Mode: Lecture Grading Option: Letter

MBPH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MBPH 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. Registration Restriction: Open only to Master Students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. *Prerequisite:* MBPH 594a Registration Restriction: Open only to Master Students

Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. *Prerequisite:* MBPH 594b Registration Restriction: Open only to Master Students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Instruction Mode: Lecture Grading Option: Credit/No Credit

MBPH 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MBPH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. *Prerequisite:* MBPH 794a Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 794c Doctoral Disseration
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. *Prerequisite:* MBPH 794b Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. *Prerequisite:* MBPH 794d Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

Multidisciplinary Activities

MDA 020 American Popular Culture
Units: 0 Terms Offered: Sm Introduction to the popular culture of the United States, including basic history, geography, literature and the arts, as understood by generally well-educated young Americans. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 100a Introduction to the Health Professions
Units: 1 Terms Offered: FaSp An introduction to the health professions, through lectures, discussions, clinical experiences, and visits to health care delivery sites; relationships with other clinicians and the community. Departmental approval required. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 100b Introduction to the Health Professions
Units: 1 Terms Offered: FaSp An introduction to the health professions, through lectures, discussions, clinical experiences, and visits to health care delivery sites; relationships with other clinicians and the community. Departmental approval required. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 100c Introduction to the Health Professions
Units: 1 Terms Offered: FaSp An introduction to the health professions, through lectures, discussions, clinical experiences, and visits to health care delivery sites; relationships with other clinicians and the community. Departmental approval required. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 100d Introduction to the Health Professions
Units: 1 Terms Offered: FaSp An introduction to the health professions, through lectures, discussions, clinical experiences, and visits to health care delivery sites; relationships with other clinicians and the community. Departmental approval required. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 101x Health Professions: Prospects and Preparation
Units: 1 Terms Offered: Sp Presentations by health professionals, introduced by faculty members from relevant academic units and followed by discussion with the speakers. *Recommended Preparation:* BISC 120 or BISC 220; CHEM 150aL. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 105g Cultural Forms and Values I
Units: 4 Terms Offered: FaSp Norms and patterns of civilizations associated with the Greco-Roman and European traditions and the legacy of those traditions in North America. Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

MDA 120 American Popular Culture
Units: 3 Terms Offered: Sm Introduction to the popular culture of the United States, including basic history, geography, literature and the arts, as understood by generally well-educated young Americans. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 125Lg Scientific Principles
Units: 4 Terms Offered: FaSp Fundamental principles underlying a body of scientific knowledge and their evolution; the nature of scientific inquiry; how scientific knowledge is obtained and evaluated. A field experience or practical component required. Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

MDA 140 Practicum in Multimedia Authorship
Units: 2 Terms Offered: FaSp Introduction to the expressive potential of multimedia as a critical and creative tool, supplementing traditional forms of academic work. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 155g Cultural Forms and Values II
Units: 4 Terms Offered: FaSp Cultural norms and patterns of civilizations associated with Africa, Asia, Latin America, the Middle East, Native America, and elsewhere, alternative to those of the Greco-Roman and European traditions. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

MDA 165g Social Inquiry
Units: 4 Terms Offered: FaSp Analyses of compelling local, national, and/or international issues; analytical tools examined systematically in a broad range of social phenomena. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

MDA 167g Marginal Groups in America
Units: 4 Terms Offered: Fa Sociological and historical analysis of marginal populations in American society, including racial and ethnic minorities, teenage mothers, drug abusers, criminals, and the mentally ill. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

MDA 170g La Frontera: The U.S.-Mexico Borderlands
Units: 4 Provides student with a multidisciplinary understanding of the U.S./Mexico border region. Topics to be covered include: space and place, internationalization, physical environment, gender relations and culture. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

MDA 175Lg Science and Technology
Units: 4 Terms Offered: FaSp The nature of science and technology, based on a focused study of a single area of research; scientific principles, their technological applications, and social significance. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

MDA 200Lg The Cutting Edge: From Basic Science to the Marketplace
Units: 4 Terms Offered: Sp An introduction to the basic sciences of physics, chemistry, biology, and geology, examining the fundamental concepts, experimental approaches, and technological applications. Course will show the interrelationships among the fields and societal ramifications of these cutting edge technologies. Satisfies Old General Education in Category IV: Science and Its Significance Duplicates Credit in MDA 125. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MDA 205g Cities and Civilization
Units: 4 Terms Offered: FaSp Origins of cities, patterns of migration and resettlement, civic identities and the invention of public culture, from ancient Rome to contemporary Los Angeles.

Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

MDA 210 Contemporary Issues and Cases in Health Care
Units: 2 Terms Offered: FaSp An introduction to the major areas of health care; the provider's relationship to choices in professional practice; ethics and historical context. *Corequisite:* BISC 220Lg Duplicates Credit in MDA 100a, MDA 100b, MDA 100c, MDA 100d and former MDA 110 Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 250 Internship for Liberal Arts: Work and Career — Theory and Practice
Units: 1, 2 Max Units: 4.0 Terms Offered: FaSpSm Students explore different understandings of work and career in American society while testing theories in an actual work setting. Instruction Mode: Lecture Grading Option: Letter

MDA 260 Opportunities in the Global Marketplace
Units: 2, 3, 4 Max Units: 4.0 Terms Offered: FaSp Professional opportunities in a changing global system, preparing the successor generation for participation in the public, private, and citizen sectors of our global society. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 300 The Dornsife Toolkit
Units: 2 Max Units: 08 Terms Offered: FaSpSm An opportunity to acquire an intellectual skill in a small group setting. Registration Restriction: Open to all undergraduates, though Dornsife majors and minors will have priority during the registration period Credit Restriction: Not for major credit Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 305 Translation Principles and Skills
Units: 2 Max Units: 04 Terms Offered: FaSpSm Introduces students to basic principles and skills professional translators utilize to inform their decisions; familiarizes students with the translation industry, software and jobs. Five semesters of foreign language study or equivalent are required for enrollment. *Recommended Preparation:* Five semesters of foreign language study or equivalent Instruction Mode: Lecture Grading Option: Letter

MDA 320 Global Ethics: Poverty, Health and the Human Condition
Units: 4 Terms Offered: FaSp Ethical challenges and moral obligations of the public and private sectors in global development, access to healthcare, and promotion of civil, political, and economic rights. Instruction Mode: Lecture, Discussion Grading Option: Letter

MDA 325 Case Studies in Modern Leadership
Units: 2 or 4 Max Units: 6.0 Terms Offered: FaSp Study of a single leader or small set of leaders, including the strengths and weaknesses that distinguish them and the cultural forces that nurture them. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-326

MDA 330 The Armenian Heritage: History, Arts, and Culture
Units: 4 Terms Offered: FaSp A multidisciplinary exploration of the Armenian cultural heritage through the ages — folklore, traditions, religious practices, literature, architecture, painting, sculpture, music, theatre, film and dance. Instruction Mode: Lecture Grading Option: Letter

MDA 333 Colloquium in Armenian Studies: Social and Cultural Issues
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Analysis of political, social, and cultural issues by the instructor and visiting lecturers with expertise in specific areas of the Armenian Republic and Diaspora community. Instruction Mode: Lecture Grading Option: Letter

MDA 365 The Art and Adventure of Leadership
Units: 4 Terms Offered: Sp Areas of knowledge and kinds of competencies that are fundamental to the study and practice of leadership in a variety of settings. Instruction Mode: Lecture Grading Option: Letter

MDA 399a Team Research Communities
Units: 4 Terms Offered: FaSp Cross-disciplinary inquiry in the liberal arts. Research methodologies. Instruction Mode: Lecture Grading Option: Letter

MDA 399b Team Research Communities
Units: 4 Terms Offered: FaSp Cross-disciplinary inquiry in the liberal arts. Individual student and group projects contributing to the team's collaborative report. Instruction Mode: Lecture Grading Option: Letter

MDA 423 User Experience
Units: 4 Terms Offered: FaSp Introduction to the field of user experience (UX), with a specific focus on theoretical foundations, research methodology and principles of design. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC 423

MDA 450 Individual Program of Study
Units: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 Max Units: 18.0 Terms Offered: FaSpSm An individual educational project approved by a faculty committee, combining directed research with internships, service learning, artistic or literary production, and/or other relevant educational activities. Registration Restriction: Open only to sophomore, junior or senior standing. Instruction Mode: Lecture Grading Option: Letter

MDA 460 Collaborative Learning Project
Units: 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm A project approved by a faculty committee, requiring students to collaborate on research or an original work in the literary, plastic, or performing arts. Registration Restriction: Open only to sophomore, junior or senior standing. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 475 The Future of California
Units: 4 Challenges facing California; options for governmental and constitutional reform; opportunities for economic growth; demographic and cultural changes; education, environment, and other policy issues. *Recommended Preparation:* junior or senior standing. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-475, PPD-475

MDA 476 Policy Research on California
Units: 4 Terms Offered: Sp Research and proposed solutions concerning problems, policies, structural and constitutional challenges facing California. Open only to upper-division and master's students. *Prerequisite:* MDA 475. Registration Restriction: Open only to upper division and masters students. Instruction Mode: Lecture, Discussion Grading Option: Letter

MDA 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Individual research, reading, writing and project development. Instruction Mode: Lecture Grading Option: Letter

MDA 494 Directed Creative Project
Units: 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Individual research, reading, writing and project development, guided by a faculty member with expertise in the area, who may be tenure-track or nontenure-track. Instruction Mode: Lecture Grading Option: Letter

MDA 495 Interdisciplinary Honors Seminar
Units: 2, 3, 4 Max Units: 4.0 Terms Offered: Fa The first part of an eight-unit sequence intended to award academic honors in a thematic area comparable to departmental honors in a single discipline. Instruction Mode: Lecture Grading Option: Letter

MDA 496 Interdisciplinary Honors Thesis
Units: 4 Terms Offered: Sp The second part of an eight-unit sequence intended to award academic honors in a thematic area comparable to departmental honors in a single discipline. *Prerequisite:* MDA 495. Instruction Mode: Lecture Grading Option: Letter

MDA 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Selected topics in Multidisciplinary Activities. Instruction Mode: Lecture Grading Option: Letter

MDA 501 Introduction to Visual Studies: Methods and Debates
Units: 4 A critical introduction to the field of visual studies focusing on interdisciplinary approaches to images, objects, and visual technologies as well as key texts and interpretive debates. Students must be enrolled in a PhD program at USC. Instruction Mode: Lecture Grading Option: Letter

MDA 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Fa The multidisciplinary, team-taught seminar addresses issues at the intersection of literary, visual, and material culture. The faculty team and specific topics studied will change each time the course is offered. Instruction Mode: Lecture Grading Option: Letter

Medical Education

MDED 501 Narrative Medicine I: Witnessing, Listening, Reflecting
Units: 4 Terms Offered: Fa Introduction to Narrative Medicine and history of

health humanities; examine theories of narrative, trauma, witnessing, identity as related to health care and the clinical encounter. Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

MDED 502 Narrative Medicine II: Methods and Pedagogy
Units: 6 Terms Offered: Sp Advanced study in Narrative Medicine; study current methods and best practices for designing and evaluating narrative medicine workshops; includes teacher training, practicum and advisement. *Prerequisite:* MDED 501 Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

MDED 503 Creative Writing and Its Applications in Narrative Medicine
Units: 4 Terms Offered: FaSp Introduction to creative writing in the clinical setting; study of nonfiction/journalism, memoir, fiction and poetry; work toward a creative project that incorporates narrative medicine methods. Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

MDED 504 Research Methods in Narrative Medicine
Units: 4 Terms Offered: FaSp Explore philosophical underpinnings of qualitative research and its use in health research; develop specific methodologies for data collection and assessment in Narrative Medicine. Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

MDED 505 Intersubjectivity: Lived Bodies/Relational Selves
Units: 4 Terms Offered: FaSp Introduction to philosophical, anthropological and sociological considerations of intersubjectivity and experience; narrative approaches to intersubjectivity and relational self-making focusing, especially on clinical encounters. Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

MDED 510 Narrative Ethics: Illness, Disability, Equity and Community
Units: 4 Terms Offered: FaSp Examine the relationship between illness and disability narratives and their familial, social and institutional contexts; develop skills in interviewing, close reading and writing toward publication. Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

MDED 511 Immigrants, Illness and Narrative Medicine
Units: 4 Terms Offered: FaSp Apply narrative medicine methods to the study of fictional and non-fictional illness narratives from the immigrant perspective in the United States. *Recommended Preparation:* MDED 501 or MDED 510 Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

MDED 512 Health Justice
Units: 4 Terms Offered: FaSp Use historical and social scientific data and analysis to examine the conjuncture between race and racism in medicine as an institution, clinical practice, body of knowledge and stakeholder in efforts for equitable healthcare practices, policies and professional formation. Registration Restriction: Open only to seniors and graduate students Instruction Mode: Lecture Grading Option: Letter

MDED 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: Sp Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC. Registration Restriction: Open only to master students in Narrative Medicine Instruction Mode: Lecture Grading Option: Credit/No Credit

MDED 593 Narrative Medicine Capstone
Units: 2 Terms Offered: Sp A summative experience such as a thesis, a clinical practicum or a capstone project; regular meetings with an adviser and a final presentation are required for successful completion. Registration Restriction: Open only to Keck master students in Narrative Medicine Instruction Mode: Lecture Grading Option: Letter

Middle East Studies

MDES 180g The Middle East
Units: 4 Terms Offered: FaSpSm (Enroll in HIST 180)

MDES 201w The Middle East: Global and Environmental Perspectives
Units: 4 Terms Offered: FaSp Introduction to the natural and cultural diversity of the Middle East through the prism of globalization and sustainability. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

MDES 301g The Global Middle East
Units: 4 Terms Offered: FaSp Explores the modern Middle East by focusing on the process of globalization. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

MDES 312 Medieval Iran: Society and Culture
Units: 4 Terms Offered: FaSp Political and dynastic history of Iran from the Arab conquest in the 7th to the 18th century. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 310

MDES 313 Modern Iran
Units: 4 Terms Offered: FaSp History and culture of modern Iran from the nineteenth century to present through historical and ethnographic approaches to Iran today, richly contextualizing events and people. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 389

MDES 314p Political Thought in the Middle East
Units: 4 Terms Offered: FaSp Major strands of Islamic political thought from early Islam through the classical Islamic period to contemporary developments and transformations. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

MDES 316p The Great Muslim Empires of the Near East and India
Units: 4 Explores the social, political, and religious forces that helped shape the Ottoman, Safavid, and the Mughal empires, their intellectual trends, and cultural dynamism. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 394

MDES 324 Classical Persian Literature in Translation
Units: 4 Terms Offered: FaSp Introduction to literary culture of premodern Persia, from about 800–1800 AD. Emphasis on poetry, the most extensive, prestigious, and influential medium of Persian literature. Instruction Mode: Lecture Grading Option: Letter

MDES 325g Politics of Film and Literature in Modern Iran
Units: 4 Terms Offered: FaSp Explores contemporary Iranian society through the study of social tensions created by poverty-wealth, tradition-modernity, masculinity-femininity, and notions of religio-political authority as reflected in the literature and films of the country. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

MDES 335 Nation and State in Modern Turkey
Units: 4 Terms Offered: FaSp An examination of nation-state building in modern Turkey through a juxtaposition of academic works from history, anthropology, sociology, political science, and literary criticism. Instruction Mode: Lecture Grading Option: Letter

MDES 340 The United States and the Middle East
Units: 4 Terms Offered: FaSp Critical perspectives on U.S. relations with the Middle East, including the discourses surrounding democracy and globalization. Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR 359

MDES 342g Arab Intellectuals in Question
Units: 4 Terms Offered: FaSp Surveys prominent debates in the Arab world, examining how media and intellectual production reflect, shape, and/or contest prevailing ideas and practices in the public sphere. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

MDES 343g Modern Arab Culture and Literature
Units: 4 Examines contemporary Arab state-society relations using literature to illustrate how people construct meanings and portray issues of national, social, and cultural significance. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT 347

MDES 345p Power and Authority in the Middle East
Units: 4 Terms Offered: FaSp A comparative examination of social relations of power and institutions with a special focus on intellectual traditions, the law, and social movements. Satisfies Global Perspective in Category H: Traditions and Historical

Foundations Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR 350

MDES 349gp Ancient Empires
Units: 4 Terms Offered: FaSpSm (Enroll in CLAS 349gp)

MDES 362 The International Relations of the Contemporary Middle East
Units: 4 Terms Offered: Fa (Enroll in IR 362)

MDES 363 Middle East Political Economy
Units: 4 Terms Offered: Sp (Enroll in IR 363)

MDES 375 Politics and Society in the Contemporary Middle East
Units: 4 Terms Offered: FaSp Examination of a relevant and timely issue in Middle East Studies. Instruction Mode: Lecture Grading Option: Letter

MDES 378 Ptolemaic Egypt
Units: 4 Terms Offered: FaSp (Enroll in CLAS 378)

MDES 382 The Middle East, 500–1500
Units: 4 (Enroll in HIST 382)

MDES 383 The Modern Middle East
Units: 4 Terms Offered: Sp (Enroll in HIST 383)

MDES 384 Popular Culture in the Middle East
Units: 4 Terms Offered: FaSpSm (Enroll in HIST 384)

MDES 394 Archaeology of Egypt and the Near East
Units: 4 (Enroll in REL 394)

MDES 401 Environment and Politics in the Middle East
Units: 4 Terms Offered: FaSp Introduction to key environmental and political challenges facing the contemporary Middle East and North Africa (MENA). Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR 409, ANTH 401

MDES 402 Cultural Heritage, Religion, and Politics in the Middle East
Units: 4 Terms Offered: Fa (Enroll in REL 402)

MDES 403 Technology, Development and Power in the Middle East
Units: 4 Terms Offered: FaSp Sheds light on the technical and social practices through which infrastructures are constructed, used and maintained in the Middle East. Instruction Mode: Lecture Grading Option: Letter

MDES 437 Arabic Autobiography: Writing and Interpreting the Self
Units: 4 Terms Offered: FaSpSm (Enroll in COLT 437)

MDES 441w Cities of the Middle East
Units: 4 Terms Offered: FaSp An examination of the economic, political and cultural forces operating in a number of Middle Eastern cities. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 441, IR 447

MDES 447 Traveling Genres: Politics/ Poetics of Modern Arabic Prose
Units: 4 Terms Offered: FaSpSm (Enroll in COLT 447)

MDES 448m France and Islam
Units: 4 Terms Offered: FaSp (Enroll in FREN 448)

MDES 454 Classical Arabic
Units: 4 Max Units: 20 Terms Offered: FaSp Introduction to reading and interpretation of pre-modern, classical Arabic, including literature from the 6th to 19th centuries. *Prerequisite:* ARAB 252 or MDES 252 Instruction Mode: Lecture Grading Option: Letter

MDES 463 Islam and Arab Nationalism
Units: 4 (Enroll in IR 463)

MDES 475 Seminar in Middle East Studies
Units: 4 Terms Offered: FaSp Major theoretical and methodological currents and approaches to the study of the Middle East through a close reading of important recent contributions. Instruction Mode: Lecture Grading Option: Letter

MDES 480 Seminar in Middle East History
Units: 4 Max Units: max 8 (Enroll in HIST 480)

MDES 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MDES 492 Honors Thesis
Units: 4 Writing of the honors thesis; for students in the Middle East Studies Honors Program. Instruction Mode: Lecture Grading Option: Letter

MDES 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in Middle East studies. Instruction Mode: Lecture Grading Option: Letter

Medical Biology

MEDB 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDB 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDB 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDB 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDB 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDB 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Medical Sciences (200–400)

MEDS 220 Healthcare Foundations: Core Concepts and Terminology
Units: 2 Terms Offered: FaSpSm Introduction to and discussion on clinically relevant topics such as social determinants of health, medical ethics and legal and regulatory aspects, in preparation for experience in the clinical setting. Instruction Mode: Lecture Grading Option: Letter

MEDS 225 Introduction to Professionalism and the Practice of Medicine
Units: 2 Terms Offered: FaSp An introduction to professionalism and skills required in the practice of medicine and careers in health care. Instruction Mode: Lecture Grading Option: Letter

MEDS 250 Introduction to Healthcare Innovation
Units: 4 Terms Offered: FaSp (Enroll in ACAD 260)

MEDS 260 Challenges in the Forefront of Biomedical Ethics
Units: 2 Terms Offered: Sp Examination of fundamental ethical concepts and principles in clinical health care and biomedical research. Use of film, case studies and discussion. *Recommended Preparation:* MDA 110 or MEDS 220. Instruction Mode: Lecture Grading Option: Letter

MEDS 261 Human Health and Technology
Units: 4 Max Units: FaSp (Enroll in ACAD 261)

MEDS 280 The History of Medicine: a Doctor's Perspective
Units: 2 Terms Offered: Fa Explores the role of medicine/surgery in society, whose ideas about health and disease have undergone enormous changes from antiquity to the present day. Instruction Mode: Lecture Grading Option: Letter

MEDS 300g Statistical Methods for Biomedical Research
Units: 4 Terms Offered: Fa Fundamental basis for various statistical tests, underlying assumptions, and statistical analyses used in biomedical and clinical research. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

MEDS 315 Human Anatomy, Physiology, and the Technology of Medicine
Units: 2 Introduction to human anatomy and physiology in relation to common disease processes, and an examination of how technology has transformed western medicine throughout history. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture Grading Option: Letter

MEDS 320 Human Cadaveric Anatomy
Units: 4 Terms Offered: FaSp Anatomical structure and function of the major regions of the human body as related to health and disease, using clinical cases, lectures and cadaveric demonstrations. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture Grading Option: Letter

MEDS 330 Bionics: Solutions to Enable the Disabled
Units: 2 Terms Offered: FaSp Focused

examination of medical bionics with emphasis on solutions that enable the disabled and detailed discussions and evaluations of the social and technological aspects of bionic medical devices. Instruction Mode: Lecture Grading Option: Letter

MEDS 335 Human Development: From Stem to Sternum
Units: 2 Terms Offered: Fa An introduction to transformation of a single cell into a mature organism. *Prerequisite:* BISC 220 or BISC 221. *Recommended Preparation:* BISC 320. Instruction Mode: Lecture Grading Option: Letter

MEDS 340 The Brain in Health and Disease
Units: 4 Terms Offered: FaSp Study of the human brain through the lens of disease using illustrative case studies, current imaging techniques and potential future treatment for neurological conditions such as Alzheimer's disease. *Prerequisite:* (BISC 220Lg or BISC 221Lg) and CHEM 103Lgx or CHEM 105aLg or CHEM 115aLg Instruction Mode: Lecture Grading Option: Letter

MEDS 350 Neurochemistry of Addiction: Drugs, Brain, and Behavior
Units: 2 Terms Offered: FaSp The neurochemistry of psychiatric illness and addiction, introduction to brain and nervous system biochemistry, anatomy and disease states. Covers prescribed medications and drugs of abuse. *Prerequisite:* (BISC 220Lg or BISC 221Lg) and (CHEM 103Lgx or CHEM 105aLg or CHEM 115aLg) *Recommended Preparation:* BISC 320L or BISC 330L and MEDS 330 Instruction Mode: Lecture Grading Option: Letter

MEDS 355 Skeletal Biology and Pathology: No Bones About It
Units: 2 Terms Offered: FaSp Overview of the cellular make-up of the human skeleton, the functions of bones, clinical application of this knowledge towards bone-related diseases, and introduction to technological advances in orthopedic surgery. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture Grading Option: Letter

MEDS 360 Bench to Bedside: Application of the Basic Sciences
Units: 2 Terms Offered: Fa A theoretical basis of laboratory approaches that help the biomedical or physician scientist in understanding the etiology of disease and targeting disease processes. *Prerequisite:* (BISC 220Lg or BISC 221Lg) and (CHEM 103Lgx or CHEM 105aLg or CHEM 115aLg) Instruction Mode: Lecture Grading Option: Letter

MEDS 362 Analytics for Health Innovators
Units: 4 Terms Offered: FaSp (Enroll in ACAD 362)

MEDS 370 Organ Failure: Non-Communicable Chronic Disease
Units: 2 Terms Offered: FaSp An examination of frequently treated diseases with the greatest impact on society. Involvement of medical specialists as guests. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture Grading Option: Letter

MEDS 380 Stem Cells: Fact and Fiction
Units: 2 Terms Offered: Sp Exploring how stem cells and regenerative medicine are portrayed in culture, the scientific underpinnings of what is currently possible, and visions into the future. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture Grading Option: Letter

MEDS 390 Special Problems
Units: 1, 1.5, 2, 2.5, 3, 3.5, 4 Max Units: 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MEDS 405 Health Care Systems: A Doctor's Perspective
Units: 2 Terms Offered: FaSp An examination of the health care system of the United States, from the perspective of the physician and other health professions. Particularly covers health care systems as a workplace and how medical professionals fit into and operate within it. *Recommended Preparation:* MEDS 280 Instruction Mode: Lecture Grading Option: Letter

MEDS 420 Clinical Pediatrics
Units: 2 Terms Offered: Sp Explores enduring and fascinating topics in Pediatrics through a modern lens, incorporating first hand patient-care experiences in clinics and hospitals, and didactic case-based discussions. *Prerequisite:* BISC 220Lg or BISC BISC 221Lg and MEDS 220Lg Instruction Mode: Lecture Grading Option: Letter

MEDS 425 Medical Examiner-Coroner: Investigating Death
Units: 2 Terms Offered: Fa Emphasizes the team-based approach used by forensic scientists, medical examiners and coroners to investigate the circumstances and determine the cause/manner of death. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220 Registration Restriction: Open only to sophomores, juniors, and seniors Instruction Mode: Lecture Grading Option: Letter

MEDS 440 Introduction to Surgical Principles
Units: 2 Terms Offered: Sp Introduction to the spectrum of surgical care, taught by surgeons, with the goal of developing an appreciation of the role that surgery plays in society. *Prerequisite:* BISC 220 or BISC 221; and CHEM 103 or CHEM 105a or CHEM 115a; and MEDS 220. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

MEDS 445 Cancer: Introduction to Oncology in the Modern Era
Units: 2 Terms Offered: Fa Introduction to the spectrum of clinical and scientific issues surrounding contemporary cancer care; molecular diagnostics, genomic medicine, modern therapeutics and community/patient engagement. *Prerequisite:* (BISC 220Lg or BISC 221Lg) and MEDS 220 Instruction Mode: Lecture Grading Option: Letter

MEDS 450 OB/GYN: The Medicine and Surgery of Reproduction
Units: 2 Terms Offered: Fa An introduction to the practical realities of modern obstetric and gynecology practice from the point of view of practicing surgeon scientists at USC. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220. Instruction Mode: Lecture Grading Option: Letter

MEDS 455 Integrative Health Care
Units: 2 Terms Offered: FaSp Introduction to integrative health care; a holistic approach to medicine combining conventional medical therapies with evidence-informed complementary alternative medicine. *Recommended Preparation:* HP 450, MEDS 220 Instruction Mode: Lecture Grading Option: Letter

MEDS 460 Emergency Health Care
Units: 2 Terms Offered: FaSp Principles of emergency medical services, ranging from prehospital care and advanced life-saving, to minor injuries and illnesses. Interactive experience with ER physicians/emergency health care providers. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220. *Recommended Preparation:* MEDS 260. Instruction Mode: Lecture Grading Option: Letter

MEDS 463 Evidence Based Medicine for Health Innovators
Units: 2 Terms Offered: FaSp (Enroll in ACAD 463)

MEDS 464 Mining Health Data Through Machine Learning
Units: 4 Terms Offered: FaSp (Enroll in ACAD 464)

MEDS 465 Wilderness and Survival Medicine
Units: 4 Terms Offered: Sp Medical physiology principles of people under "extreme" wilderness conditions, factors affecting remote medical care, and basic survival strategies, led by Emergency Medicine physicians. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220. Instruction Mode: Lecture Grading Option: Letter

MEDS 490x Directed Research in Biomedical Science
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. *Prerequisite:* BISC 220 or BISC 221 and CHEM 103 or CHEM 105a or CHEM 115a; *Recommended Preparation:* MEDS 300, MEDS 360. Instruction Mode: Lecture Grading Option: Letter

MEDS 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Selected topics in health care studies. Instruction Mode: Lecture Grading Option: Letter

Medical Sciences (500)

MEDS 500 Basic Concepts in Global Health
Units: 4 Terms Offered: FaSpSm Exploration of global health issues facing resource-poor societies; emphasizes contributing factors including behavioral and physiological bases, economic, social, and political context. Instruction Mode: Lecture Grading Option: Letter

MEDS 501 Critical Issues in Global Health
Units: 4 Terms Offered: FaSpSm Evaluation of government and non-government organizations' new global health responses, and critical issues affecting global health including: environment, workforce conditions, obesity, nutrition, drugs, poverty. Instruction Mode: Lecture Grading Option: Letter

MEDS 503L Core Principles System I
Units: 4 Terms Offered: FaSpSm Introduction to basic medical concepts and biological system functions; examination of core principles of science and medical treatment. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MEDS 504L Core Principles System II
Units: 4 Terms Offered: Fa Continuation of concepts from MEDS 503. Basic medical concepts and biological system functions; examination of core principles of science and medical treatment. *Prerequisite:* MEDS 503. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MEDS 510 Global Health Modules, Malaria
Units: 2 Terms Offered: FaSpSm Critical issues in international control and treatment of malaria. Exploration of biological and epidemiological fundamentals of human-parasite interaction, including dynamics of transmission among populations. Instruction Mode: Lecture Grading Option: Letter

MEDS 511 Global Health Modules, Tuberculosis
Units: 2 Terms Offered: FaSpSm Exploration of biological and epidemiological fundamentals of tuberculosis including dynamics of transmission among populations. Overview of clinical manifestations, diagnosis, and treatment of infections. Instruction Mode: Lecture Grading Option: Letter

MEDS 512 Global Health Modules, Maternal and Child Health I
Units: 2 Terms Offered: FaSpSm Biopsychosocial, cultural and economic aspects of women's health: pregnancy, childbirth, marriage. Examination of health promotion and policy efforts to improve women's health globally. Instruction Mode: Lecture Grading Option: Letter

MEDS 514 Global Health Modules, Tropical Disease
Units: 2 Terms Offered: FaSpSm Examination of prevalent tropical diseases: epidemiology, clinical manifestations, treatment, impact on economies of tropical countries. Key issues related to these diseases; World Health Organization responses. Instruction Mode: Lecture Grading Option: Letter

MEDS 515 Global Health Modules, HIV/AIDS
Units: 2 Terms Offered: FaSpSm HIV epidemiology, basic biology of transmission and pathophysiology, associated opportunistic infections, and challenges to providing care in the developing world, including government responses. Instruction Mode: Lecture Grading Option: Letter

MEDS 516 Cultural Humility in Health and Medicine
Units: 2 Terms Offered: FaSpSm Practical approach to the development of professional skills for providing culturally sensitive clinical health services to ethnically and linguistically diverse patients. Duplicates Credit in former GM 516 Instruction Mode: Lecture Grading Option: Letter

MEDS 517 Health and Human Rights
Units: 2 Terms Offered: FaSpSm The relationship between health and human rights, and the study of human rights issues relevant to health care professionals. Instruction Mode: Lecture Grading Option: Letter

MEDS 518 Children in Emergency Situations: Global Policies and Programs
Units: 2 Terms Offered: Sp Focuses on children in emergency situations, including natural and man-made disasters, such as floods, earthquakes, conflicts, or war, with an emphasis on the poorest and most vulnerable children. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 519 Global Oral Health
Units: 2 Terms Offered: FaSpSm Better understand the key issues impacting global oral health, how better care can help reduce the disease prevalence, and ways to prepare the next generation of global health leaders to address the key issues. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 520 Medical Spanish for the Health Professions
Units: 2 Terms Offered: FaSpSm Spanish language course for students planning to enter the health professions. Registration Restriction: Open only to digital social media majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDS 521 Emerging and Re-emerging Infectious Diseases
Units: 2 Terms Offered: FaSpSm Exploration of the threat of major worldwide epidemics and diseases with a focus on the recent emergence of new plagues. Instruction Mode: Lecture Grading Option: Letter

MEDS 523 Global Toxicity and Carcinogenesis
Units: 2 Terms Offered: FaSpSm Covers the occurrences of toxic substances and the toxicity/diseases they cause, and chemical carcinogens and the types of cancer they cause worldwide. Instruction Mode: Lecture Grading Option: Letter

MEDS 524 Grantwriting for Non-Government Organizations
Units: 2 Terms Offered: FaSpSm Instruction on the process and methods of writing effective grants from identifying appropriate funders to implementing project upon receipt of funding award. Instruction Mode: Lecture Grading Option: Letter

MEDS 525 Global Mental Health
Units: 2 Terms Offered: FaSpSm Examines the major mental health diagnoses from clinically relevant perspectives and their prevalence in specific geographical regions around the world. Instruction Mode: Lecture Grading Option: Letter

MEDS 527 Zoonotic Infectious Diseases
Units: 2 Terms Offered: SpSm Background information on a group of infections that are transmitted via animal contact. Understanding of the epidemiology, clinical manifestations, treatment, and impact of the diseases on the economies of the countries in which they are found. *Recommended Preparation:* MEDS 500. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

MEDS 528 Global Health Modules, Sexually Transmitted Infections
Units: 2 Terms Offered: SpSm Examines clinically relevant perspectives from distinguished international authors on STI issues and the devastating effect on particular geographical regions around the world. Instruction Mode: Lecture Grading Option: Letter

MEDS 529 Refugee Health Care
Units: 2 Introduction to refugee health care and life events which impact health. Discuss medical needs of long-term displaced populations with specific case studies. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

MEDS 530a Foundation of Medicine: Anatomy, Physiology, and Pathology
Units: 4 Terms Offered: FaSpSm Fundamentals of physiology, chemistry, anatomy, biochemistry and microbiology, as well as pharmacological issues, mathematical basis of lab instruments or techniques, and computational modeling. Instruction Mode: Lecture Grading Option: Letter

MEDS 530b Foundation of Medicine: Anatomy, Physiology, and Pathology
Units: 4 Terms Offered: FaSpSm The basics of human anatomy (gross anatomy, histology, radiographic anatomy), physiology (cellular physiology, organ system areas) and pathology (general, systemic, cellular pathology). Instruction Mode: Lecture Grading Option: Letter

MEDS 530c Foundation of Medicine: Anatomy, Physiology, and Pathology
Units: 4 Terms Offered: FaSpSm Continues material from MEDS 530a and MEDS 530b, covering human anatomy (gross anatomy, histology, radiographic anatomy), physiology (cellular physiology, organ systems) and pathology (general, systemic, cellular pathology). Instruction Mode: Lecture Grading Option: Letter

MEDS 531 The Politics of Global Health
Units: 2 Terms Offered: FaSpSm Examines the impact of politics on global health progress and declines. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 532 Non-communicable Diseases
Units: 2 Terms Offered: FaSpSm A conceptual framework for understanding global challenges faced in the management of non-communicable diseases, including heart disease, diabetes, chronic lung disease, and cancer. Instruction Mode: Lecture Grading Option: Letter

MEDS 535 Culture, Lifestyle, and Health
Units: 2 Terms Offered: FaSpSm Overview of national and international variations in health status indicators in regard to cultural and lifestyle differences. Instruction Mode: Lecture Grading Option: Letter

MEDS 550 Clinical Medicine and Health Care Reform in Taiwan
Units: 2 Terms Offered: Sm Two-week in-depth study abroad in Taipei, Taiwan, focused on understanding Taiwan's health care system, health priorities, and needs. Instruction Mode: Lecture Grading Option: Letter

MEDS 551 Clinical Medicine and Socioeconomic Factors in Uganda
Units: 2 Terms Offered: Sm Two-week course that provides students with hands-on experience in clinical medicine/ public health and exposure to the various socioeconomic factors impacting health in the developing world. Instruction Mode: Lecture Grading Option: Letter

MEDS 553 Clinical Medicine and Health Care Challenges in India
Units: 2 Terms Offered: Sm Two-week study abroad course that explores the health dynamics and health care settings of India. Instruction Mode: Lecture Grading Option: Letter

MEDS 554 Clinical Medicine and Healthcare Delivery in Panama
Units: 2 Terms Offered: SpSm A two-week course providing students with hands-on experience in the practice of rural medicine as they gain exposure to the various socio-economic factors present in Bocas del Toro, Panama. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 510, MEDS 511, MEDS 514, MEDS 515. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 556 Global Health Field Study, New York
Units: 2 Terms Offered: Sp Two-week course providing students with a solid understanding of the United Nations' major agencies influential in global health, their mandate, their strengths and challenges. Includes field visit to selected UN organizations all located in NYC. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 557 Clinical Medicine and Healthcare Dynamics in Denmark
Units: 2 Terms Offered: SpSm Two-week course that provides a venue for careful examination and assessment of the economic, social, political, and specific health issues currently faced by countries in the European Region. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 559 Clinical Medicine and Healthcare Determinants in China
Units: 2 Terms Offered: SpSm A two-week intensive course abroad in Shanghai, China, focused on understanding clinical realities of Chinese medicine, health determinants and healthcare delivery. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 515, MEDS 535. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 560 Innovating in Healthcare in Malaysia
Units: 2 Terms Offered: Sm Two-week study abroad course in Malaysia that examines the capacity of local communities to address health needs and to address health priorities with innovation. Instruction Mode: Lecture Grading Option: Letter

MEDS 561 Global Healthcare Development and Practices in Nepal
Units: 2 Terms Offered: Sm Provides a multi-faceted understanding of the delivery of essential services to underserved populations, particularly women and children, in the challenging Nepalese healthcare landscape. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 518 Registration Restriction: Open only to Global Medicine majors Instruction Mode: Lecture Grading Option: Letter

MEDS 567 Global Nutrition
Units: 2 A systematic survey of basic and clinical nutrition that provides an overview of critical public health-nutrition issues in both the developing world and industrial society. *Recommended Preparation:* general chemistry, biological chemistry, and/or physiology Instruction Mode: Lecture Grading Option: Letter

MEDS 568 Global Issues: Aging
Units: 2 Terms Offered: FaSpSm Examination of medical issues in aging through a nation-specific survey of how various countries treat the elderly in health policy and healthcare. Instruction Mode: Lecture Grading Option: Letter

MEDS 570 Introduction to Narrative Medicine
Units: 2 Terms Offered: FaSpSm Introduction to the field of narrative medicine. Examination of theoretical and literary texts and the practice of narrative and reflective writing to enhance narrative competency and gain an understanding of the role of narrative in people's experiences with illness. Instruction Mode: Lecture Grading Option: Letter

MEDS 573 Global Health Entrepreneurship - Ideas into Innovations
Units: 2 Terms Offered: Sm Fundamentals of entrepreneurship applied to global health issues and programming including: idea conception, marketing, global health ethics, and other components related to business start-ups. Instruction Mode: Lecture Grading Option: Letter

MEDS 574 Rural Health in South Africa
Units: 2 Terms Offered: FaSpSm Two-week study abroad course exploring the complexities of the delivery of health care in rural South Africa. Instruction Mode: Lecture Grading Option: Letter

MEDS 575 Introduction to Healthcare in Resource-Limited Settings
Units: 2 Terms Offered: FaSpSm Introduction to tactics, tools, and directives commonly used in global health crises and resource-poor settings with an emphasis on strategic thinking and planning to enable situation-specific solutions to be implemented. *Recommended Preparation:* MEDS 500 or MEDS 501 Instruction Mode: Lecture Grading Option: Letter

MEDS 576 Maternal and Child Health in South Africa
Units: 2 Terms Offered: FaSpSm Examination of country-specific factors affecting pregnancy, pre-natal care, and childbirth in South Africa, with analysis of factors contributing to health inequality and methods to mitigate healthcare challenges. Instruction Mode: Lecture Grading Option: Letter

MEDS 577 Global Palliative Care
Units: 2 Terms Offered: FaSpSm Exploration of the provision of palliative care and analysis of factors affecting the increased burden of palliative care provision facing developing regions of the world. Instruction Mode: Lecture Grading Option: Letter

MEDS 578 International Travel and Illness Prevention
Units: 2 Terms Offered: FaSpSm Instruction in the prevention, identification, and treatment of common illnesses encountered in international travel. Includes instruction in basic health screening procedures and screening tool usage. Instruction Mode: Lecture Grading Option: Letter

MEDS 579 Healthcare Challenges and Dynamics in Japan
Units: 2 Terms Offered: FaSpSm Two-week study abroad course exploring the health care system and accompanying care provision in Japan. Instruction Mode: Lecture Grading Option: Letter

MEDS 580 Interprofessional Team Dynamics in Healthcare
Units: 4 Terms Offered: FaSpSm Examination of typical composition and function of interprofessional healthcare teams. Exploration of roles of team members and purview of care issues and common challenges, including medication management, inpatient/outpatient decision making, and care plan implementation. Instruction Mode: Lecture Grading Option: Letter

MEDS 581 Case Studies in Interprofessional Healthcare
Units: 4 Terms Offered: FaSpSm Survey of the specific roles each member of an interprofessional health team plays in the provision of care, based on their professional training. Application of diverse health professional expertise to case studies in healthcare. Instruction Mode: Lecture Grading Option: Letter

MEDS 582 Biology of Pandemics: from the Black Plague to SARS-CoV-2
Units: 2 Terms Offered: FaSpSm Medical and historical exploration of infectious diseases classified as pandemics, including SARS-CoV-2, with accompanying examination of their clinical manifestations and treatments and aspects of basic virology, immunology and epidemiology. Instruction Mode: Lecture Grading Option: Letter

MEDS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDS 597a Health Technology Internship
Units: 1 Terms Offered: FaSpSm Internship course on the use of new technology based on sensors and wireless communications to the healthcare industry. Registration Restriction: Open only to MS Electrical Engineering (Wireless Health Technology) students Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDS 597b Health Technology Internship
Units: 1 Terms Offered: FaSpSm Internship course on the use of new technology based on sensors and wireless communications to the healthcare industry. Continues material

from GM 597a. Registration Restriction: Only open to M.S., Electrical Engineering (Wireless Health Technology) students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Lecture and discussion focused on specific topics within global medicine. Course topic will vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

Molecular Microbiology and Immunology

MICB 500L Introductory Medical Microbiology
Units: 4 Terms Offered: Irregular A survey of microorganisms which cause human infectious diseases including mechanisms of pathogenesis, principles of antibiotic usage, pertinent microbial genetics; lectures, laboratories and demonstrations. *Prerequisite:* one year general biology, one semester biochemistry. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MICB 501 Introduction to Immunology
Units: 1 Terms Offered: Irregular Basic introduction into molecular, cellular, and clinical immunology for second year medical students and graduate students in Microbiology. Duplicates Credit in BISC 450. Instruction Mode: Lecture Grading Option: Letter

MICB 502 Molecular and Cellular Immunology
Units: 2 Max Units: 8.0 Terms Offered: Fa Specific topics to be scheduled on a yearly and rotating basis. *Prerequisite:* MICB 501. Instruction Mode: Lecture Grading Option: Letter

MICB 503 Current Topics in Immunology
Units: 1 Max Units: 8.0 Terms Offered: Irregular Discussion forum on the diverse areas of research which constitute modern immunology. *Prerequisite:* MICB 501. Instruction Mode: Lecture Grading Option: Letter

MICB 504 Molecular Biology of Cancer
Units: 4 Terms Offered: Sp (Enroll in INTD 504)

MICB 522 Infection and Host Responses
Units: 4 Terms Offered: Sp (Enroll in INTD 522)

MICB 531 Cell Biology
Units: 4 (Enroll in INTD 531)

MICB 542 Animal Virology
Units: 2 Max Units: 6.0 Terms Offered: Irregular Virus structure and chemistry; virus-cell interactions; aspects of virus genetics; molecular biology; pathogenesis, immunology, and evolution of viral infections. Instruction Mode: Lecture Grading Option: Letter

MICB 549 Student Seminar Series
Units: 1 Max Units: 8.0 Terms Offered: FaSp Microbiology students will present research seminars describing their thesis progress. Instruction Mode: Lecture Grading Option: Letter

MICB 550 Microbial Pathogenesis
Units: 2 Terms Offered: Irregular Critical discussion of recent developments in pathogenesis of select microbial, viral and parasitic agents with particular emphasis on molecular factors and their synergistic (antagonistic) actions. Instruction Mode: Lecture Grading Option: Letter

MICB 551 Prokaryotic Molecular Genetics
Units: 4 Terms Offered: Sp Macromolecular processes and their regulation in prokaryotes; DNA replication, transcription, and post-transcriptional events in general and as related to operons, phage biology, and eukaryotic organelles. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-551

MICB 560 Recent Advances in Microbiology
Units: 1 Max Units: 6.0 Terms Offered: Irregular Intensive examination of selected topics in microbiology. Student presentations and critiques. Required for all graduate students. Instruction Mode: Lecture Grading Option: Letter

MICB 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

MICB 570 Microbiology Research Seminar
Units: 1 Max Units: 10.0 Terms Offered: FaSpSm Critical discussion of current research topics. Students present published and unpublished research results for discussion and critique. *Prerequisite:* current enrollment in Microbiology PhD program. Instruction Mode: Lecture Grading Option: Letter

MICB 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

MICB 572 Medical Physiology I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

MICB 573 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

MICB 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MICB 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

MICB 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MICB 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Marketing

MKT 385x Marketing of Creative Disruption and Innovation
Units: 4 Terms Offered: Fa Learn to use fundamental principles of marketing, branding, and consumer behavior to successfully market disruptively innovative products including goods, services, and ideas. Duplicates Credit in BUAD 307. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-385

MKT 402 Introduction to Marketing Analytics
Units: 4 Terms Offered: FaSp Apply marketing research techniques and frameworks to collect data, conduct statistical analysis, and develop actionable insights to support marketing decisions. Duplicates Credit in former MKT 470 Instruction Mode: Lecture Grading Option: Letter

MKT 404 Happiness and Wellbeing in the Marketplace
Units: 4 Terms Offered: FaSp Examines happiness and wellbeing in consumer culture. Integrates insights from various fields (e.g., psychology, sociology, policy) into discussions about business, individual wellbeing and societal welfare. Instruction Mode: Lecture Grading Option: Letter

MKT 405 Advertising and Promotion Management
Units: 4 Terms Offered: FaSpSm Role of advertising in the marketing mix: determining objectives, strategies, and plans from situation analysis through

research and creative processes, media selection, and sales promotion. *Prerequisite:* BUAD 307 or COMM 200 or COMM 302 or MKT 385x or PR 340 Instruction Mode: Lecture Grading Option: Letter

MKT 406 Practicum in Advertising and Promotion Design
Units: 4.0 Terms Offered: Sp Provides real-life marketing experience as a member of a student managed marketing/ advertising/promotions agency. Work with a client organization on the design of an advertising/promotions campaign. Requires market research, creative design, implementation planning, and client presentation. *Prerequisite:* MKT 405 Instruction Mode: Lecture Grading Option: Letter

MKT 410 Professional Selling
Units: 4 Terms Offered: FaSp Learn the principles of business to business selling and its function in marketing strategy and the marketing mix; explore professional selling as a career option. *Prerequisite:* BUAD 307 or MKT 385. Registration Restriction: Open only to sophomores, juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

MKT 415 Sales Force Management
Units: 4 Terms Offered: FaSp Studies the role of managing the selling function as part of the marketing mix; planning, implementing, and controlling sales force operations; critical issues in selecting, training, compensating and supervising salespeople. Instruction Mode: Lecture Grading Option: Letter

MKT 425 Marketing in a Digital World
Units: 4 Terms Offered: FaSp An introduction to the changing world of a connected consumer. Understanding consumer online, social media and mobile behavior using marketing analytics and strategic tools. *Prerequisite:* BUAD 307 or MKT 385x Registration Restriction: Open only to sophomore, junior and senior students Instruction Mode: Lecture Grading Option: Letter

MKT 430 Retail Management
Units: 4 Terms Offered: Fa Introduction to the functions of retail management including location, buying, merchandise management, layout, pricing, and promotion; application of concepts to various retail institutions. Instruction Mode: Lecture Grading Option: Letter

MKT 440 Marketing Analysis and Strategy
Units: 4 Terms Offered: FaSp Synthesis of concepts and applications relating to the analysis of market opportunities and the development of product, promotion, distribution, pricing strategies. Recommended during student's final semesters. *Prerequisite:* BUAD 307 or MKT 385. Instruction Mode: Lecture Grading Option: Letter

MKT 445 New Product Development and Branding
Units: 4 Terms Offered: FaSp This class examines how new product ideas are developed, test marketed, and, ultimately, brought to the marketplace. Issues about why new products fail and how brand images are managed in the marketplace are discussed. Legal aspects of brand management such as trademark protection and infringement are also addressed. *Prerequisite:* BUAD 307 or MKT 385. Instruction Mode: Lecture Grading Option: Letter

MKT 446L Practicum in New Product Development
Units: 4 Terms Offered: Sp Provides experience in a student managed product team. Work with R&D organization to design a new product or technology. Involves market research and implementation planning. *Prerequisite:* MKT 445. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MKT 450 Consumer Behavior and Marketing
Units: 4 Terms Offered: FaSp Examines the relationship of consumer behavior to acquisition, usage, and disposition of products and the psychological, social and cultural influences that affect these decisions. Instruction Mode: Lecture Grading Option: Letter

MKT 461 Marketing Blockbuster Entertainment
Units: 4 Terms Offered: FaSp Examines the business of creating, marketing and managing massive entertainment franchises in movies and television with reference to video games and toys. Instruction Mode: Lecture Grading Option: Letter

MKT 463 Pricing Strategies
Units: 4 Examination of role of pricing decisions; innovative pricing theories; Internet and technology impact on pricing, price negotiations, customized pricing, price image and reference prices. *Prerequisite:* BUAD 307 or MKT 385. Instruction Mode: Lecture Grading Option: Letter

MKT 465 Global Marketing Management
Units: 4 Terms Offered: FaSp Product and service mix in multinational business; promotional alternatives; channel of distribution systems; pricing policies and legal barriers; multinational marketing opportunities; problems and information sources. Instruction Mode: Lecture Grading Option: Letter

MKT 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Current developments in the field of Marketing; topics to be selected each semester. *Prerequisite:* BUAD 307 or MKT 385. Instruction Mode: Lecture Grading Option: Letter

MKT 512 Customer Insights and Analysis
Units: 3 Terms Offered: FaSp Use of marketing research techniques and technologies such as databases and statistical tools to collect, analyze and act upon customer information. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MKT 525 Consumer Behavior
Units: 3 Terms Offered: FaSpSm Theories and applications of consumer behavior in marketing; psychological, social, cultural and ethnic factors influencing consumer behavior. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 526 Advertising and Social Media: Strategy and Analytics
Units: 3 Terms Offered: FaSp Effective advertising in an era of social media including strategy and analytics for crafting ad messages, testing ads, budgeting and media scheduling. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MKT 528 Sales Management: The Art and Science of Sales
Units: 3 Terms Offered: FaSp Emphasis on creating a sales strategy, planning and delivery of sales presentations, and techniques to persuade people to change their opinions in face-to-face meetings. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 530 New Product Development
Units: 3 Terms Offered: FaSpSm Systematic approach to product development and management; processes, techniques, and concepts firms use to develop, test, and introduce products and to manage products over their lifecycle. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 531 Services Marketing Strategy
Units: 3 Analysis and development of sound marketing strategies and an integrated service management plan for service organizations. Examination of best practices among leading service providers. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 533 Branding Strategy
Units: 1.5, 3 Terms Offered: FaSpSm Comprehensive treatment of the behavioral foundations of brands and brand development. Exploration of alternative branding strategies and marketing tools for brand development. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 534 Retail Strategy
Units: 3 Terms Offered: FaSp Frameworks for analysis of retail strategy and functions of a retail firm, including buying, merchandise management, pricing, promotion, and visual merchandising; application of concepts through case studies and student projects. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 535 Business-to-Business Marketing Management
Units: 1.5, 3 Terms Offered: FaSp Business-to-business marketing strategies (as opposed to consumer targeted marketing) including product management, pricing, market sizing, and other issues of importance for professional marketers. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 536 Pricing Strategies
Units: 3 Terms Offered: Fa Introduction to the fundamentals of pricing and pricing strategy. Develop a conceptual framework

and a set of analytical tools used to make sound pricing decisions. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MKT 543 Market Demand and Sales Forecasting
Units: 3 Terms Offered: FaSp New product concept testing and life cycle forecasting, pricing and advertising response forecasting, consumer purchase intentions, judgmental marketing decision models, time series and regression analysis, computer methods. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 546 Digital Marketing
Units: 1 Terms Offered: Sp Marketing of products or services using digital technologies, mainly on the Internet, but also including mobile phones, display advertising, and any other digital media. *Prerequisite:* GSBA 509 or GSBA 528 or GSBA 546 Registration Restriction: Open only to master students Duplicates Credit in MKT 556 Instruction Mode: Lecture Grading Option: Letter

MKT 555 Marketing Channels
Units: 1.5, 3 Terms Offered: Sp Examination of strategic decision making in marketing channels. Intensity of distribution, vertical integration, how roles are formulated, types of intermediaries, and multiple channels of distribution. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 556 Internet Marketing
Units: 3 Terms Offered: FaSp All aspects of Internet marketing. Internet as a tool for marketing communication, sales and distribution, customer management. Role of paid advertising, search engines, Website design. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 560 Marketing Strategy
Units: 3 Terms Offered: FaSpSm Design and implementation of marketing strategies applied to domestic and global business challenges that span multiple industries complimented by a consumer packaged goods marketing strategic plan project. *Prerequisite:* GSBA 509 or GSBA 528 and the former GSBA 509a Instruction Mode: Lecture Grading Option: Letter

MKT 565 Global Marketing
Units: 3 Terms Offered: FaSp Variations in markets and trade patterns around the globe; product development and adaptation, pricing, promotion, and distribution issues across national cultures and international markets. *Prerequisite:* GSBA 509 or GSBA 509a or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 566 Marketing Analytics
Units: 3 Terms Offered: FaSp Applications and models of marketing-related data analyses to the development of data-driven marketing strategies and making data-driven marketing decisions. Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in former DSO 566 Instruction Mode: Lecture Grading Option: Letter Crosslisted as DSO 566

MKT 567 Marketing Metrics for Business Decisions
Units: 3 Terms Offered: Sp Application, development, interpretation and implementation (in Excel and Tableau) of marketing metrics using case studies, data, and practitioner talks. Registration Restriction: Online registration open to only graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MKT 580 Fostering Creativity
Units: 1.5, 3 Terms Offered: Sp An exploration of skills and practices (e.g., getting out of one's comfort zone, discovering one's inner-critic) necessary to develop and cultivate one's personal creativity. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MKT 585 Marketing Radical Innovation
Units: 3 Terms Offered: Fa Study and application of new technology to create new business models, products, and services in world economies. Group projects focused on practical applications of concepts. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 586 Fashion, Luxury and Lifestyle Marketing
Units: 3.0 Terms Offered: FaSp Examination of marketing issues and challenges within a variety of business settings in the fashion, luxury goods and lifestyle sectors in the global marketplace. *Prerequisite:* GSBA 509 or GSBA 528 or the former GSBA 509a Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

MKT 589 CMO on Shareholder Value
Units: 1.5 Terms Offered: Fa Provide an understanding of the role of the Chief Marketing Officer (CMO) in a variety of industries and how he or she influences shareholder value. *Prerequisite:* GSBA 509 or GSBA 509A or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 592 Field Research in Marketing
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12 Terms Offered: FaSpSm Individual or team projects studying the marketing practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. Graded CR/NC. *Recommended Preparation:* completion of required MBA, MAcc, MBT or MSMKT course work Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 593 Independent Research in Marketing
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 595 Internship in Marketing
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job business experience in the field of marketing. (Curricular Practical Training.) Graded CR/NC. *Recommended Preparation:* completion of required MBA, MAcc, MBT or MSMKT course work Registration Restriction: Open only to master accounting and business students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 596 Research Practicum in Marketing
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member in the Marketing Department on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 597 Consulting Project in Marketing
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Graded CR/NC *Recommended Preparation:* completion of required MBA, MAcc, MBT or MSMKT course work Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: FaSpSm Current trends, recent developments, and emerging topics in marketing. Graded CR/NC. *Prerequisite:* GSBA 509 or GSBA 528 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 9 Terms Offered: FaSpSm Examination of current literature and emerging and timely topics in marketing, social marketing, consumerism, macromarketing, marketing of individuals, organizations, and ideas. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 613 Marketing Models in Consumer and Business-to-Business Markets
Units: 3 Terms Offered: Fa Modeling research on marketing with a focus on channel structure, franchising and sales force compensation, innovation and diffusion, inter-store composition, sales promotions, and market segmentation. Duplicates Credit in former MKT 605 and former MKT 613a. Instruction Mode: Lecture Grading Option: Letter

MKT 614 Advanced Research Methods in Marketing
Units: 3 Terms Offered: Sp Applications of advanced research techniques and designs to marketing problems; review and critique of current literature; development and defense of student's own research proposal. Duplicates Credit in former MKT

661. Instruction Mode: Lecture Grading Option: Letter

MKT 615 Strategic and Marketing Mix Models
Units: 3 Terms Offered: Sp Modeling research on marketing with a focus on discrete choice models, consideration set models, purchase timing models, accounting for consumer heterogeneity, Bayesian models, dynamic models of consumer choice, market entry effects, product quality, advertising and carry over effects, price, and promotion. Duplicates Credit in former MKT 605 and former MKT 613b. Instruction Mode: Lecture Grading Option: Letter

MKT 616 Consumer Behavior Theory and Research
Units: 3 Terms Offered: FaSp Behavioral research and theory on consumer behavior with a focus on emotions, categorization, knowledge, inferences, attitudes, social influences and environmental influences on buying and consumption. Registration Restriction: Open only to doctoral students Duplicates Credit in former MKT 602 and former MKT 612a Instruction Mode: Lecture Grading Option: Letter

MKT 618 Consumer Behavior and Decision Making
Units: 3 A foundation in judgment, decision-making, and choice aspects of consumer behavior and business. Topics include heuristics and biases, information acquisition, time perception, and inter-temporal choice. Instruction Mode: Lecture Grading Option: Letter

MKT 620 Advanced Quantitative Models in Marketing
Units: 3 Terms Offered: FaSp Techniques for building and analyzing advanced quantitative analytical models. Develop and estimate various state-of-the-art models of consumer choice and firm decisions. Registration Restriction: Open only to Doctoral students. Instruction Mode: Lecture Grading Option: Letter

MKT 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Marketing. Presentations by faculty, visiting researchers, and advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 699 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary marketing. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

Management and Organization

MOR 252 The Art of Case Analysis and Presentation
Units: 2 Terms Offered: FaSp (Enroll in BUCO 252)

MOR 331x Influence and Collaboration
Units: 2 Terms Offered: FaSp Issues involved in establishing working relationships, directing the work of others, delegating, enrolling others in one's vision and direction. Collaborative and team behavior. Conflict management. Duplicates Credit in MOR 431. Not for credit toward business majors or minors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-331

MOR 385gm Business, Government and Society
Units: 4 Terms Offered: Sp Explores business-government-society interaction. Examines how diverse interests and identities (social class, race, nationality and gender) affect the conduct and organization of business. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

MOR 421 Social and Ethical Issues in Business
Units: 4 Terms Offered: FaSp Explores ethical issues in business from diverse perspectives including the roles and responsibilities of institutional actors, corporate social responsibility and balancing stakeholder interest. *Prerequisite:* BUAD 304 Instruction Mode: Lecture Grading Option: Letter

MOR 431 Interpersonal Competence and Development
Units: 4 Terms Offered: Sp An exploration of the nature of relationships at work; focus on analytical skills and self-assertion necessary to have effective, rewarding relationships. Duplicates Credit in MOR 331x Instruction Mode: Lecture Grading Option: Letter

MOR 451 Mastering Decision Making
Units: 4 Terms Offered: Fa Understand the nature, causes, and consequences of deviations from rational choice. Develop frameworks for controlling biases, improving your decision-making, and influencing other people's decisions. Instruction Mode: Lecture Grading Option: Letter

MOR 461 Design of Effective Organizations
Units: 4 Terms Offered: Fa Designing management systems and practices that lead to organizational excellence; techniques for organizational change. Instruction Mode: Lecture Grading Option: Letter

MOR 462 Management Consulting
Units: 4 Terms Offered: FaSp Role of professional consultants; data gathering methods; consulting approaches from strategy, finance, operations, information systems, marketing, and human resources; action planning; ethical and career issues. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 463 Organization Change and Development
Units: 4 Terms Offered: Sp Theories and methods of introducing change in organizations. Techniques for analyzing organizations, developing change programs, and implementing changes. Ethical and career issues of change management. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 465 Dynamic Strategies for the Business Lifecycle
Units: 4 Terms Offered: Sp Theories and methods for analyzing and developing strategy. Fundamental tools for strategic planning. Advanced methods for analyzing industries and competitors, and determining the scope of the firm. Instruction Mode: Lecture Grading Option: Letter

MOR 466 Business and Environmental Sustainability
Units: 4 Terms Offered: Sp Focuses on how businesses both contribute to and can help address environmental sustainability challenges and the role of the broader political-economy in shaping that interaction. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST 466

MOR 467 Strategic Management of Innovation
Units: 4 Terms Offered: Sp How firms in different industries manage strategic innovation for competitive advantage. Analysis of industry dynamics. Crafting and implementing innovation strategy. Registration Restriction: Open only sophomores, juniors and seniors Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 467

MOR 468 Cross-Cultural Negotiations: Communication and Strategy
Units: 4 (Enroll in COMM 468)

MOR 469 Negotiation and Persuasion
Units: 4 Terms Offered: FaSp Theories, strategies, and ethics underlying negotiation and persuasion in contemporary organizations and societies. Emphasizes the knowledge and skills needed for effective negotiation and persuasion. Instruction Mode: Lecture Grading Option: Letter

MOR 470 Global Leadership
Units: 4 Terms Offered: Fa Major theories and practices of leading people in multinational firms. Skills for facilitating cooperation, communication, and motivation among people from different cultures. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 471 Managing and Developing People
Units: 4 Terms Offered: Fa Management of the human resource function for organizational performance. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 472 Power, Politics and Influence
Units: 4 Terms Offered: FaSp Theories and practices about how power, politics and influence affect organizational life. Knowledge and skills for diagnosing and managing these features of an organization. Instruction Mode: Lecture Grading Option: Letter

MOR 473 Designing and Leading Teams
Units: 4 Terms Offered: Sp Theories and practices for developing and leading teams. Skills for creating team structures and facilitating team processes. Knowledge for diagnosing team problems and devising solutions. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 475 The Art of Leadership - Self Discovery
Units: 1 Terms Offered: FaSp Introductory leadership. Self-examination of personal leadership styles using survey tools, comparative models and in-class exercises. Registration Restriction: Open only to students in the USC Warren Bennis

Scholars Program Duplicates Credit in former MOR 476a Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 476 The Art of Leadership - Leading on a Global Stage
Units: 1 Terms Offered: Sp Study of leaders and applied theory to gain an understanding of what is involved in taking public leadership roles on a global level. Open only to students in the USC Warren Bennis Scholars Program. *Prerequisite:* MOR 475 or MOR 476a Registration Restriction: Open only to students in the USC Warren Bennis Scholars Program Duplicates Credit in former MOR 476b Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 477 The Art of Leadership - Change Leadership
Units: 1 Terms Offered: Fa Examination of practical challenges facing every leader through a series of in-class discussions and field trips to meet recognized leaders in the social impact sphere. Open only to students in the USC Warren Bennis Scholars Program. *Prerequisite:* MOR 475 or MOR 476a Registration Restriction: Open only to students in the USC Warren Bennis Scholars Program Duplicates Credit in former MOR 476c Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 478 The Art of Leadership - Practical Leadership
Units: 1 Terms Offered: Sp Application of leadership skills using goal-setting, self-knowledge and execution opportunities. Open only to students in the USC Warren Bennis Scholars program. *Prerequisite:* MOR 475 or MOR 476a Registration Restriction: Open only to students in the USC Warren Bennis Scholars Program Duplicates Credit in former MOR 476d Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 479 The Business of Sports
Units: 4 Terms Offered: Sp Addresses the business side of the sports industry; examines professional sports franchises, amateur athletics, and collegiate sports and how they relate to corporate America, the media, and the public sector. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 492 Global Strategy
Units: 4 Terms Offered: FaSp Examination of corporate strategy practices in an international context. Effects of cultures, political systems, markets, and economic systems on developing effective global strategies. Instruction Mode: Lecture Grading Option: Letter

MOR 495 International Management and Internship
Units: 2, 3, 4 International internship. Develop general/cross-cultural knowledge and management skills, gain an understanding of cross-cultural issues, and develop insights working in international businesses. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 498 Special Topics
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: Irregular Selected topics reflecting current trends and recent developments in organizational behavior, business strategy and organizational theory. (Graded CR/NC) Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics reflecting current trends and recent developments in organizational behavior, business strategy and organizational theory. Instruction Mode: Lecture Grading Option: Letter

MOR 542 Strategic Issues for Global Business
Units: 3 Terms Offered: Fa Globalization strategies from entry to maturity; alternative approaches from going alone to alliances; strategy implementation issues in different cultures and political systems. Cases, videos and speakers. Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

MOR 543 Leading with Mindfulness and Compassion
Units: 1.5 Terms Offered: Sp Explores mindfulness (non-judgmental awareness), compassion and their relationship to leadership. Focus is on clarity in productivity using evidence-based cases and direct practice. Graded CR/NC. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 545 Corporate Governance and Board Leadership
Units: 1.5, 3 Terms Offered: Fa Corporate Governance is the system by which corporations are directed and controlled. Includes rights and responsibilities of stakeholders; rules and procedures for decision-making. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

MOR 547 Mergers and Acquisitions: Integration and Organization
Units: 1.5 Terms Offered: Sp Organize successful mergers and acquisitions with focus on managing and synthesizing the integration process and impact on people and organizations across functions. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 548 Competitive Advantage Through People
Units: 3 Terms Offered: Sp How firms develop employee talent as a source of competitive advantage. Strategic implications of contemporary practices in recruitment, work systems, training, compensation, and employee relations. Speakers and cases. Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

MOR 551 Human Capital Performance and Motivation
Units: 3 Terms Offered: Sp Frameworks for enhancing human capital performance motivation at work, including pay/incentive systems, job design, employee involvement, leadership behavior and self-managed teams. Cases, project and speakers. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 554 Leading Innovation and Change
Units: 3 Terms Offered: FaSm Practical knowledge on helping organizations develop innovations and lead change to leverage them. Exploration of innovation and change in different organizations and competitive environments. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 555 Designing High Performance Organizations
Units: 3 Terms Offered: Sp Theory and practice of organization design. How to maximize organization performance by aligning structure, rewards, staffing, processes, and culture with strategy and environment. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 557 Strategy and Organization Consulting
Units: 3 Terms Offered: FaSp How consultants assist clients to formulate strategic plans and realign organizations; approaches used by major consulting firms; information about consulting industry, fee-setting and proposals. Consultant speakers and project. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 559 Strategic Renewal and Transformation
Units: 3 Terms Offered: Fa Dynamic strategic planning; how businesses re-invent themselves; why change is difficult; politics of change process; leadership steps for implementing successful strategic changes. Cases and readings. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 560 Managerial Judgment and Decision-Making
Units: 3 Terms Offered: Sm Development of skills and insight into making effective strategic, financial, and management decisions including awareness of hazards of decisions, issues of rationality, and risk taking. Registration Restriction: Online registration open to only graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 561 Strategies in High-Tech Businesses
Units: 3 Terms Offered: Fa How high-tech companies achieve competitive advantage through leveraging technical, management and financial resources. Technology trends and industry evolution. Focus on electronics and bio-technology. Cases and speakers. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 562 Strategic Choice and Valuation Analysis
Units: 3 Terms Offered: Fa Advanced

strategic planning using tools of scenario development and activity valuation for assessing market entry, expansion and business portfolio configuration. Exercises, cases and project. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 563 Advanced Strategy: Competing in Dynamic Environments
Units: 3 Terms Offered: Fa Dynamics of competition, dealing with industry transformations, managing alliances and acquisitions and a variety of other strategic situations. Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in MOR 565 Instruction Mode: Lecture Grading Option: Letter

MOR 564 Strategic Innovation: Creating New Markets
Units: 3 Terms Offered: Sp How firms in rapidly changing global environments innovate to develop new markets, products and services, delivery systems and organizational processes and competencies. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 565 Alliances and Cooperative Strategy
Units: 3 Terms Offered: Fa Essential issues and problems of cooperative strategy. Recognize and evaluate collaborative opportunities to develop and assess an overall cooperative strategy. Readings, cases and group project. Registration Restriction: Online registration open only to graduate business and accounting students Duplicates Credit in MOR 563 Instruction Mode: Lecture Grading Option: Letter

MOR 566 Environmental Sustainability and Competitive Advantage
Units: 1.5, 3 Terms Offered: Sp How business is changing in order to respond to environmental sustainability challenges — adapting strategy, product design, operations, marketing, and accounting. Cases and speakers. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

MOR 567 Interpersonal Influence and Power
Units: 3 Terms Offered: Fa Legitimate and effective use of power to resolve conflicts and mobilize action through understanding the talent and self-interest of people involved in decision-making. Readings, cases. Registration Restriction: Online registration open only to graduate accounting and business majors Instruction Mode: Lecture Grading Option: Letter

MOR 569 Negotiation and Deal-Making
Units: 3 Terms Offered: FaSpSm Strategies and dynamics of deal-making; practical skills necessary to win in a range of business transactions conducted in domestic and international settings. Cases, role-playing, films and simulations. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 570 Leading Effective Teams
Units: 3 Terms Offered: Sm Analytical and behavioral tools that will enable students to effectively diagnose complex work group dynamics and take action to improve group performance. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 571 Leadership and Executive Development
Units: 3 Terms Offered: FaSp Contemporary approaches to leadership, including corporate practices to develop leaders; examples of successful and derailed executives. Students self-assess personal leadership and draft development plans. Readings, speakers, cases. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 572 Leadership and Self-Management
Units: 3 Terms Offered: Fa Successful leaders are effective at self-managing their thoughts, emotions and actions. Concepts and methods for developing essential self-management skills. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 574a Leading and Coaching: Foundations and Practicum
Units: 1.5 Terms Offered: Sp Marshall MBA Leadership Fellows Program (MLFP). Learn, practice and teach leadership. Engage in critical thinking and problem solving. (a) Foundations. (b) Practicum. Application required. Registration Restriction: Open only to full-time MBA students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 574b Leading and Coaching: Foundations and Practicum
Units: 1.5 Terms Offered: Fa Marshall MBA Leadership Fellows Program (MLFP). Learn, practice and teach leadership. Engage in critical thinking and problem solving. (a) Foundations. (b) Practicum. Application required. *Prerequisite:* MOR 574a Registration Restriction: Open only to full-time MBA students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 579 The Business of Sports Entertainment
Units: 3 Terms Offered: FaSp Business practices and issues in different sports markets including growth opportunities and innovative marketing strategies for attracting and retaining fans and corporate sponsors. Industry speakers. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 588 Corporate Strategy and Competitive Dynamics
Units: 1.5, 3 Terms Offered: Sp Central challenges facing executives in multi-business firms; toolkit for analyzing and executing strategic and operational aspects of corporate advantage, M&As and competitive dynamics. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 592 Field Research in Management and Organization
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the management practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. *Recommended Preparation:* completion of required MBA, MAcc, or MBT course work. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 593 Independent Research in Management and Organization
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 595 Internship in Management and Organization
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job business experience in the student's area of interest. (Curricular Practical Training.) *Recommended Preparation:* completion of required MBA, MAcc, or MBT course work Registration Restriction: Open only to master students in Accounting and Business Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 596 Research Practicum in Management and Organization
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member in the Management and Organization Department on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 597 Consulting Project in Management and Organization
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in management and policy sciences.

Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in management and policy sciences. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 601 Seminar in Organizational Behavior
Units: 3 Terms Offered: Fa In-depth review of the theories and empirical research in the discipline of organizational behavior. Topics include: personality, motivation, job design, leadership, and others. Instruction Mode: Lecture Grading Option: Letter

MOR 602 Seminar in Organization Theory
Units: 3 Terms Offered: Fa Survey of organization theory with focus on the history and development of research on organizations. Registration Restriction: Open only to Business Administration and Public Policy and Management doctoral students. Instruction Mode: Lecture Grading Option: Letter

MOR 603 Seminar in Strategic Management
Units: 3 Terms Offered: Sp Survey of strategic management. Topics include historical overview of strategic management, research methods used, current theory, and empirical research on the developing of paradigms. Registration Restriction: Open only to Business Administration doctoral students. Instruction Mode: Lecture Grading Option: Letter

MOR 604 Research Methods in Strategy and Organization
Units: 3 Terms Offered: Irregular Survey of research methods with focus on designing and implementing empirical research projects and critical issues faced by researchers. Instruction Mode: Lecture Grading Option: Letter

MOR 605 Research Methods in Organizational Behavior
Units: 3 Terms Offered: Irregular Design and analysis of behavioral research; methods may include experiments, survey research, qualitative research, statistical analysis, special topics. Emphasis on rigor, validity and statistical power. Instruction Mode: Lecture Grading Option: Letter

MOR 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Organizational Theory, Organizational Behavior and Strategy. Presentations by faculty, visiting researchers, and advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 699 Special Topics
Units: 1.0, 1.5, 2.0, 3.0 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary management, strategy, organizational behavior, organization design, and leadership. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

MOR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Registration Restriction: Open only to Marshall Ph.D. students specializing in Management and Organization. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Early Music)

MPEM 201 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instrument for lower division students. Instruction Mode: Lecture Grading Option: Letter

MPEM 301 Individual Instruction
Units: 1, 2 Max Units: 16 Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and B.A. music majors. Open only to music majors and minors. Registration Restriction: Open only to music majors and minors Instruction Mode: Lecture Grading Option: Letter

MPEM 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPEM 450 Collegium Workshop
Units: 1 Max Units: 8.0 Terms Offered: FaSp Study and rehearsal of music of the Middle Ages, Renaissance, and Baroque; technique, interpretation, improvisation, and ornamentation. Instruction Mode: Lecture Grading Option: Letter

MPEM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPEM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPEM 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPEM 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPEM 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPEM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPEM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPEM 650 Collegium Directing
Units: 2 Max Units: 4.0 Practical training in the direction of a Collegium Musicum or other early music ensemble; program planning, repertory search and preparation, historical instrumentation and arranging, rehearsal procedure, improvisational techniques, and maintenance of instruments. Instruction Mode: Lecture Grading Option: Letter

MPEM 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPEM 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPEM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Guitar)

MPGU 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MPGU 120a Beginning Pop/Rock Guitar
Units: 2 Terms Offered: FaSpSm Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 120b Beginning Pop/Rock Guitar
Units: 2 Terms Offered: FaSpSm Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 120c Beginning Pop/Rock Guitar
Units: 2 Terms Offered: FaSpSm Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 120d Beginning Pop/Rock Guitar
Units: 2 Terms Offered: FaSpSm Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 121 Intensive Beginning Pop/Rock Guitar
Units: 4 Terms Offered: FaSp Introduction

to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 125 Beginning Fingerstyle/Chord Guitar
Units: 2 Terms Offered: FaSp Basic fingerstyle guitar, learned through the study of such pieces as "Greensleeves," "Malaguena," and "Minuet" (Bach); song accompaniment patterns and music notation for the beginner. Instruction Mode: Lecture Grading Option: Letter

MPGU 126 Easy Fingerstyle Beatles
Units: 2 Terms Offered: FaSp Techniques of classical guitar applied to the study of five to eight Beatles songs, from "Hey Jude" to "Blackbird." No guitar or music background required. Instruction Mode: Lecture Grading Option: Letter

MPGU 145 Guitar Proficiency for the Pop Guitarist
Units: 2 Study of theory, technique and fingerboard organization of melodic and harmonic topics as applied to guitar for the beginner popular music student. Open to all music majors. Instruction Mode: Lecture Grading Option: Letter

MPGU 150 Functional Skills for the Popular Guitarist
Units: 2 Study of theory, technique and fingerboard organization of melodic and harmonic topics as applied to guitar. Instruction Mode: Lecture Grading Option: Letter

MPGU 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 158 Guitarists in the U.S.
Units: 2 Study of the lives and music of influential guitarists; analysis of musical and technical details. Instruction Mode: Lecture Grading Option: Letter

MPGU 159 Functional Skills for Studio Guitarists I
Units: 2 Study of technique, theory and aural skills as applied to guitar; fingerboard organization of melodic and chordal topics; sight reading. Instruction Mode: Lecture Grading Option: Letter

MPGU 160a Functional Skills for the Jazz Guitarist
Units: 2 Study of theory, technique, and fingerboard organization of melodic and harmonic topics as applied to guitar. Instruction Mode: Lecture Grading Option: Letter

MPGU 160b Functional Skills for the Jazz Guitarist
Units: 2 Study of theory, technique, and fingerboard organization of melodic and harmonic topics as applied to guitar. *Prerequisite:* MPGU 160a Instruction Mode: Lecture Grading Option: Letter

MPGU 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 257 Classical Guitar Performance Class
Units: 2 Max Units: 8.0 Terms Offered: FaSp Technical problems; solo and ensemble literature; interpretation; professional preparation. Required of first and second year Classical Guitar majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MPGU 258 Functional Skills for Studio Guitarists I
Units: 2 Max Units: 4.0 Terms Offered: FaSp Melodic and chordal topics applied to the total fingerboard; successful completion required for junior standing. *Prerequisite:* MPGU 159. Instruction Mode: Lecture Grading Option: Letter

MPGU 259 Functional Skills for Classical Guitarists I
Units: 2 Terms Offered: Fa Fundamentals of music theory experienced through the medium of the classical guitar. Topics include analysis of important guitar works, basso continuo realization, arranging, and improvisation. *Recommended Preparation:* MUCO 232a. Instruction Mode: Lecture Grading Option: Letter

MPGU 260 Improvising and Arranging for Jazz Guitar
Units: 2 Study and application of principles of improvisation and arranging for Jazz Guitar. Instruction Mode: Lecture Grading Option: Letter

MPGU 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. Not available for credit to music majors. *Recommended Preparation:* MPGU 101. Duplicates Credit in former MPGU 201 and MPGU 401. Instruction Mode: Lecture Grading Option: Letter

MPGU 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MPGU 201 and MPGU 401. Instruction Mode: Lecture Grading Option: Letter

MPGU 335 Jazz Guitar Master Class
Units: 1 Terms Offered: FaSp Explore the music of Joe Diorio, Wes Montgomery and John Coltrane in a master class setting. Instruction Mode: Lecture Grading Option: Letter

MPGU 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 357 Advanced Classical Guitar Techniques
Units: 2 Terms Offered: Sp An in-depth exploration of the most advanced facets of classical guitar technique. *Recommended Preparation:* MPGU 257. Instruction Mode: Lecture Grading Option: Letter

MPGU 358 Performance Practices for Studio Guitarists
Units: 2 Max Units: 4.0 Rehearsal procedures; stage deportment; interpretation of solo and ensemble literature; preparation for recitals and professional performance. *Prerequisite:* MPGU 258. Instruction Mode: Lecture Grading Option: Letter

MPGU 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPGU 415 Studio Guitar Pedagogy
Units: 2 Teaching techniques and literature; function of the hands; acoustical properties of instruments. Instruction Mode: Lecture Grading Option: Letter

MPGU 416 Evolution of the Guitar in the United States
Units: 3 Historical survey of styles, literature and performance practice; emphasis on playing technique and interpretation. A time-line study relating guitar to popular music and historical events. Duplicates Credit in former MUHL 416. Instruction Mode: Lecture Grading Option: Letter

MPGU 417 Classical Guitar Pedagogy
Units: 2 Teaching techniques and literature; function of the hands; acoustical properties of instruments. Instruction Mode: Lecture Grading Option: Letter

MPGU 420 Guitar Styles
Units: 2 Max Units: 12 Detailed exploration of a specific style or genre of guitar playing through study of repertoire, history and practice, and exploration of techniques. Instruction Mode: Lecture Grading Option: Letter

MPGU 426 Classical Guitar History and Literature
Units: 2 Survey of the history and literature of the guitar and its relatives, primarily the lute and vihuela, from 1500 to 1850. Instruction Mode: Lecture Grading Option: Letter

MPGU 427 Advanced Topics in Classical Guitar History and Literature
Units: 2 Study of the literature of the modern classical guitar and its antecedents and relatives with an emphasis on 20th and 21st century works. *Recommended Preparation:* MPGU 426 Instruction Mode: Lecture Grading Option: Letter

MPGU 428a Improvisation and Arranging for Guitarists
Units: 3 Principles of improvisation and impromptu arranging; comparison and application of techniques and musical styles of the various kinds of guitars and related fretted instruments. Instruction Mode: Lecture Grading Option: Letter

MPGU 428b Improvisation and Arranging for Guitarists
Units: 3 Principles of improvisation and impromptu arranging; comparison and application of techniques and musical styles of the various kinds of guitars and related fretted instruments. Instruction Mode: Lecture Grading Option: Letter

MPGU 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 457 Classical Guitar Performance Class
Units: 2 Max Units: 8.0 Terms Offered: FaSp Technical problems; solo and ensemble literature. Required of all third and fourth year classical guitar majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MPGU 458 Current Electric Guitar Styles
Units: 2 Analysis and performance of music and techniques currently in use in the recording, TV and motion picture studios; includes study of recordings, videos and guitar equipment. Instruction Mode: Lecture Grading Option: Letter

MPGU 459 Functional Skills for Classical Guitarists II
Units: 2 Terms Offered: Sp Advanced theory and composition on the guitar. Weekly analysis exercises, arranging projects and studies in improvisation and ornamentation are directed toward creating an original solo or chamber work for guitar. *Recommended Preparation:* MUCO 232b, MUCO 233b. Instruction Mode: Lecture Grading Option: Letter

MPGU 460 Advanced Improvising and Arranging for Jazz Guitar
Units: 2 Max Units: 08 Advanced study and application of principles of improvisation and arranging for Jazz Guitar. Instruction Mode: Lecture Grading Option: Letter

MPGU 462 Recording and Producing Techniques for the Guitarist
Units: 2 Detailed exploration of arranging, recording and producing techniques for contemporary guitarists. Instruction Mode: Lecture Grading Option: Letter

MPGU 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPGU 499 Special Topics
Units: 2, 3, 4 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPGU 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPGU 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPGU 557 Advanced Classical Guitar Performance Class
Units: 1 Max Units: 4.0 Study of advanced classical guitar solo and ensemble literature; interpretation; professional preparation and other topics appropriate for group study. *Prerequisite:* bachelor's degree with music major; principal instrument, classical guitar. Instruction Mode: Lecture Grading Option: Letter

MPGU 558 Advanced Studio Guitar Performance Class
Units: 1 Max Units: 4.0 Study of advanced studio guitar and ensemble literature; interpretation; professional preparation and other topics appropriate for group study. *Prerequisite:* bachelor's degree with music major; principal instrument, studio guitar. Instruction Mode: Lecture Grading Option: Letter

MPGU 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPGU 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPGU 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPGU 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPGU 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Medical Physiology

MPHY 572 Medical Physiology I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

MPHY 573 Medical Physiology II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

MPHY 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to master students. Duplicates Credit in former PHBI 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPHY 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Duplicates Credit in former PHBI 594a. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPHY 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Duplicates Credit in former PHBI 594a. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPHY 594z Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Duplicates Credit in former PHBI 594a. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPHY 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Keyboard Studies)

MPKS 150a Beginning Piano
Units: 2 Terms Offered: FaSp Techniques of performance, note reading, and basic musicianship. Instruction Mode: Lecture Grading Option: Letter

MPKS 150b Beginning Piano
Units: 2 Terms Offered: FaSp Techniques of performance, note reading, and basic musicianship. Instruction Mode: Lecture Grading Option: Letter

MPKS 150c Beginning Piano
Units: 2 Terms Offered: FaSp Techniques of performance, note reading, and basic musicianship. Instruction Mode: Lecture Grading Option: Letter

MPKS 150d Beginning Piano
Units: 2 Terms Offered: FaSp Techniques of performance, note reading, and basic musicianship. Instruction Mode: Lecture Grading Option: Letter

MPKS 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 160a Functional Skills for Keyboard Majors I
Units: 2 Terms Offered: FaSp Sight-reading and principles of style as related to intermediate literature; c-clef and open score reading; improvisation and functional harmony. Introduction to standard reference works, periodicals. Required of all keyboard majors. Instruction Mode: Lecture Grading Option: Letter

MPKS 160b Functional Skills for Keyboard Majors I
Units: 2 Terms Offered: FaSp Sight-reading and principles of style as related to intermediate literature; c-clef and open score reading; improvisation and functional harmony. Introduction to standard reference works, periodicals. Required of all keyboard majors. Instruction Mode: Lecture Grading Option: Letter

MPKS 170a Introduction to Piano Repertoire and Performance
Units: 1 Terms Offered: FaSp Survey of basic piano repertoire and styles through lecture, discussion, and performance. a: Late Baroque through Beethoven; b: Schubert to the present. *Prerequisite:* piano performance major status. Instruction Mode: Lecture Grading Option: Letter

MPKS 170b Introduction to Piano Repertoire and Performance
Units: 1 Terms Offered: FaSp Survey of basic piano repertoire and styles through lecture, discussion, and performance. a: Late Baroque through Beethoven; b: Schubert to the present. *Prerequisite:* piano performance major status. Instruction Mode: Lecture Grading Option: Letter

MPKS 228 Four-Hand Keyboard Repertoire
Units: 1 Max Units: 4.0 Terms Offered: FaSp Preparation and performance of literature for piano duets and duo-piano. Duplicates Credit in former MUEN 228. Instruction Mode: Lecture Grading Option: Letter

MPKS 250a Keyboard Instruction I
Units: 2 Terms Offered: FaSp Beginning and elementary instruction; emphasis on reading skills, harmonization, transposition, score reading, improvisation; group instruction in a keyboard laboratory facility. Instruction Mode: Lecture Grading Option: Letter

MPKS 250b Keyboard Instruction I
Units: 2 Terms Offered: FaSp Beginning and elementary instruction; emphasis on reading skills, harmonization, transposition, score reading, improvisation; group instruction in a keyboard laboratory facility. Instruction Mode: Lecture Grading Option: Letter

MPKS 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 260a Functional Skills for Keyboard Majors II
Units: 2 Terms Offered: FaSp Sight-reading and principles of style as related to lower advanced literature; extended score reading; improvisation and functional harmony. Mini survey; basic keyboard literature. *Prerequisite:* MPKS 160b. Instruction Mode: Lecture Grading Option: Letter

MPKS 260b Functional Skills for Keyboard Majors II
Units: 2 Terms Offered: FaSp Sight-reading and principles of style as related to lower advanced literature; extended score reading; improvisation and functional harmony. Mini survey; basic keyboard literature. *Prerequisite:* MPKS 160b. Instruction Mode: Lecture Grading Option: Letter

MPKS 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. Duplicates Credit in former MPKS 201 and MPKS 401. Instruction Mode: Lecture Grading Option: Letter

MPKS 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MPKS 201 and MPKS 401. Instruction Mode: Lecture Grading Option: Letter

MPKS 350a Keyboard Instruction II
Units: 2 Terms Offered: FaSp Intermediate and advanced instruction; development of reading, performance and improvisation skills necessary for proficiency examinations. Group and individualized instruction in a keyboard laboratory facility. *Prerequisite:* MPKS 250b. Instruction Mode: Lecture Grading Option: Letter

MPKS 350b Keyboard Instruction II
Units: 2 Terms Offered: FaSp Intermediate and advanced instruction; development of reading, performance and improvisation skills necessary for proficiency examinations. Group and individualized instruction in a keyboard laboratory facility. *Prerequisite:* MPKS 250b. Instruction Mode: Lecture Grading Option: Letter

MPKS 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 360a Accompanying
Units: 2 Terms Offered: FaSp Techniques of vocal and instrumental accompanying. Instruction Mode: Lecture Grading Option: Letter

MPKS 360b Accompanying
Units: 2 Terms Offered: FaSp Techniques of vocal and instrumental accompanying. Instruction Mode: Lecture Grading Option: Letter

MPKS 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPKS 431a Piano Pedagogy: Introduction and Practicum
Units: 2 Terms Offered: FaSp The learning process at the keyboard; pedagogy and methodology of beginning methods. Studio/group instruction: children/adults. Survey and observation. *Prerequisite:* MPKS 253, MPKS 260b. Instruction Mode: Lecture Grading Option: Letter

MPKS 431b Piano Pedagogy: Introduction and Practicum
Units: 2 Terms Offered: FaSp The learning process at the keyboard; pedagogy and methodology of beginning methods. Studio/group instruction: children/adults. Practice teaching: beginners. *Prerequisite:* MPKS 253, MPKS 260b. Instruction Mode: Lecture Grading Option: Letter

MPKS 435 Technology of the Pianoforte and Harpsichord
Units: 2 Terms Offered: Irregular Analysis of technical innovations and maintenance of the pianoforte and harpsichord as related to musical performance. Instruction Mode: Lecture Grading Option: Letter

MPKS 450a Piano Pedagogy: Intermediate Literature and Functional Skills
Units: 2 Terms Offered: FaSp Methods, study of college curriculum keyboard classes. Studio/group instruction. Business practices; audition, interview techniques. Survey and observation. Instruction Mode: Lecture Grading Option: Letter

MPKS 450b Piano Pedagogy: Intermediate Literature and Functional Skills
Units: 2 Terms Offered: FaSp Methods, study of college curriculum keyboard classes. Studio/group instruction. Business practices; audition, interview techniques. Practice teaching; secondary piano classes. Instruction Mode: Lecture Grading Option: Letter

MPKS 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 472a Piano History and Literature
Units: 2 Terms Offered: FaSp Solo piano literature; emphasis on composers' influences, performance practices and the development of the pianoforte. Late Baroque through Beethoven. *Prerequisite:* MUHL 331 and MUHL 332. Instruction Mode: Lecture Grading Option: Letter

MPKS 472b Piano History and Literature
Units: 2 Terms Offered: FaSp Solo piano literature; emphasis on composers' influences, performance practices and the development of the pianoforte. Schubert to the present. *Prerequisite:* MPKS 472a. Instruction Mode: Lecture Grading Option: Letter

MPKS 481 Interpretation of Baroque Music
Units: 2 Max Units: 6.0 Terms Offered: FaSp Repertoire and performance practice in music of the period: style, phrasing, embellishments, dynamics, improvisation, tempi. Performance in class of solo and ensemble works, instrumental and vocal. Instruction Mode: Lecture Grading Option: Letter

MPKS 482 Interpretation of Music of the Classical Period
Units: 2 Max Units: 06 Rigorous analysis of issues of Classical period performance practice and interpretation; Intensive coaching and in-class performances of solo and chamber repertoire. Instruction Mode: Lecture Grading Option: Letter

MPKS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPKS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPKS 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPKS 520 Special Studies in Solo Repertoire for Piano
Units: 2 Max Units: 12.0 Terms Offered: FaSp Historical, stylistic and pedagogical aspects of solo repertoire. Special emphasis to be determined by the department. Instruction Mode: Lecture Grading Option: Letter

MPKS 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPKS 560 Song Interpretation Master Class
Units: 2 Max Units: 12.0 Terms Offered: FaSp For advanced singers and pianists. Instruction Mode: Lecture Grading Option: Letter

MPKS 561 Chamber Music Interpretation Master Class
Units: 2 Max Units: 12.0 Terms Offered: FaSp For advanced pianists and instrumentalists. Instruction Mode: Lecture Grading Option: Letter

MPKS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPKS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPKS 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPKS 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPKS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Popular Music)

MPPM 100 Popular Music Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp A weekly lecture series addressing a wide range of special topics and issues confronting the popular musician. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPPM 120 Popular Music Performance I
Units: 2 Max Units: 8.0 Terms Offered: FaSp Study of musical elements appropriate to the performance of popular music in a collaborative, interactive environment. Instruction Mode: Lecture Grading Option: Letter

MPPM 153 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSp Weekly individual instruction. Instruction Mode: Lecture Grading Option: Letter

MPPM 170 Vocal Training for the Singer-Songwriter
Units: 2 Technique, tone production, vocal hygiene, and problem solving strategies for Singer-Songwriters. Training in technical skills that enhance vocal power, confidence and increased emotive capacity. Instruction Mode: Lecture Grading Option: Letter

MPPM 240 Drumming Proficiency for the Popular Musician
Units: 2 Terms Offered: FaSp Beginning and elementary instruction in drum set techniques. Instruction Mode: Lecture Grading Option: Letter

MPPM 250 Keyboard Proficiency for the Popular Musician
Units: 2 Terms Offered: FaSp Development of practical keyboard skills, including reading and realizing chord symbols, basics of voice leading, study of various harmonic and rhythmic styles. Instruction Mode: Lecture Grading Option: Letter

MPPM 253 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSp Weekly individual instruction. Instruction Mode: Lecture Grading Option: Letter

MPPM 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16 Intermediate and advanced instruction designed for non-music majors. Not available for credit to music majors. Credit Restriction: Not available for credit to music majors Instruction Mode: Lecture Grading Option: Letter

MPPM 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for all majors and minors except MPPM. Instruction Mode: Lecture Grading Option: Letter

MPPM 320 Popular Music Performance II
Units: 2 Max Units: 8.0 Terms Offered: FaSp Development of ensemble and communication skills through the performance and interpretation of American popular music in concert and studio settings. Development of original compositions. *Prerequisite:* MPPM 120. Instruction Mode: Lecture Grading Option: Letter

MPPM 325a Arranging in Popular Music
Units: 2 Principles and techniques of arranging for voice and rhythm section in the popular music idiom. Instruction Mode: Lecture Grading Option: Letter

MPPM 325b Arranging in Popular Music
Units: 2 Writing and arranging for small groups of brass, wind, and/or string instruments with rhythm section in the popular music idiom. *Prerequisite:* MPPM 325a Instruction Mode: Lecture Grading Option: Letter

MPPM 340 Intermediate Drum Set Proficiency
Units: 2 Terms Offered: FaSp Intermediate level instruction in drum set performance including accompaniment techniques, fills, beat and brush patterns in jazz, Afro-Caribbean and Brazilian styles, interpreting drum charts. *Recommended Preparation:* MPPM 240. Instruction Mode: Lecture Grading Option: Letter

MPPM 350g A History of Popular Music
Units: 4 The history of popular music particularly as developed in America in the 20th and early 21st centuries. *Recommended Preparation:* MUHL 250g Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MPPM 353 Individual Instruction
Units: 1, 2 Max Units: 8.0 Weekly individual instruction in primary major instrument. Instruction Mode: Lecture Grading Option: Letter

MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques
Units: 2 Max Units: 4 A study of the practical aspects of vocal performance and skills necessary to increase one's opportunities within the music industry. Instruction Mode: Lecture Grading Option: Letter

MPPM 420 Popular Music Performance Styles and Genres
Units: 2 Max Units: 8.0 Terms Offered: FaSp The detailed exploration of a specific style or genre in Popular Music through study of repertoire, history and practice with particular emphasis on performance. *Recommended Preparation:* MPPM 120 and MPPM 320. Instruction Mode: Lecture Grading Option: Letter

MPPM 450a Final Project
Units: 1 Terms Offered: FaSp Major collaborative performance project in popular music. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPPM 450b Final Project
Units: 1 Terms Offered: FaSp Major collaborative performance project in popular music. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPPM 453 Individual Instruction
Units: 1, 2 Max Units: 8.0 Weekly individual instruction in primary major instrument. Instruction Mode: Lecture Grading Option: Letter

MPPM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

MPPM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPPM 501 Individual Instruction
Units: 1, 2 Max Units: 8.0 Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPPM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the Master's Degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPPM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest Instruction Mode: Lecture Grading Option: Letter

MPPM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Strings)

MPST 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MPST 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 163 Class Harp
Units: 2 Max Units: 04 Basic instruction in the fundamentals of solo harp playing, note reading, and basic musicianship. Instruction Mode: Lecture, Lab Grading Option: Letter

MPST 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 262 Double Bass Performance Class
Units: 1 Max Units: 4.0 Terms Offered: FaSp Study of solo and orchestra repertoire, professional preparation, and teaching techniques. Required of all first and second year double bass majors each semester in residence. *Prerequisite:* music major. Instruction Mode: Lecture Grading Option: Letter

MPST 263 Harp Performance Class
Units: 1 Max Units: 4.0 Terms Offered: FaSp Study of solo and orchestra repertoire, professional preparation, and teaching technique. Required of all first and second year harp majors each semester in residence. *Prerequisite:* music major. Instruction Mode: Lecture Grading Option: Letter

MPST 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. *Recommended Preparation:* MPST 101. Duplicates Credit in former MPST 201 and MPST 401. Instruction Mode: Lecture Grading Option: Letter

MPST 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MPST 201 and MPST 401. Instruction Mode: Lecture Grading Option: Letter

MPST 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPST 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 462 Double Bass Performance Class
Units: 1 Max Units: 8.0 Terms Offered: FaSp Continuation of MPST 262. Required of all third and fourth year double bass majors each semester in residence. *Prerequisite:* music major. Instruction Mode: Lecture Grading Option: Letter

MPST 463 Harp Performance Class
Units: 1 Max Units: 8.0 Terms Offered: FaSp Continuation of MPST 263. Required of all third and fourth year harp majors each semester in residence. *Prerequisite:* music major. Instruction Mode: Lecture Grading Option: Letter

MPST 471a String Pedagogy
Units: 2 Terms Offered: FaSp Survey of teaching literature; techniques of teaching beginning, intermediate, and advanced students. Instruction Mode: Lecture Grading Option: Letter

MPST 471b String Pedagogy
Units: 2 Terms Offered: FaSp Survey of teaching literature; techniques of teaching beginning, intermediate, and advanced students. Instruction Mode: Lecture Grading Option: Letter

MPST 472 Orchestra Repertoire--Strings
Units: 2 Max Units: 08 Orchestral literature for string players, covering a broad spectrum of the repertoire; emphasis on preparation for auditions. Instruction Mode: Lecture Grading Option: Letter

MPST 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPST 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPST 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPST 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPST 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPST 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPST 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPST 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Molecular Pharmacology and Toxicology

MPTX 500 Molecular Pharmacology and Toxicology I
Units: 4 Terms Offered: Fa This is the first part of a two-semester introductory and survey course for the molecular pharmacology and toxicology degree program. *Prerequisite:* knowledge of biochemistry. Instruction Mode: Lecture Grading Option: Letter

MPTX 501 Molecular Pharmacology and Toxicology II
Units: 4 Terms Offered: Sp The second part of the two-semester course covers the general aspects of molecular pharmacology and toxicology on the basis of biochemical, molecular, biological and environmental approaches. *Prerequisite:* MPTX 500. Instruction Mode: Lecture Grading Option: Letter

MPTX 502 Pharmacology
Units: 4 Terms Offered: Fa Fundamentals of pharmacology in the context of the rapidly developing knowledge of related disciplines. Instruction Mode: Lecture Grading Option: Letter

MPTX 510 Topics in Pharmacology: the Other Side of Drugs
Units: 2, 3 Terms Offered: Fa Nexus of pharmacology and toxicology; therapeutic use and toxicology of common drugs; and prescribing these drugs in clinical practice. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHRD 678

MPTX 511 Introduction to Medical Product Regulation
Units: 3 Terms Offered: Sm Introduction to regulatory environments surrounding medical product development, manufacturing and marketing; operation of federal, state and international regulatory bodies. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 512 Regulation of Pharmaceutical and Biological Products
Units: 3 Terms Offered: Sm Ensuring safety and effectiveness of new drugs and biologics; marketing and monitoring approved pharmaceutical/biological products; management of genetically engineered products. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 513 Regulation of Medical Devices and Diagnostics
Units: 3 Terms Offered: Sm Development and testing of new medical products according to U.S. and international regulatory requirements. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 514 Regulation of Food and Dietary Supplements
Units: 3 Terms Offered: Sm Regulation and testing of foods, food additives and dietary supplements in the U.S. and abroad. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 515 Quality Systems and Standards
Units: 3 Terms Offered: Sm Principles of quality assurance and quality control for medical-product development and manufacture. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 516 Medical Products and the Law
Units: 3 Terms Offered: Fa Legal issues affecting intellectual property, medical product development, marketing and safety, taught through case studies and lectures. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 517 Structure and Management of Clinical Trials
Units: 4 Terms Offered: FaSpSm Development and execution of clinical trials: bioethical principles, good clinical practices, project management and documentation. Instruction Mode: Lecture Grading Option: Letter

MPTX 518 Writing Regulatory Drug Submissions
Units: 3 Terms Offered: Sp Developing form and content for investigational drug applications, new drug applications, biologic licensing applications to FDA; common technical documents; considerations of writing style. Instruction Mode: Lecture Grading Option: Letter

MPTX 519 Global Regulation of Medical Products
Units: 3 Terms Offered: Fa Regulatory requirements governing medical products in European Union, Asia and other global markets. Instruction Mode: Lecture Grading Option: Letter

MPTX 520 Toxicology and the Media
Units: 2, 3 Terms Offered: Sp Increase knowledge of toxicology relevance in everyday life through the reading, critical analysis and discussion of articles about current toxicological issues in the media. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHRD 679

MPTX 522 Introduction to Clinical Trial Design and Statistics
Units: 3 Clinical designs and statistics commonly used to test medical products in general populations and special patient groups. Instruction Mode: Lecture Grading Option: Letter

MPTX 524 Introduction to Food Science and Technology
Units: 3 Terms Offered: Sm Discusses the basic and applied concepts of food science and food safety, and demonstrates the principles of food chemistry, sensory evaluation, and product development. *Recommended Preparation:* undergraduate degree in biological sciences or related disciplines. Instruction Mode: Lecture Grading Option: Letter

MPTX 526 Chemistry Manufacturing and Controls
Units: 3 Terms Offered: Fa Provides a firm foundation in the domestic and international CMC process, from concept to commercialization of new active pharmaceutical ingredients and products. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health science, engineering or equivalent. Instruction Mode: Lecture Grading Option: Letter

MPTX 531 Cell Biology
Units: 4 (Enroll in INTD 531)

MPTX 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

MPTX 571 Biochemistry
Units: 4 Terms Offered: Sp (Enroll in INTD 571)

MPTX 572 Medical Physiology I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

MPTX 573 Medical Physiology II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

MPTX 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPTX 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

MPTX 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in Molecular Pharmacology and Toxicology. Instruction Mode: Lecture Grading Option: Letter

MPTX 602 Science, Research and Ethics
Units: 2 Terms Offered: Fa A discussion of the unique technological and philosophical issues that challenge modern scientists and a discernment of ethical responses to those challenges. Instruction Mode: Lecture Grading Option: Letter

MPTX 630 Directed Field-Research Project
Units: 6 Terms Offered: FaSpSm Research/ policy analysis conducted under preceptor supervision in an industrial or governmental setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPTX 700 Seminar in Molecular Pharmacology and Toxicology
Units: 1 Max Units: 8.0 Terms Offered: FaSp Contemporary advances in molecular pharmacology and toxicology research. Registration required during each year of residency. Instruction Mode: Lecture Grading Option: Letter

MPTX 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPTX 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Performance (Vocal Arts)

MPVA 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MPVA 140 Vocal Production for Musical Theatre
Units: 2 Exploration of the physiology and acoustics of the human singing voice in a group setting, with an emphasis on musical theatre repertoire. Instruction Mode: Lecture Grading Option: Letter

MPVA 141 Class Voice
Units: 2 Max Units: 4.0 Terms Offered:

FaSp Introduction to the fundamental principles of singing: breath control, tone production, diction, and the use of appropriate song material. Instruction Mode: Lecture Grading Option: Letter

MPVA 150 Musical Theatre Song Interpretation: Tin Pan Alley Era
Units: 2 Study and performance of the music and lyrics that created contemporary Broadway: the Tin Pan Alley era 1855-1940. Instruction Mode: Lecture Grading Option: Letter

MPVA 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 203a Acting for Singers I
Units: 2 Terms Offered: FaSp Use of dramatic techniques in the interpretation and performance of music; basic acting techniques for the operatic and recital stages; sensory exercises, movement, improvisation, relaxation and make-up. *Recommended Preparation:* MPVA 153. Duplicates Credit in former MPVA 303. Instruction Mode: Lecture Grading Option: Letter

MPVA 203b Acting for Singers I
Units: 2 Terms Offered: FaSp Use of dramatic techniques in the interpretation and performance of music; basic acting techniques for the operatic and recital stages; sensory exercises, movement, improvisation, relaxation and make-up. *Recommended Preparation:* MPVA 153. Duplicates Credit in former MPVA 303. Instruction Mode: Lecture Grading Option: Letter

MPVA 241 Intermediate Class Voice
Units: 2 Max Units: 4.0 Terms Offered: FaSp Continued development of the fundamentals of singing, diction, and repertoire building. *Prerequisite:* MPVA 141. Instruction Mode: Lecture Grading Option: Letter

MPVA 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 260 Italian Language and Diction
Units: 4 Developing competence in listening, vocal pronunciation, speaking, singing, International Phonetic Alphabet (IPA), reading and writing Italian. Emphasizes musical texts including Italian song and operatic arias. Duplicates Credit in ITAL 120 Instruction Mode: Lecture Grading Option: Letter

MPVA 261 French Language and Diction
Units: 4 Developing competence in listening, vocal pronunciation, speaking, singing, International Phonetic Alphabet (IPA), reading and writing French. Emphasizes musical texts including French song and operatic arias. Duplicates Credit in FREN 120 Instruction Mode: Lecture Grading Option: Letter

MPVA 262 German Language and Diction
Units: 4 Developing competence in listening, vocal pronunciation, speaking, singing, International Phonetic Alphabet (IPA), reading, and writing German. Emphasizes musical texts including German song and operatic arias. Instruction Mode: Lecture Grading Option: Letter

MPVA 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16 Intermediate and advanced instruction designed for non-music majors. Credit Restriction: Not available for credit to music majors Duplicates Credit in former MPVA 201 and former MPVA 401 Instruction Mode: Lecture Grading Option: Letter

MPVA 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction: secondary emphasis for music majors, principal emphasis for music minors and all BA music majors. Duplicates Credit in former MPVA 201 and MPVA 401. Instruction Mode: Lecture Grading Option: Letter

MPVA 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPVA 402 Musical Theatre Workshop I
Units: 3 Study of the acting, musical and movement elements involved in the performance of the Broadway musical repertoire. Instruction Mode: Lecture Grading Option: Letter

MPVA 403 Acting for Singers II
Units: 2 Max Units: 8.0 Terms Offered: FaSp Continuation of MPVA 203a, MPVA 203b. Acting of operatic roles in different periods and styles; specific recital and audition techniques. *Recommended Preparation:* MPVA 203a, MPVA 203b. Instruction Mode: Lecture Grading Option: Letter

MPVA 404 Word and Music in Opera
Units: 2 Max Units: 8.0 Terms Offered: Irregular Performance class for singers and pianists; analysis of recitatives, arias, and ensembles of various operatic styles; study of the technique of effective musical delivery. By audition only. *Recommended Preparation:* MPVA 203a, MPVA 203b. Instruction Mode: Lecture Grading Option: Letter

MPVA 405 USC Opera
Units: 2 Max Units: 12.0 Terms Offered: FaSp Preparation, rehearsal, and performance of operatic works and excerpts; study of different operatic styles; public appearances. By audition only. Instruction Mode: Lecture Grading Option: Letter

MPVA 406 Opera Coaching Techniques
Units: 2 Max Units: 8.0 Terms Offered: Irregular Score study for pianists, coaches, and conductors; role analysis; transcription techniques for one or two pianos of an orchestral score. Instruction Mode: Lecture Grading Option: Letter

MPVA 407 Directing for the Operatic Stage
Units: 2 Max Units: 8.0 Terms Offered: FaSp Various approaches to operatic style; basic blocking; stage management. Student direction of scenes produced in USC Opera. Instruction Mode: Lecture Grading Option: Letter

MPVA 412 Musical Theatre Workshop II
Units: 3 Max Units: 06 Stylistic and technical features of dramatic and musical elements involved in performance of the Broadway musical and standard operetta repertory; staging of scenes. *Prerequisite:* MPVA 402 Instruction Mode: Lecture Grading Option: Letter

MPVA 422 Musical Theatre Vocal Book Preparation
Units: 2 Curation and preparation of a professional vocal book for musical theatre auditions. Instruction Mode: Lecture Grading Option: Letter

MPVA 438 Foundations of Vocology
Units: 2 Voice physiology, voice hygiene, voice acoustics, and the cognitive substrates of Motor Learning. Instruction Mode: Lecture Grading Option: Letter

MPVA 440 Italian and French Diction
Units: 2 Principles of pronunciation and enunciation; use of international phonetic alphabet. Duplicates Credit in former MPVA 442a. Instruction Mode: Lecture Grading Option: Letter

MPVA 441 English and German Diction
Units: 2 Principles of pronunciation and enunciation; use of international phonetic alphabet. Instruction Mode: Lecture Grading Option: Letter

MPVA 442 Introduction to the International Phonetic Alphabet
Units: 2 Terms Offered: Fa Principles of pronunciation and enunciation; basic application of the International Phonetic Alphabet symbols and sounds to English, German, Italian, French and Latin. Instruction Mode: Lecture Grading Option: Letter

MPVA 443 Cantata and Oratorio
Units: 2, 2 years Terms Offered: Fa Historical survey of literature, style and performance practice; emphasis on performing solo and small ensemble sections of larger works. Instruction Mode: Lecture Grading Option: Letter

MPVA 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 479 Song Literature
Units: 2 Max Units: 04 Song literature of Italy, France, Germany, Russia, Norway, Sweden, England, America; comparative analysis of various composers and their influence on song literature. Duplicates Credit in former MUHL 479 Instruction Mode: Lecture Grading Option: Letter

MPVA 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPVA 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPVA 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate

non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPVA 540 Special Studies in Vocal Literature
Units: 2 Max Units: 6.0 Terms Offered: Sp Art song, concert and operatic repertoire. Emphasis to be determined by the department. Instruction Mode: Lecture Grading Option: Letter

MPVA 541 Advanced Vocology
Units: 2 Voice physiology, both classical and non-classical vocal techniques, voice hygiene, advanced voice acoustics, survey of literature from expertise studies, and the cognitive substrates of motor learning. Instruction Mode: Lecture Grading Option: Letter

MPVA 542 Vocal Pedagogy Teaching Practicum
Units: 2 Applying principles learned in vocology and/or pedagogy through practice voice teaching in both classical and non-classical singing styles. *Prerequisite:* MPVA 438 or MPVA 541 Instruction Mode: Lecture Grading Option: Letter

MPVA 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPVA 560 Graduate Italian Diction
Units: 2 A review of the rules of pronunciation, International Phonetic Alphabet (IPA) and grammatical structure of the Italian language through the texts of select repertoire in both Italian song and operatic arias. Instruction Mode: Lecture Grading Option: Letter

MPVA 561 Graduate French Diction
Units: 2 A review of French rules of pronunciation, International Phonetic Alphabet (IPA) and grammatical structure through the in-depth study of song and aria texts. Instruction Mode: Lecture Grading Option: Letter

MPVA 562 Graduate German Diction
Units: 2 A review of German rules of pronunciation, International Phonetic Alphabet (IPA) and grammatical structure through the in-depth study of song and aria texts. *Recommended Preparation:* An undergraduate course in Diction Instruction Mode: Lecture Grading Option: Letter

MPVA 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPVA 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPVA 653 Individual Instruction
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPVA 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Wind and Percussion)

MPWP 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MPWP 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 252 Individual Instrument Performance Class I
Units: 1 Max Units: 4.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Required of all first and second year wind and percussion majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MPWP 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. *Recommended Preparation:* MPWP 101. Duplicates Credit in former MPWP 201 and MPWP 401. Instruction Mode: Lecture Grading Option: Letter

MPWP 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MPWP 201 and MPWP 401. Instruction Mode: Lecture Grading Option: Letter

MPWP 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 390 Special Problems
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPWP 440 Drum Set for Classical Percussionists
Units: 1 Max Units: 2.0 Terms Offered: Fa A progressive course for Classical Percussion majors as it pertains to drum set in the symphony orchestra and other classical settings. Registration Restriction: Open only to percussion, and performance (wind instrument or percussion). Instruction Mode: Lecture Grading Option: Letter

MPWP 452 Individual Instrument Performance Class II
Units: 1 Max Units: 4.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Required of all third and fourth year wind and percussion majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MPWP 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 480 Brass Pedagogy Practicum
Units: 2 Teaching and learning of respiration, articulation and phrasing, studio teaching preparation, examination of historically important brass pedagogues and practical training. Instruction Mode: Lecture Grading Option: Letter

MPWP 481 Interpretation of Baroque Music
Units: 2 Max Units: 6.0 Terms Offered: FaSp Repertoire and performance practice in music of the period: style, phrasing, embellishments, dynamics, tempi. Performance in class of solo and ensemble works, instrumental and vocal. Instruction Mode: Lecture Grading Option: Letter

MPWP 482 Interpretation of Classic, Romantic, and 20th Century Wind and Percussion Music
Units: 2 Analysis and performance of 18th, 19th, and 20th century ensemble music, octet through symphonic band; historical perspectives of instruments including technical developments. Instruction Mode: Lecture Grading Option: Letter

MPWP 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPWP 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPWP 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPWP 551 Individual Instrument Performance Class III
Units: 1 Max Units: 2.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Intended for MM wind and percussion majors. Instruction Mode: Lecture Grading Option: Letter

MPWP 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered:

FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPWP 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPWP 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPWP 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPWP 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPWP 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Military Science

MS 101 Foundations of Officership
Units: 1 Terms Offered: Fa Introduces students to issues and competencies that are central to a commissioned officer's responsibilities. Establish framework for understanding officership, leadership, and Army values followed and "life skills" such as physical fitness and time management. Duplicates Credit in former MS 100. Instruction Mode: Lecture Grading Option: Letter

MS 102 Basic Leadership
Units: 1 Terms Offered: Sp Establishes foundation of basic leadership fundamentals such as problem solving, communications, briefings and effective writing, goal setting, techniques for improving listening and speaking skills and an introduction to counseling. Duplicates Credit in former MS 110. Instruction Mode: Lecture, Lab Grading Option: Letter

MS 201 Individual Leadership Studies
Units: 2 Terms Offered: Sp Students identify successful leadership characteristics through observation of others and self through experimental learning exercises. Students record observed traits (good and bad) in a dimensional leadership journal and discuss observations in small group settings. Duplicates Credit in former MS 200. Instruction Mode: Lecture Grading Option: Letter

MS 202 Leadership and Teamwork
Units: 2 Terms Offered: Sp Study examines how to build successful teams, various methods for influencing action, effective communication in setting and achieving goals, the importance of timing the decision, creativity in the problem solving process, and obtaining team buy-in through immediate feedback. Duplicates Credit in former MS 210. Instruction Mode: Lecture Grading Option: Letter

MS 301 Leadership and Problem Solving
Units: 3 Terms Offered: Fa Students conduct self-assessment of leadership style, develop personal fitness regimen, and learn to plan and conduct individual/small unit tactical training while testing reasoning and problem-solving techniques. Students receive direct feedback on leadership abilities. Duplicates Credit in former MS 300. Instruction Mode: Lecture, Lab Grading Option: Letter

MS 302 Leadership and Ethics
Units: 3 Terms Offered: Sp Examines the role communications, values, and ethics play in effective leadership. Topics include ethical decision-making, consideration of others, spirituality in the military, and survey Army leadership doctrine. Emphasis on improving oral and written communication abilities. Duplicates Credit in former MS 310. Instruction Mode: Lecture Grading Option: Letter

MS 401 Leadership and Management I
Units: 3 Terms Offered: Fa Develops student proficiency in planning and executing complex operations, functioning as a member of a staff, and mentoring subordinates. Students explore training management, methods of effective staff collaboration, and developmental counseling techniques. Duplicates Credit in former MS 400. Instruction Mode: Lecture Grading Option: Letter

MS 402 Leadership and Management II
Units: 3 Terms Offered: Sp Study includes case study analysis of military law and practical exercises on establishing an ethical command climate. Students must complete a semester long Senior Leadership Project that requires them to plan, organize, collaborate, analyze, and demonstrate their leadership skills. Duplicates Credit in former MS 410. Instruction Mode: Lecture, Lab Grading Option: Letter

MS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in military science. Instruction Mode: Lecture Grading Option: Letter

Sacred Music

MSCR 390 Special Problems
Units: 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former MUCH 390. Instruction Mode: Lecture Grading Option: Letter

MSCR 473 Hymnology
Units: 2 Study of hymns and hymn tunes, and their functions, from the formation of the Christian Church to the present; historical survey of the literature. Duplicates Credit in former MUCH 473. Instruction Mode: Lecture Grading Option: Letter

MSCR 474 The Organ in Worship and Congregational Life
Units: 2 Accompanying; hymn playing, transposition, improvisation, vocal score reading; conducting from the console; service repertoire. Basic knowledge of the organ as an instrument and planning for and purchase of an organ. Duplicates Credit in former MUCH 474. Instruction Mode: Lecture Grading Option: Letter

MSCR 475 Introduction to Jewish Music
Units: 2 Development of Jewish music from biblical times to the present, with emphasis on liturgical practices, traditions of itinerant musicians and the adaptability of community song. Instruction Mode: Lecture Grading Option: Letter

MSCR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Registration Restriction: Open only to juniors and seniors. Duplicates Credit in former MUCH 490. Instruction Mode: Lecture Grading Option: Letter

MSCR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MSCR 570 Foundations of Sacred Music
Units: 2 An introduction to the history of sacred music, liturgical practices and worship traditions from antiquity to present day. Duplicates Credit in former MUCH 570. Instruction Mode: Lecture Grading Option: Letter

MSCR 571 Music of the Great Liturgies
Units: 2 Comparison of the Jewish, Eastern Orthodox, Roman Catholic, Lutheran, and Anglican liturgies and their music; relation to music in the nonliturgical service; the church year. Duplicates Credit in former MUCH 571. Instruction Mode: Lecture Grading Option: Letter

MSCR 572 Sacred Music Administration
Units: 2 Terms Offered: FaSpSm Developing, maintaining and administering the music program of the church or other religious institutions. Programming, staffing, developing budgets, techniques and repertoire for the graded choir program, handbell choir and other ensembles. Duplicates Credit in former MUCH 572. Instruction Mode: Lecture Grading Option: Letter

MSCR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUCH 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

MSCR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MSCR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUCH 790. Instruction Mode: Lecture Grading Option: Credit/No Credit

MSCR 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Duplicates Credit in former MUCH 794abcdz. Instruction

Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSCR 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSCR 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSCR 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSCR 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Molecular Structure and Signaling

MSS 574 Molecular Structure and Signaling Seminar Series
Units: 1 Max Units: 12.0 Terms Offered: FaSp Selected topics in Molecular Structure and Signaling. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

MSS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MSS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Music Technology

MTEC 137a Music Production I
Units: 2 Introduction to computer-based audio recording systems and audio recording, editing and mixing procedures and techniques. Instruction Mode: Lecture Grading Option: Letter

MTEC 137b Music Production I
Units: 2 Introduction to studio recording systems, headphone cues and recording session procedures and techniques. *Prerequisite:* MTEC 137a Instruction Mode: Lecture Grading Option: Letter

MTEC 175 Fundamentals of Audio Recording
Units: 2 Introduction to the principles and techniques of audio recording. Students will gain a basic understanding of signal flow, gain structure, microphones, monitoring systems, signal processing, mixing. Duplicates Credit in former MTEC 275a. Instruction Mode: Lecture Grading Option: Letter

MTEC 176 Critical Listening
Units: 2 Introductory course where students will develop an understanding of audio quality, the musical aspects of audio production and the vocabulary necessary to offer audio critique. *Recommended Preparation:* MTEC 175. Duplicates Credit in former MTEC 275a. Instruction Mode: Lecture Grading Option: Letter

MTEC 237a Music Production II
Units: 2 Study of small ensemble (rhythm section, vocal, background vocals) music production in a variety of popular music styles. *Prerequisite:* MTEC 137b Instruction Mode: Lecture Grading Option: Letter

MTEC 237b Music Production II
Units: 2 Study of large ensemble (rhythm section, vocal, background vocal with horn section and or strings) music production in a variety of popular music styles. *Prerequisite:* MTEC 237a Instruction Mode: Lecture Grading Option: Letter

MTEC 245 Introduction to MIDI Sequencing
Units: 1 Terms Offered: FaSp Introductory course where students will learn to use professional MIDI sequencing software to sequence, edit, and realize music compositions. Instruction Mode: Lecture Grading Option: Letter

MTEC 246 Introduction to Audio Recording and Editing
Units: 1 Terms Offered: FaSp Introduction to the techniques and applications of recording, editing and mixing sound on personal computers. Instruction Mode: Lecture Grading Option: Letter

MTEC 248 Introduction to Music Notation
Units: 1 Terms Offered: FaSp Introduction to the skills and techniques required to prepare musical scores and parts using industry standard music notation software. Instruction Mode: Lecture Grading Option: Letter

MTEC 249 Introduction to Web Design for Musicians
Units: 1 Terms Offered: FaSp Introductory course where students will learn to use professional web languages, tools, and techniques to create musical artist and band websites. Instruction Mode: Lecture Grading Option: Letter

MTEC 275 Fundamentals of Audio Engineering
Units: 4 Fundamentals of Audio Engineering is an intermediate course in the principles and techniques of professional audio production as related to music. *Recommended Preparation:* MTEC 175 and MTEC 176. Duplicates Credit in former MTEC 275b. Instruction Mode: Lecture, Lab Grading Option: Letter

MTEC 277x Introduction to Music Technology
Units: 4 Terms Offered: FaSpSm A survey of the technology used to create, prepare, perform, and distribute music, with an emphasis on recording, MIDI, music production, mastering and Internet technologies. Duplicates Credit in former MUIN 277. Instruction Mode: Lecture Grading Option: Letter

MTEC 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSp Intermediate and advanced instruction in the applications of technology to the creation and performance of music. *Recommended Preparation:* experience with audio recording and synthesizers. Instruction Mode: Lecture Grading Option: Letter

MTEC 337a Music Production III
Units: 2 Small group instruction to develop the student's arranging, production and project management skills as related to small budget music and multimedia projects. *Prerequisite:* MTEC 237b Instruction Mode: Lecture Grading Option: Letter

MTEC 337b Music Production III
Units: 2 Small group instruction to develop the student's arranging, production and project management skills as related to medium budget music and multimedia projects. *Prerequisite:* MTEC 337a Instruction Mode: Lecture Grading Option: Letter

MTEC 378 Introduction to Mixing and Mastering
Units: 2 Fundamental principles and techniques used to fuse multiple audio elements into clear, comprehensive final products. *Prerequisite:* MTEC 446a Instruction Mode: Lecture Grading Option: Letter

MTEC 379a Recording Studio Theory
Units: 2 Basic electronic concepts needed to understand operational parameters of a state-of-the-art recording studio; schematics, interface, capacitance, resistance and problem solving. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 379ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 379b Recording Studio Theory
Units: 2 Basic electronic concepts needed to understand operational parameters of a state-of-the-art recording studio; schematics, interface, capacitance, resistance and problem solving. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 379ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 389 Digital Equipment and Recording
Units: 2 Digital equipment including computers, sequencers, digital signal synthesis, MIDI, and rotary and stationary digital recording. *Prerequisite:* MTEC 275.

Duplicates Credit in former MUIN 389. Instruction Mode: Lecture Grading Option: Letter

MTEC 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former MUEA 390. Instruction Mode: Lecture Grading Option: Letter

MTEC 392a Acoustics and Speaker Design
Units: 2 Principles of acoustics relating to studio construction, wall treatment, and furnishings; natural reverberation, speaker materials, passive and active crossovers and time alignment. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 392ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 392b Acoustics and Speaker Design
Units: 2 Principles of acoustics relating to studio construction, wall treatment, and furnishings; natural reverberation, speaker materials, passive and active crossovers and time alignment. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 392ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 430 Advanced Instrumental Recording
Units: 2 An in-depth study of the standard practices and techniques used in contemporary multi-track recording. *Prerequisite:* (MTEC 175 and MTEC 176) or MTEC 277 or MTEC 575 Instruction Mode: Lecture Grading Option: Letter

MTEC 437 Advanced Music Production for Non-Majors
Units: 2 Max Units: 4 The study of small music production in a variety of popular music styles with the goal of developing the students' arranging, production and project management skills. *Recommended Preparation:* MTEC 275, MTEC 443 or MTEC 444, MTEC 446ab, MUSC 255, MUSC 355 Instruction Mode: Lecture Grading Option: Letter

MTEC 442 Operation of the Radio Studio
Units: 2 Terms Offered: FaSpSm An in-depth study of radio studio technical operations. Topics include consoles, microphones, transmission considerations, networks, satellites, and digital and analog production situations. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 442. Instruction Mode: Lecture Grading Option: Letter

MTEC 443 Desktop Music Production
Units: 2 Intermediate course where students will learn to use professional MIDI sequencing and digital audio software to compose, edit, and mix songs and other music compositions. *Recommended Preparation:* MTEC 245. Duplicates Credit in in former MUIN 305. Instruction Mode: Lecture Grading Option: Letter

MTEC 444 Non-Linear MIDI Sequencing
Units: 2 Terms Offered: FaSp An in-depth course focusing on the principles and techniques of sequencing and performing musical compositions using a non-linear sequencer. *Recommended Preparation:* MTEC 245. Instruction Mode: Lecture Grading Option: Letter

MTEC 445 Advanced Desktop Music Production
Units: 2 Students will learn to apply their musical and technical skills to create professional quality computer-based arrangements in a variety of musical styles. *Recommended Preparation:* MTEC 443 or MTEC 444 and MTEC 474a. Instruction Mode: Lecture Grading Option: Letter

MTEC 446a Computer Assisted Recording and Editing
Units: 2 Terms Offered: FaSpSm Techniques and applications of recording and editing sound on personal computers. Hardware, software, editing for song, sound effects and dialog for film. Duplicates Credit in former MUIN 446ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 446b Computer Assisted Recording and Editing
Units: 2 Terms Offered: FaSpSm Techniques and applications of recording and editing sound on personal computers. Hardware, software, editing for song, sound effects and dialog for film. Duplicates Credit in former MUIN 446ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 448 Computer Music Notation and Preparation
Units: 2 Techniques and principles of computer music notation including conventions of music notation, idiomatic practices, preparation of significant score types, and MIDI basics. Duplicates Credit in former MUIN 448. Instruction Mode: Lecture Grading Option: Letter

MTEC 451 Performance Technology
Units: 2 Max Units: 04 In-depth course focusing on the concepts, principles and techniques of performing music using audio and MIDI technology. *Recommended Preparation:* MTEC 444 Instruction Mode: Lecture Grading Option: Letter

MTEC 474a Electronic Synthesizer Techniques
Units: 2, 3, 4 Terms Offered: FaSpSm Electronic music procedures in a multi-track studio. Duplicates Credit in former MUEA 474abx. Instruction Mode: Lecture Grading Option: Letter

MTEC 474b Electronic Synthesizer Techniques
Units: 2, 3, 4 Terms Offered: FaSpSm Electronic music procedures in a multi-track studio. Computer applications. Duplicates Credit in former MUEA 474abx. Instruction Mode: Lecture Grading Option: Letter

MTEC 477 Remote Recording Techniques
Units: 2 Special problems of location recording; specialized equipment; microphone design and operation. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 477. Instruction Mode: Lecture Grading Option: Letter

MTEC 478 Advanced Multichannel Remix
Units: 2 Special problems of multi-channel re-mixing with simultaneous audio re-processing. Album, film, television and multimedia formats will be covered. *Prerequisite:* MTEC 446a. Duplicates Credit in former MUIN 478. Instruction Mode: Lecture Grading Option: Letter

MTEC 479 Audio Mastering
Units: 2 A survey of the final creative steps of an audio CD. Concepts of acoustics, mastering suite design, critical listening, frequency, dynamics and sequencing. *Prerequisite:* MTEC 275; *Recommended Preparation:* MTEC 446a. Duplicates Credit in former MUIN 479. Instruction Mode: Lecture Grading Option: Letter

MTEC 486 Computer-Assisted Music Editing for Picture
Units: 2 Terms Offered: FaSpSm Techniques and applications of recording, editing and synchronizing music and sounds to film, video or games, using time code and personal computers. *Prerequisite:* MTEC 446b. Duplicates Credit in former MUIN 486. Instruction Mode: Lecture Grading Option: Letter

MTEC 488a Recording Studio Maintenance
Units: 2 Fundamentals needed to perform maintenance on professional audio equipment including trouble-shooting, interface, and alignment procedures. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 488ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 488b Recording Studio Maintenance
Units: 2 Fundamentals needed to perform maintenance on professional audio equipment including trouble-shooting, interface, and alignment procedures. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 488ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Duplicates Credit in former MUEA 490x. Instruction Mode: Lecture Grading Option: Letter

MTEC 491 The Recording Console
Units: 4 Introduction to professional analog audio consoles and their use in recording and mixing music for records, video and film. *Prerequisite:* MTEC 275 and MTEC 446a. Duplicates Credit in former MTEC 291. Instruction Mode: Lecture Grading Option: Letter

MTEC 493 Audio Signal Processing Equipment
Units: 2 Principles and design characteristics of digital and analog signal processing equipment including plate reverb, digital reverbs, synchronizers, digital editing systems and mastering systems. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 493. Instruction Mode: Lecture Grading Option: Letter

MTEC 494 Classical Music Recording
Units: 4 Principles of classical music recording with emphasis on history, equipment, techniques, and locations. Differences in orchestral, choral, opera, and small ensemble recording. Duplicates Credit in former MUIN 494. Instruction Mode: Lecture Grading Option: Letter

MTEC 498a Senior Project
Units: 1 Culmination of the four-year course of study intended to afford students the opportunity to pursue a mentored project to advance their future careers. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MTEC 498b Senior Project
Units: 1 Culmination of the four-year course of study intended to afford students the

opportunity to pursue a mentored project to advance their future careers. Instruction Mode: Lecture Grading Option: Credit/No Credit

MTEC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics of current interest. Duplicates Credit in former MUEA 499. Instruction Mode: Lecture Grading Option: Letter

MTEC 501 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSp Intermediate and advanced instruction in the applications of technology to the creation and performance of music. *Recommended Preparation:* experience with audio recording and synthesizers. Instruction Mode: Lecture Grading Option: Letter

MTEC 550 Technology and the Collegiate Music Curriculum
Units: 2 Prepares the college-level music instructor for assuming a technological leadership role within a music department. Examines traditional, experimental, and pedagogical aspects of technology. *Recommended Preparation:* computer, Internet, and basic music software literacy. Instruction Mode: Lecture Grading Option: Letter

MTEC 575 Music Technology and Production
Units: 4 Terms Offered: FaSpSm Fundamentals of audio recording. Focuses on the principles and applications of sound and hearing, recording systems and their components, and production techniques. Duplicates Credit in former MUIN 575. Instruction Mode: Lecture Grading Option: Letter

MTEC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUEA 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

MTEC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MTEC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUEA 790. Instruction Mode: Lecture Grading Option: Credit/No Credit

Cell and Neurobiology

CNB 501a Human Gross Anatomy
Units: 3, 4 Terms Offered: FaSpSm A complete dissection of the adult human body. Supplementary lectures and demonstrations. Emphasis on correlating development, structure and function. *a.* focuses on the following anatomical regions: Abdomen, Pelvis, and Head and Neck. *b.* focuses on the following anatomical regions: Axial Skeleton, Upper and Lower Limbs, and Thoracic Cavity. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 501b Human Gross Anatomy
Units: 4 Terms Offered: SpSm A complete dissection of the adult human body. Supplementary lectures and demonstrations. Emphasis on correlating development, structure and function. *a.* focuses on the following anatomical regions: Abdomen, Pelvis, and Head and Neck. *b.* focuses on the following anatomical regions: Axial Skeleton, Upper and Lower Limbs, and Thoracic Cavity. *Prerequisite:* CNB 501a Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 502L Advanced Regional Anatomy I
Units: 2 Terms Offered: Fa In-depth dissection of one or more regions of the human body, supplemented with literature research, and teaching practicum. May also enable the student to pursue a minor research investigation in some anatomical region of choice. Focuses on the following anatomical regions: Axial Skeleton, Upper and Lower Limbs, and Thoracic Cavity. *Prerequisite:* CNB 501b *Recommended Preparation:* Courses in general biology, organismal biology, and/or human anatomy Registration Restriction: Open only to senior (fifth year), graduate and professional students Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 503L Advanced Regional Anatomy II
Units: 2 Terms Offered: Sp In-depth dissection of one or more regions of the human body, supplemented with literature research, and teaching practicum. May also enable the student to pursue a minor research investigation in some anatomical field of choice. Focuses on the following anatomical regions: Abdomen, Pelvis, and Head and Neck. *Prerequisite:* CNB 501b *Recommended Preparation:* Courses in general biology, organismal biology, and/or human anatomy Registration Restriction: Open only to senior (fifth year), graduate and professional students Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 504L Human Skeletal Anatomy
Units: 3 Terms Offered: FaSp An intensive introduction to the human skeleton and the fundamentals of bone and dental biology. Covers a variety of topics including: skeletal development; functional interpretation of bone and bony processes; osteological and dental pathology; human anatomical variation; laboratory analyses and imaging techniques; methods for estimating age, sex, and stature; and comparative osteology. *Prerequisite:* CNB 501a and CNB 501b *Recommended Preparation:* Equivalent dissection-based human anatomy course. Courses in general biology, organismal biology, and/or biological anthropology. Registration Restriction: Open only to freshmen and sophomores Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 511aL Microscopic Anatomy
Units: 3 Terms Offered: FaSp Lectures and laboratory in microscopic anatomy emphasizing embryonic origin of the basic body plan, cells, tissues, and organs; ultrastructural and functional correlations.

CNB 511bL Microscopic Anatomy
Units: 3 Terms Offered: FaSp Lectures and laboratory in microscopic anatomy emphasizing embryonic origin of the basic body plan, cells, tissues, and organs; ultrastructural and functional correlations.

CNB 512L Pharmacology I
Units: 5 Terms Offered: Fa Actions, chemical properties, bodily distribution, and toxicology of drugs. Duplicates Credit in former PHNU 510L. Instruction Mode: Laboratory.

CNB 513 Pharmacology II
Units: 3 Terms Offered: Sp Continuation of 512L. *Prerequisite:* CNB 512L. Duplicates Credit in former PHNU 511.

CNB 521 Neuroanatomy
Units: 3 Terms Offered: Sp Structure and function of the human nervous system with emphasis on central conduction pathways, especially those of clinical significance.

CNB 525 Neural Development
Units: 3 Terms Offered: Fa Cellular, molecular, and physiological features of development and plasticity in the nervous system. Lecture and student presentations and discussion of classic and current research literature. *Prerequisite:* BISC 524; *Recommended Preparation:* background in neurosciences.

CNB 530 Anatomy for the Artist
Units: 1, 2 Terms Offered: Irregular This course includes lectures and demonstrations of human anatomy specifically for the artist, and art instruction on drawing the human figure.

CNB 531 Cell Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 531)

CNB 534 Molecular Aspects of Neuropharmacology
Units: 2 Terms Offered: FaSp Current advances in selected areas of molecular neuropharmacology, e.g., mechanisms by which drugs affect neurotransmitter systems, neural plasticity, treatment of neurological and psychiatric diseases.

CNB 550 Cell and Neurobiology Seminar
Units: 1 Max Units: max 6 Terms Offered: FaSp Reports and discussion on recent advances in anatomy. Duplicates Credit in former ANCB 550. Grading Option: Graded CR/NC.

CNB 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

CNB 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

CNB 572 Medical Physiology I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

CNB 573 Medical Physiology II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

CNB 580 Teaching in the Anatomical Sciences
Units: 1 Terms Offered: Fa Introduces pedagogical principles of learning and assessment, effective content delivery, and instructional design for anatomical teaching. *Prerequisite:* CNB 501b *Recommended Preparation:* Courses in general biology, organismal biology, human anatomy and/or physiology Registration Restriction: Open only to senior (fifth year), graduate and professional students Instruction Mode: Lecture Grading Option: Letter

CNB 581 Teaching in the Anatomical Sciences: Practicum
Units: 3 Terms Offered: FaSp Obtain a deeper understanding of clinical anatomy, develop pedagogical skills in small-group anatomical demonstration, and learn to prepare practical exams. *Recommended Preparation:* College level coursework in general biology and human physiology, successful completion of CNB 501a and CNB 501b *Corequisite:* CNB 580 Registration Restriction: Open only to senior (fifth year), graduate and professional students Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

CNB 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CNB 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CNB 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CNB 598 Introductory Laboratory Rotations
Units: 1, 2, 3 Terms Offered: FaSp Introductory laboratory rotations wherein students are directed in individualized research, reading and discussion to provide perspective and supplemental background in areas of faculty research interests.

CNB 599 Special Topics
Units: 2, 3, 4 Max Units: max 8 Terms Offered: FaSp Special topics provides background for instruction and research in the Department of Cell and Neurobiology through lectures, discussions, assigned readings, and student presentations. Duplicates Credit in former ANCB 599 and PHNU 599.

CNB 600 Literature Tutorial
Units: 1 Max Units: max 3 Terms Offered: FaSp Individualized readings and discussions culminating in a literature-review paper; to promote the acquisition of critical thinking skills in the evaluation of scientific problems. *Recommended Preparation:* background in biological sciences.

CNB 603 Current Topics in Vision Research
Units: 2 Terms Offered: Sp Basic science (e.g., anatomy, cell biology, electrophysiology) and clinical aspects of the eye: cornea, lens, retina, and optic nerve. USC faculty and authorities from other institutions will lecture.

CNB 604 Current Topics in Animal Development
Units: 2, 2 years Terms Offered: Sp Current research in selected aspects of mammalian and nonmammalian developmental biology, including the molecular genetics and molecular biology of organogenesis, morphogenesis, lineage specification, and differentiation. *Prerequisite:* INTD 561 and CNB 542.

CNB 631 Morphogenesis and Regeneration
Units: 2, 2 years Terms Offered: Sp Analysis of developing and regenerating systems: historical and recent interpretations of morphogenetic movements, tissue interactions, fields, gradients, differentiation, and determination.

CNB 641 Brain-Endocrine Interactions in Reproduction
Units: 2 Terms Offered: Fa Past and current experimental approaches to morphology and endocrinology at hypothalamic, pituitary, and gonadal levels in both males and females. *Prerequisite:* CNB 511aL, CNB 511bL, or a general endocrinology course.

Conducting

MUCD 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction secondary emphasis for music majors and minors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MUCD 401. Instruction Mode: Lecture Grading Option: Letter

MUCD 340 Choral Conducting I
Units: 2 Terms Offered: FaSpSm Basic conducting techniques; score analysis; conducting patterns; problems of tempo, dynamics, articulation and text. Instruction Mode: Lecture Grading Option: Letter

MUCD 343 Instrumental Conducting I
Units: 2 Terms Offered: FaSp Communicating musical ideas to instrumental ensembles; reading and conducting from full score of orchestral compositions. *Prerequisite:* ability to read a music score. Instruction Mode: Lecture Grading Option: Letter

MUCD 348 Instrumental Conducting and Orchestration
Units: 2 Reading and conducting from scores, communicating musical ideas to instrumental ensembles, arranging for small and large ensembles, notation, playing techniques, timbre, rhythm and intonation. Instruction Mode: Lecture Grading Option: Letter

MUCD 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUCD 441 Choral Conducting II
Units: 2 Refinement of techniques developed in MUCD 340; study of styles and interpretations of choral music from the Renaissance to the present. *Prerequisite:* MUCD 340 Instruction Mode: Lecture Grading Option: Letter

MUCD 443 Instrumental Conducting II
Units: 2 Terms Offered: FaSpSm Principal composers and representative instrumental works since the 18th century; studies of styles and interpretations based on scores and the performance of works in class. Instruction Mode: Lecture Grading Option: Letter

MUCD 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUCD 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCD 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MUCD 541 Choral Conducting III
Units: 2 Max Units: 6.0 Problems of preparing and conducting contemporary choral music and major choral-orchestral works from full score; special projects according to student's development and interests. *Prerequisite:* MUCD 441. Instruction Mode: Lecture Grading Option: Letter

MUCD 543 Instrumental Conducting III
Units: 2 Max Units: 4.0 Terms Offered: FaSp Problems in advanced conducting. *Prerequisite:* MUCD 443. Instruction Mode: Lecture Grading Option: Letter

MUCD 550 Orchestral Conducting Seminar
Units: 2 Max Units: 8.0 Terms Offered: FaSp Advanced instrumental conducting techniques. Literature drawn from music of all periods. *Prerequisite:* MUCD 441, MUCD 443, and admission as candidate for MM degree in conducting. Instruction Mode: Lecture Grading Option: Letter

MUCD 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MUCD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCD 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCD 641 Choral Conducting IV
Units: 2 Max Units: 8.0 Continuation of MUCD 541, including choral conducting pedagogy. *Prerequisite:* MUCD 541. Instruction Mode: Lecture Grading Option: Letter

MUCD 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Duplicates Credit in former MUPF 653. Instruction Mode: Lecture Grading Option: Letter

MUCD 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Choral Music

MUCM 320 Introduction to Choral Music
Units: 2 An introduction to the many facets of choral music. Grounding in the intellectual and practical issues of choirs, singing, and choral literature. *Recommended Preparation:* ability to read music. Instruction Mode: Lecture Grading Option: Letter

MUCM 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration is permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUCM 440 Choral Development
Units: 2 Problems of achieving proper balance, blend, intonation, diction, precision, etc., in choral groups; criteria for selection of repertoire for particular groups. Instruction Mode: Lecture Grading Option: Letter

MUCM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUCM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCM 541 Choral Literature I
Units: 2 Choral composition from c. 1500 to 1800. Performance and analysis of representative works. Instruction Mode: Lecture Grading Option: Letter

MUCM 542 Choral Literature II
Units: 2 19th and 20th century choral works; criteria for program building. Instruction Mode: Lecture Grading Option: Letter

MUCM 543 Seminar in Choral Music
Units: 2 Max Units: 4.0 Advanced choral techniques; historical, analytical and performance problems. *Prerequisite:* MUCM 641. Instruction Mode: Lecture Grading Option: Letter

MUCM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Supervised research in preparation for the Master's recital. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCM 641 Choral Literature III
Units: 2 Detailed study of selected major choral works; historical context, score analysis, performance practices. *Prerequisite:* MUCM 541, MUCM 542. Instruction Mode: Lecture Grading Option: Letter

MUCM 643 Seminar in Choral Music II
Units: 2 Max Units: 4.0 Terms Offered: Sp Continuation of MUCM 543, with concentration on the conducting problems in major choral-orchestral works. Instruction Mode: Lecture Grading Option: Letter

MUCM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCM 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCM 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCM 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

MUCM 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

MUCM 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

Composition

MUCO 095x Music Fundamentals Immersion
Units: 1 Immersive course for selected students in MUCO 132a/MUCO 133a. Emphasis on providing a foundation in understanding pitches, intervals, scales, keys, key signatures, chords, rhythms, and meters. *Concurrent Enrollment:* MUCO 132a and MUCO 133a Credit Restriction: Not available for major credit for music majors Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCO 101x Fundamentals of Music Theory
Units: 2 Terms Offered: FaSp An introductory course in music theory required for those majors in need of remedial training, and available to the general student who wishes to develop music writing skills. *Recommended Preparation:* ability to read music. Instruction Mode: Lecture Grading Option: Letter

MUCO 130ax Basics of Music Theory
Units: 3 Terms Offered: FaSp Introduction to music theory; scales, intervals, principles of common practice and popular music harmony; melodic, harmonic, and structural analysis; 20th century developments. Instruction Mode: Lecture Grading Option: Letter

MUCO 130bx Basics of Music Theory
Units: 3 Terms Offered: FaSp Introduction to music theory; scales, intervals, principles of common practice and popular music harmony; melodic, harmonic, and structural analysis; 20th century developments. Instruction Mode: Lecture Grading Option: Letter

MUCO 131a Harmony in Popular Music
Units: 2 Terms Offered: FaSpSm Study of harmony used in the popular music idiom, as well as diminished chord patterns, modulation techniques, basic modal theory, and principles of melodic construction. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 131b Harmony in Popular Music
Units: 2 Terms Offered: FaSpSm Study of harmony used in the popular music idiom, as well as diminished chord patterns, modulation techniques, basic modal theory, and principles of melodic construction. *Prerequisite:* MUCO 131a. Instruction Mode: Lecture Grading Option: Letter

MUCO 132a Aural Skills I
Units: 2 Terms Offered: FaSp Sight-singing, dictation, related keyboard application. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 132b Aural Skills I
Units: 2 Terms Offered: FaSp Sight-singing, dictation, related keyboard application. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 133a Theory I
Units: 3 Terms Offered: FaSp Notation, scales, intervals; introduction to counterpoint; harmonic principles of the common practice period; analysis, written work. *Concurrent Enrollment:* Concurrent registration in Aural Skills required. Instruction Mode: Lecture Grading Option: Letter

MUCO 133b Theory I
Units: 3 Terms Offered: FaSp Continuation of MUCO 133a; elements of form; application of analysis to performance. *Concurrent Enrollment:* Concurrent registration in Aural Skills required. Instruction Mode: Lecture Grading Option: Letter

MUCO 135 Counterpoint I
Units: 2 Terms Offered: FaSpSm The study of the techniques of modal counterpoint; exercises in two-, three- and four-part writing in 16th century style. *Corequisite:* MUCO 137a. Instruction Mode: Lecture Grading Option: Letter

MUCO 137a Composition I
Units: 4 Beginning exercises in composing, initial composition projects, study, lectures and class discussions of selected compositions from the repertory. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 137b Composition I
Units: 4 Beginning exercises in composing, initial composition projects, study, lectures and class discussions of selected compositions from the repertory. *Prerequisite:* MUCO 137a Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 140 Music for Dancers
Units: 2 Practical understanding and perception of music coupled with the ability to follow a score and understand the work in relation to dance. Instruction Mode: Lecture Grading Option: Letter

MUCO 142 Aural Skills and Musicianship for Musical Theatre I
Units: 2 Introduction to sight-singing, dictation, and related musicianship skills, foundational music theory, form and application of analysis to performance. Instruction Mode: Lecture Grading Option: Letter

MUCO 143 Aural Skills and Musicianship for Musical Theatre II
Units: 2 Development of sight-singing, dictation, and related musicianship skills, music theory, form and application of analysis to performance for Musical Theatre. *Prerequisite:* MUCO 142

Instruction Mode: Lecture Grading Option: Letter

MUCO 221ax Composition for Non-Majors
Units: 2 Terms Offered: FaSp Introduction to the composition of concert music. Includes set exercises, free composition, study of selected compositions. Intended for interested, qualified students not majoring in composition. *Prerequisite:* MUCO 221a; *Recommended Preparation:* MUCO 130b, MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 221bx Composition for Non-Majors
Units: 2 Terms Offered: FaSp Introduction to the composition of concert music. Includes set exercises, free composition, study of selected compositions. Intended for interested, qualified students not majoring in composition. *Prerequisite:* MUCO 221a; *Recommended Preparation:* MUCO 130b, MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 232a Aural Skills II
Units: 2 Terms Offered: FaSp Continuation of MUCO 132a, MUCO 132b. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 232b Aural Skills II
Units: 2 Terms Offered: FaSp Continuation of MUCO 132a, MUCO 132b. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 233a Theory II
Units: 3 Terms Offered: Fa Analysis of representative pieces from the classic and romantic periods; exercises in composition. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 233b Theory II
Units: 3 Terms Offered: Sp Survey of 20th century developments; composition utilizing 20th century techniques. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 235 Counterpoint II
Units: 2 Terms Offered: Sp Studies in tonal counterpoint; two-, three- and four-part counterpoint in 18th century style; polyphonic variations; inventions. *Prerequisite:* MUCO 137b. Instruction Mode: Lecture Grading Option: Letter

MUCO 236 Orchestration I
Units: 2 Terms Offered: Fa Introduction to the principles of instrumentation; ranges techniques, timbres; transpositions of orchestral instruments; beginning exercises in orchestration. *Prerequisite:* MUCO 137b. Instruction Mode: Lecture Grading Option: Letter

MUCO 237a Composition II
Units: 4 Composition in shorter forms, continuation of score analysis and listening assignments. *Prerequisite:* MUCO 137b Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 237b Composition II
Units: 4 Composition in shorter forms, continuation of score analysis and listening assignments. *Prerequisite:* MUCO 237a Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 300 Theory Review
Units: 1 Terms Offered: FaSpSm Review of materials covered in Theory I and II. For students whose entrance examination in music theory indicates the need for further study. Instruction Mode: Lecture Grading Option: Letter

MUCO 321x Composition for Non-Majors II
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Individual instruction in composition for non-composition majors. Continuation of MUCO 221a, MUCO 221b. *Prerequisite:* MUCO 221b. Instruction Mode: Lecture Grading Option: Letter

MUCO 333 Aural Skills Review
Units: 1 Terms Offered: FaSp Review of the materials covered in Aural Skills I, II, and III. For students whose entrance examination in aural skills indicates the need for further study. Instruction Mode: Lecture Grading Option: Letter

MUCO 336a Orchestration II
Units: 2 Terms Offered: FaSp Intermediate exercises in orchestration, including scoring for chamber ensembles and orchestra; study of the history of orchestration. *Prerequisite:* MUCO 236. Instruction Mode: Lecture Grading Option: Letter

MUCO 336b Orchestration II
Units: 2 Terms Offered: FaSp Intermediate exercises in orchestration, including scoring for chamber ensembles and orchestra; study of the history of orchestration. *Prerequisite:* MUCO 236. Instruction Mode: Lecture Grading Option: Letter

MUCO 337a Composition III
Units: 2 Individual instruction in composition; preparation for the senior recital. *Prerequisite:* MUCO 237b Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 337b Composition III
Units: 2 Individual instruction in composition; preparation for the senior recital. *Prerequisite:* MUCO 337a Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 338x Elementary Orchestration
Units: 2 Terms Offered: Fa Range, techniques, timbre, transposition of orchestral instruments; exercises in orchestration. *Recommended Preparation:* MUCO 233b. Instruction Mode: Lecture Grading Option: Letter

MUCO 339 Orchestration Review
Units: 1 Terms Offered: FaSm Review of materials covered in elementary orchestration; for students whose entrance examination in orchestration indicates a need for further study. Instruction Mode: Lecture Grading Option: Letter

MUCO 341 Counterpoint Review
Units: 1 Terms Offered: SpSm Review of materials covered in tonal counterpoint. For students whose entrance examination in counterpoint indicates the need for further study. For graduate students only. Instruction Mode: Lecture Grading Option: Letter

MUCO 360 Music Notation and Copying
Units: 1 Development of skills in music calligraphy. Instruction Mode: Lecture Grading Option: Letter

MUCO 370a Arranging for the Recording Media
Units: 2 Arranging and composing for studio recording ensembles. Instruction Mode: Lecture Grading Option: Letter

MUCO 370b Arranging for the Recording Media
Units: 2 Arranging and composing for studio recording ensembles. Instruction Mode: Lecture Grading Option: Letter

MUCO 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUCO 406a Contemporary Notation
Units: 2 Notating new music; study and comparison of representative scores. Instruction Mode: Lecture Grading Option: Letter

MUCO 406b Contemporary Notation
Units: 2 Notating new music; study and comparison of representative scores. Instruction Mode: Lecture Grading Option: Letter

MUCO 422 Composers and Interdisciplinary Art Studies
Units: 2 Max Units: 6.0 A structured collaboration between composers and artists outside of music to explore an interdisciplinary area in an environment of practical collaborative creation. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 425 Instrumental Music of Debussy and Ravel
Units: 2 Critical examination of the piano, chamber, and orchestral scores; comparison of styles, techniques and aesthetics of these "Impressionist" composers. *Prerequisite:* MUCO 336a or MUCO 338; MUHL 331; MUHL 332. Instruction Mode: Lecture Grading Option: Letter

MUCO 432a Advanced Theory
Units: 1 or 2 Special problems in music theory. Instruction Mode: Lecture Grading Option: Letter

MUCO 432b Advanced Theory
Units: 1 or 2 Special problems in music theory. Instruction Mode: Lecture Grading Option: Letter

MUCO 434 Analytical Techniques
Units: 2 Selected analytical topics. *Prerequisite:* MUCO 232b, MUCO 233b. Instruction Mode: Lecture Grading Option: Letter

MUCO 435 Counterpoint III
Units: 2 Terms Offered: Fa Canon and fugue; 19th and 20th century developments. *Prerequisite:* MUCO 235. Instruction Mode: Lecture Grading Option: Letter

MUCO 436 Orchestration III
Units: 2 Terms Offered: Sp Continuation of Orchestration II. *Prerequisite:* MUCO 336a, MUCO 336b. Instruction Mode: Lecture Grading Option: Letter

MUCO 437a Composition IV
Units: 2 Individual instruction in composition; preparation for the senior recital. *Prerequisite:* MUCO 337b Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 437b Composition IV
Units: 2 Individual instruction in composition; preparation for the senior recital. *Prerequisite:* MUCO 437a Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 438 Arranging for Marching Band
Units: 2 Fundamental concepts; instrumental capabilities; notation; color and scoring; modulation; percussion writing. *Prerequisite:* MUCO 336b or MUCO 338. Instruction Mode: Lecture Grading Option: Letter

MUCO 439 Band Arranging
Units: 2 Max Units: 4.0 Characteristics and use of individual instruments; writing for separate choirs; chamber and solo writing; scoring piano, organ, and orchestral music for band. *Prerequisite:* MUCO 237b, MUCO 336b or MUCO 338. Instruction Mode: Lecture Grading Option: Letter

MUCO 441 Choral Arranging
Units: 1, 2 Max Units: 4.0 Terms Offered: FaSpSm Arranging and composing for chorus. *Prerequisite:* MUCO 233b. Instruction Mode: Lecture Grading Option: Letter

MUCO 470 Electroacoustic Composition
Units: 2 Electronic music for the composer: history of means and styles, aesthetic issues and practical problems, computer usages, bibliography and repertoire. *Recommended Preparation:* MTEC 474a. Instruction Mode: Lecture Grading Option: Letter

MUCO 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUCO 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCO 501 Introduction to the Analysis of Tonal Music
Units: 2 Terms Offered: FaSp Survey of common practice period (1650–1900) approaches to phrase design, tonal organization and type-forms (binary, ternary, rondo, sonata). Instruction Mode: Lecture Grading Option: Letter

MUCO 502 Introduction to the Analysis of Post-Tonal Music
Units: 2 Terms Offered: FaSp Introductory survey of 20th/21st century approaches to the organization of pitch (serial, modal, extended tonal, etc.), rhythm, texture and form. Instruction Mode: Lecture Grading Option: Letter

MUCO 521x Composition for Non-Majors III
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Individual instruction in composition. *Prerequisite:* submission of portfolio of musical compositions. Instruction Mode: Lecture Grading Option: Letter

MUCO 531 Advanced Analysis of Tonal Music: Reduction
Units: 2 Consideration of recent developments in music theory and their application to the analysis of tonal music, focusing on techniques of musical reduction. *Prerequisite:* MUCO 501 Instruction Mode: Lecture Grading Option: Letter

MUCO 532 Advanced Analysis of Tonal Music: Form
Units: 2 Consideration of recent developments in music theory and their application to Classical Common Practice repertoire, focusing on contemporary analytical approaches to the sonata idea. *Prerequisite:* MUCO 501 Instruction Mode: Lecture Grading Option: Letter

MUCO 533a Analytical Approaches to Tonal Music
Units: 2 Terms Offered: FaSp Introducing to essential structural and prolongational aspects of Schenkerian theory. *Prerequisite:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 533b Analytical Approaches to Tonal Music
Units: 2 Terms Offered: FaSp Application of the Schenkerian methods to individual movements and short pieces. *Prerequisite:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 534 Advanced Analysis of Post-Tonal Music: Pitch
Units: 2 Introduction, application and critiques of canonical pitch-based analytical techniques applied to post-tonal music. *Prerequisite:* MUCO 502 Instruction Mode: Lecture Grading Option: Letter

MUCO 535 Advanced Analysis of Post-Tonal Music: Beyond Pitch
Units: 2 Compositional departures from conventional notions of pitch and harmony; application and critiques of non-pitch-based analytical techniques for post-tonal music. *Prerequisite:* MUCO 502 Instruction Mode: Lecture Grading Option: Letter

MUCO 536 Advanced Orchestration I
Units: 1, 2, 3, 4 Max Units: 4.0
Terms Offered: FaSp Continuation of Orchestration III with emphasis on contemporary techniques. Instruction Mode: Lecture Grading Option: Letter

MUCO 537 Advanced Composition I
Units: 1 or 2 Max Units: 8.0 For graduates with evidence of preparation for advanced work. Instruction Mode: Lecture Grading Option: Letter

MUCO 538a Analytical Approaches to Post-Tonal Music from 1908–1950
Units: 2 Terms Offered: FaSp The breakdown of tonality, rise of atonal/pantonal pitch organization, new and extended approaches to tonality, modality. *Prerequisite:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 538b Analytical Approaches to Post-Tonal Music from 1908–1950
Units: 2 Terms Offered: FaSp Continuation of MUCO 538a; twelve-tone methods, just tuning systems, new approaches to rhythm, texture, timbre. *Prerequisite:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 539a Theoretical and Aesthetic Issues in Music from 1950 to the Present
Units: 2 Terms Offered: FaSp Anti-rationality and indeterminancy, ultra-rationality and integral serialism, new performance procedures, electronic music and new technologies, minimalism. *Prerequisite:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 539b Theoretical and Aesthetic Issues in Music from 1950 to the Present
Units: 2 Terms Offered: FaSp Post-modernism of reaction, post-modernism of resistance, mannerist minimalism, anti-modernism. *Prerequisite:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 548 Writer and Composer
Units: 2 Structured collaboration among composers and poets. Activities include fundamentals of poetry, comparative analysis, creative projects. Registration Restriction: Open to Literature and Creative Writing and Composition majors only; students with other majors require departmental approval Instruction Mode: Lecture Grading Option: Letter

MUCO 550 Teaching Music Theory
Units: 2 Comparative study of curricula, text materials, and teaching strategies in music theory. Instruction Mode: Lecture Grading Option: Letter

MUCO 571 Comparative Analytical Studies: Traditional Forms
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Analytical survey of the development of a specific form or genre. Specific emphasis to be determined by the department. *Recommended Preparation:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 572 Comparative Analytical Studies: 20th/21st Century and Non-Traditional Forms
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm In-depth analysis of characteristic forms and genres of 20th century music or of other forms and genres that do not figure largely in the "common practice" tradition. Specific emphasis to be determined by the department. *Recommended Preparation:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 573 Special Studies in Contrapuntal Music
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm In-depth analytical and historical study of contrapuntal techniques and styles. Emphasis to be determined by the department. *Recommended Preparation:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 574 Special Studies in Tonal Analysis
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Analytical study of major composers and/or problems in tonal music. Emphasis to be determined by the department. *Recommended Preparation:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 575 Special Studies in Post-Tonal Analysis
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Analytical study of major composers and/or problems in post-tonal music. Emphasis to be determined by the department. *Recommended Preparation:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 576 Special Studies in Musical Aesthetics
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm An investigation of aesthetics in general and the application of aesthetic theories to music; readings will be selected from pre-modern, modern, and post-modern texts. *Recommended Preparation:* MUCO 501 and MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCO 592 Selected Topics in Graduate Composition
Units: 2 Max Units: 8.0 Terms Offered: Irregular Seminar for graduate students in composition that addresses aesthetic, technical and analytical issues from a composer's perspective. Registration Restriction: Open only to theory and composition majors. Instruction Mode: Lecture Grading Option: Letter

MUCO 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminars in selected areas of study. Instruction Mode: Lecture Grading Option: Letter

MUCO 631 Writing about Analysis
Units: 2 Seminar on analytical writing through examination of varied analyses of single works, interrogation of method, style and effectiveness; mentored writing. Instruction Mode: Lecture Grading Option: Letter

MUCO 633a Advanced Analysis of Tonal Music
Units: 2 Application of Schenkerian techniques to large works. *Prerequisite:* MUCO 533b. Instruction Mode: Lecture Grading Option: Letter

MUCO 633b Advanced Analysis of Tonal Music
Units: 2 Criticisms and extensions of Schenker, semiotic approaches, theories of rhythmic structure. *Prerequisite:* MUCO 533b. Instruction Mode: Lecture Grading Option: Letter

MUCO 636 Advanced Orchestration II
Units: 1 or 2 Max Units: 4.0 Terms Offered: FaSp Continuation of Advanced Orchestration I with emphasis on historical survey of orchestral compositions and advanced orchestration projects. *Prerequisite:* MUCO 536. Instruction Mode: Lecture Grading Option: Letter

MUCO 637 Advanced Composition II
Units: 1, 2 Max Units: 4.0 Continuation of MUCO 537. For students holding the MM degree in composition. *Prerequisite:* MUCO 536, MUCO 637. Instruction Mode: Lecture Grading Option: Letter

MUCO 737 Advanced Composition III
Units: 1 or 2 Max Units: 8.0 Continuation of MUCO 637. *Prerequisite:* MUCO 536, MUCO 637. Instruction Mode: Lecture Grading Option: Letter

MUCO 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCO 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Music Teaching and Learning

MTAL 330 Fundamentals of Music
Units: 4 Introduction to the content of music through an investigation of its melodic, rhythmic, and harmonic structure. Duplicates Credit in former MUED 330x Instruction Mode: Lecture Grading Option: Letter

MTAL 440a Music and Movement: The Orff Approach
Units: 2 Orff Schulwerk techniques in rhythmic and melodic training through speech, singing, body percussion, playing Orff instruments, improvisation, and elemental movement. Certification available. Duplicates Credit in former MUED 440a Instruction Mode: Lecture Grading Option: Letter

MTAL 440b Music and Movement: The Orff Approach
Units: 2 Orff Schulwerk techniques in rhythmic and melodic training through speech, singing, body percussion, playing Orff instruments, improvisation, and elemental movement. Certification available. *Prerequisite:* MTAL 440a Duplicates Credit in former MUED 440b Instruction Mode: Lecture Grading Option: Letter

MTAL 443 Teaching Vocal Jazz
Units: 2 Strategies for teaching the principles of vocal jazz; historical perspective, repertoire, recordings, improvisation, scat, accompaniment, amplification, rehearsing, teaching sequences. No prior jazz experience necessary. Duplicates Credit in former MUED 443 Instruction Mode: Lecture Grading Option: Letter

MTAL 449 Teaching Marching Band
Units: 2 Modern school marching band techniques; precision drill; administration; rehearsal techniques. Duplicates Credit in former MUED 449 Instruction Mode: Lecture Grading Option: Letter

MTAL 470 Improvisation and Composition for Teaching and Learning
Units: 2 An introduction to the craft of musical improvisation and composition, developing personal and idiomatic vocabulary in a variety of traditional and contemporary musical styles. Instruction Mode: Lecture Grading Option: Letter

MTAL 475 Teaching and Learning: Children
Units: 2 Applied study of developmental, contextual, pedagogical and philosophical issues that underlie children's music learning experiences. Instruction Mode: Lecture Grading Option: Letter

MTAL 476 Teaching and Learning: Youth
Units: 2 Applied study of developmental, contextual, pedagogical and philosophical issues that underlie musical experiences of adolescents and young adults. Instruction Mode: Lecture Grading Option: Letter

MTAL 477 Cultural Diversity in Music Teaching and Learning
Units: 1 Study of cultural issues in music teaching and learning. Instruction Mode: Lecture Grading Option: Letter

MTAL 480 Contemporary Pedagogy, Small Instrumental Ensembles
Units: 3 Designed to cover traditional approaches to small group teaching in schools with contemporary techniques. Percussion, guitar, keyboard, informal instruments are featured. Also features a fieldwork component. Instruction Mode: Lecture, Lab Grading Option: Letter

MTAL 481 Contemporary Pedagogy, Larger Instrumental Ensembles
Units: 3 Traditional approaches to large group teaching in schools with contemporary techniques. Brass, woodwind and string instruments are featured. Features a fieldwork component. Instruction Mode: Lecture, Lab Grading Option: Letter

MTAL 482 Contemporary Pedagogy, Vocal and General Music
Units: 2 Designed to cover traditional approaches to vocal/general music group teaching in schools with contemporary techniques. Vocal and general music techniques are featured. Also features a fieldwork component. Instruction Mode: Lecture, Lab Grading Option: Letter

MTAL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Individual research and readings. Registration Restriction: Open only to juniors and seniors Duplicates Credit in former MUED 490x Instruction Mode: Lecture Grading Option: Letter

MTAL 499 Special Topics
Units: 2, 3, 4 Max Units: 8 Selected topics of current interest reflective of changing trends in music education. Duplicates Credit in former MUED 499 Instruction Mode: Lecture Grading Option: Letter

MTAL 500 Research Foundations in Music Teaching and Learning
Units: 3 Introductory exploration of types of research linked to research literature in music teaching and learning; interpreting research reports; organizing and writing research proposals and reports. Duplicates Credit in former MUED 500 Instruction Mode: Lecture Grading Option: Letter

MTAL 501 Historical Foundations of Music Education
Units: 3 A contextual exploration of the historical development of American music education. Duplicates Credit in former MUED 501 Instruction Mode: Lecture Grading Option: Letter

MTAL 502 Sociological Foundations of Music Teaching and Learning
Units: 3 Study of interdependent relationship between society, music and music education. Duplicates Credit in former MUED 502 Instruction Mode: Lecture Grading Option: Letter

MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning
Units: 3 Exploration of philosophical thinking in the field of music with emphasis on philosophical foundations for teaching and learning. Duplicates Credit in former MUED 503 Instruction Mode: Lecture Grading Option: Letter

MTAL 504 Psychological Foundations of Music
Units: 3 Exploration of theories, research and practice in psychological foundations of music teaching and learning. Duplicates Credit in former MUED 504 Instruction Mode: Lecture Grading Option: Letter

MTAL 505 Teaching and Learning Music
Units: 2 Studies of the latest resources concerning the teaching and learning of music so that musicians can function more effectively as both teachers and performers. Duplicates Credit in former MUED 505 Instruction Mode: Lecture Grading Option: Letter

MTAL 510 Leading a Music Program in a Public School Setting
Units: 2 The philosophy and purposes of music programs combined with early field experiences, varied teaching strategies, and music learning assessment. Duplicates Credit in former MUED 510 Instruction Mode: Lecture Grading Option: Letter

MTAL 535 Community Engagement Through Music
Units: 2 Explores the essential role of community and arts partnerships in music education with implications for the expanding entrepreneurial role of musician/educators. Instruction Mode: Lecture Grading Option: Letter

MTAL 537 Community Engagement Models and Frameworks in Music
Units: 1 Explores frameworks of partnerships and community organizations to inform innovative design, negotiate complexity and problem-solve in community music organizations. Instruction Mode: Lecture Grading Option: Letter

MTAL 538 Music in the Community, Program Development and Evaluation
Units: 2 Explores the design and development of community music programs, including community needs assessment, program delivery and strategies and applications for program evaluation. Instruction Mode: Lecture Grading Option: Letter

MTAL 550 Teaching Music Fundamentals and Appreciation Courses
Units: 2 Purpose and objectives of music in general education. Survey of current approaches and materials. Duplicates Credit in former MUED 550 Instruction Mode: Lecture Grading Option: Letter

MTAL 552 Music Education Courseware Development
Units: 2 Development of music education courseware using current technology. Two lecture hours per week. Duplicates Credit in former MUED 552 Instruction Mode: Lecture Grading Option: Letter

MTAL 576 Using Technology in the Classroom
Units: 2 Study of the tools and knowledge necessary to the music educator to facilitate the application of computers and electronic music in music education. Duplicates Credit in former MUED 515 Instruction Mode: Lecture Grading Option: Letter

MTAL 584 Early Childhood Music
Units: 2 An overview of significant developmental issues, current research, and appropriate practices for children from birth to age eight. Professor-guided practicum teaching. Duplicates Credit in former MUED 520 Instruction Mode: Lecture Grading Option: Letter

MTAL 585 Research and Practice in Orff Schulwerk
Units: 2 Exploring research on the philosophical and historical bases of the Orff Schulwerk approach and acquiring skills in pedagogical applications in early childhood through collegiate settings. Duplicates Credit in former MUED 640 Instruction Mode: Lecture Grading Option: Letter

MTAL 588 Guided Practice
Units: 3 Student teachers observe and teach under the guidance of a university supervisor (USC professor) and a master teacher. Instruction Mode: Lecture, Lab Grading Option: Letter

MTAL 589 Community Music Practicum
Units: 2 Max Units: 04 Provides structure and support as students design, develop and execute a community music project as part of an existing organization or a new endeavor. Instruction Mode: Lecture Grading Option: Letter

MTAL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUED 590 Instruction Mode: Lecture Grading Option: Credit/No Credit

MTAL 592 Final Project
Units: 2 Required for the Master of Music, Teaching and Learning degree. Credit upon acceptance. *Prerequisite:* MTAL 500 Duplicates Credit in former MUED 592 Instruction Mode: Lecture Grading Option: Credit/No Credit

MTAL 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Registration Restriction: Open only to master students Duplicates Credit in former MUED 594a Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. *Prerequisite:* MTAL 594a Registration Restriction: Open only to master students Duplicates Credit in former MUED 594b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. *Prerequisite:* MTAL 594b Registration Restriction: Open only to master students Duplicates Credit in former MUED 594z Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 599 Special Topics
Units: 2, 3, 4 Max Units: 8 Selected topics of current interest reflective of changing trends in music education. Duplicates Credit in former MUED 599 Instruction Mode: Lecture Grading Option: Letter

MTAL 605 College Teaching in Music Education
Units: 2 Exploration of music education faculty duties at the collegiate level, such as teaching general/secondary methods, working with student teachers, leading professional organizations, and conducting research. Duplicates Credit in former MUED 605 Instruction Mode: Lecture Grading Option: Letter

MTAL 606 Internship in Collegiate Music Education
Units: 3 Students intern with USC professors in training music teachers in traditional and alternative music education practices. Duplicates Credit in former MUED 606 Instruction Mode: Lecture Grading Option: Letter

MTAL 607 Alternative Models in Music Teaching and Learning
Units: 2 Exploration of community music programs in the U.S. and beyond with emphasis on philosophical, sociological, structural and cultural bases for the diverse programs. Duplicates Credit in former MUED 607 Instruction Mode: Lecture Grading Option: Letter

MTAL 608 Creative Thinking in Music
Units: 3 Review of important developments in research and practice for the encouragement of creative thinking in music for music teaching and learning. Instruction Mode: Lecture Grading Option: Letter

MTAL 615 Assessment and Reflective Practice
Units: 2 Examination of major aspects of measurement and evaluation that comprise the art of assessment of music teaching and learning. *Recommended Preparation:* MTAL 500 Instruction Mode: Lecture Grading Option: Letter

MTAL 650 Pedagogy for Collegiate Music Appreciation and Fundamentals
Units: 2 Design and teaching strategies for collegiate music appreciation and fundamentals classes developed for the adult, non music major student. Duplicates Credit in former MUED 650 Instruction Mode: Lecture Grading Option: Letter

MTAL 652 Pedagogy for Collegiate Teaching
Units: 2 A preparation for teaching in the modern university environment, examining the role of the professor, and focusing on the development of innovative collegiate teaching skills. Duplicates Credit in former MUED 610 Instruction Mode: Lecture Grading Option: Letter

MTAL 720 Quantitative Research in Music Teaching and Learning
Units: 3 Survey of theories, concepts and

procedures for designing, conducting and evaluating quantitative research studies in music teaching and learning. *Prerequisite:* Duplicates Credit in former MUED 792 Instruction Mode: Lecture Grading Option: Letter

MTAL 721 Qualitative Research in Music Teaching and Learning
Units: 3 Survey of theories, concepts and tools for designing, conducting and evaluating qualitative studies in music teaching and learning. *Prerequisite:* Duplicates Credit in former MUED 793 Instruction Mode: Lecture Grading Option: Letter

MTAL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUED 790 Instruction Mode: Lecture Grading Option: Credit/No Credit

MTAL 791 Pedagogical Writing and Media in Music Education
Units: 3 Development of skills in pedagogical writing for professional journals, text books, and multimedia publications, and knowledge of publishing procedures for compositions and arrangements. Duplicates Credit in former MUED 791 Instruction Mode: Lecture Grading Option: Letter

MTAL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Duplicates Credit in former MUED 794a Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. *Prerequisite:* MTAL 794a Registration Restriction: Open only to doctoral students Duplicates Credit in former MUED 794b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. *Prerequisite:* MTAL 794b Registration Restriction: Open only to doctoral students Duplicates Credit in former MUED 794c Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. *Prerequisite:* MTAL 794c Registration Restriction: Open only to doctoral students Duplicates Credit in former MUED 794d Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. *Prerequisite:* MTAL 794d Registration Restriction: Open only to doctoral students Duplicates Credit in former MUED 794z Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

Music Ensemble

Large ensemble requirements in undergraduate curricula must be fulfilled by the following ensembles: University Chorus (MUEN 307); Apollo Chorus (MUEN 308); Oriana Choir (MUEN 311); University Concert Choir (MUEN 310); Chamber Singers (MUEN 312); USC Symphony (MUEN 320); USC Concert Orchestra (MUEN 321); University Wind Ensemble (MUEN 323); or University Band (MUEN 324).
Exceptions to the above policies include: Contemporary Music Ensemble and Early Music Ensemble may fulfill the large ensemble requirement for instrumental majors, with the approval of the conductor of University Symphony or Wind Ensemble and the chair of the student's major department.
Music Education majors with an instrumental emphasis must take one semester of a choral ensemble.
Composition majors must register for at least 2 units in a choral ensemble.
Students majoring in Strings, Vocal Arts, or Wind and Percussion may not count USC Concert Orchestra toward their large ensemble requirement.
Vocal Arts majors must register for University Concert Choir, USC Chamber Singers or USC Oriana Choir to fulfill their large ensemble requirement.
Further exceptions may be made subject to departmental approval and approval of the conductor of the appropriate large ensemble.

MUEN 222 Trojan Marching Band
Units: 1 Rehearsal and participation in performances for athletic and other university functions. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 305 Vocal Jazz Ensemble
Units: 1 Terms Offered: FaSp Study and performance of vocal ensemble literature from the Jazz idiom, with emphasis on improvisational techniques. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 307 University Chorus
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of choral literature from all periods of music history. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 308 USC Apollo Chorus
Units: 1 Max Units: 08 The USC Apollo Chorus, a choir open to all students, faculty, and staff of any gender, performs tenor/bass repertoire. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 310 University Concert Choir
Units: 1 Max Units: 8.0 Terms Offered: FaSp Performance of choral works of all styles and periods. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 311 USC Oriana Choir
Units: 1 Max Units: 08 The USC Oriana Choir, a choir open to all students, faculty, and staff of any gender, performs treble repertoire. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 312 Chamber Singers
Units: 1 Max Units: 08 Performance of choral music and choral masterworks from the 16th century to the present. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 314 Opera Chorus
Units: 1 Max Units: 8.0 Terms Offered: FaSp Study and performance of operatic choruses and extended ensembles of all styles and periods. Duplicates Credit in former MUEN 214 and MUEN 414. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 320 USC Symphony
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of orchestra repertoire. Duplicates Credit in former MUEN 220 and MUEN 420. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 321 USC Concert Orchestra
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of orchestra repertoire. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 322 Trojan Marching Band
Units: 1 Max Units: 4.0 Continuation of MUEN 222. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 323 University Wind Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and participation in concert programs. Duplicates Credit in former MUEN 223 and MUEN 423. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 324 University Band
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of standard repertoire. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 325 Wind and Percussion Chamber Music
Units: 1 Max Units: 8.0 Terms Offered: FaSp Performance of chamber music for wind and percussion instruments. Duplicates Credit in former MUEN 225 and MUEN 425. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 326 Guitar Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of literature composed, transcribed and arranged for small ensembles, including literature for small ensembles of guitar and other instruments, as well as voice. Duplicates Credit in former MUEN 226 and MUEN 426. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 327 String Chamber Music
Units: 1 Max Units: 8.0 Terms Offered: FaSp Preparation and performance of small ensemble literature for strings. Duplicates Credit in former MUEN 227 and MUEN 427. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 328 Keyboard Collaboration
Units: 1 Max Units: 4.0 Terms Offered: FaSp Preparation and performance of literature for piano with voice and string, woodwind, brass and percussion instruments. Duplicates Credit in former MUEN 428. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 329 Jazz Ensemble
Units: 1 Max Units: 08 Rehearsal and performance of literature written for large jazz ensemble. Duplicates Credit in former MUEN 229 and MUEN 429 Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 330 Contemporary Music Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Performance of 20th-century music; readings of student and faculty compositions; experimental music; guest conductors, composers, performers; annual concert series. Duplicates Credit in former MUEN 230 and MUEN 430. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 331 Guitar Big Band
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and preparation of big band literature adapted for large guitar ensemble. Guitarists perform in place of the traditional trumpet, trombone and sax sections. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 332 Jazz Chamber Music
Units: 1 Max Units: 8.0 Terms Offered: FaSp Preparation and performance of literature for jazz chamber groups. Duplicates Credit in former MUEN 232 and MUEN 432. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 335 University Brass Band
Units: 1 Max Units: 8.0 Terms Offered: FaSp The study, rehearsal and performance of standard brass choir and brass band literature. Duplicates Credit in former MUEN 235 and MUEN 435. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 344 Vocal Chamber Music
Units: 1 Max Units: 8.0 Terms Offered: Fa Study of solo ensemble vocal literature such as duets, trios, quartets, madrigals, etc. Duplicates Credit in former MUEN 244 and MUEN 444. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 350 Early Music Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of vocal and instrumental ensemble music of the Renaissance and Baroque, with emphasis on chamber music for solo voices and bowed and plucked strings. Instrumentalists are required to perform on either their own or the school's historical instruments. Duplicates Credit in former MUEN 250 and MUEN 450. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 505 Vocal Jazz Ensemble
Units: 1 Max Units: 04 Terms Offered: FaSp Study and performance of vocal ensemble literature from the Jazz idiom, with emphasis on improvisational techniques. Instruction Mode: Lecture Grading Option: Letter

MUEN 507 University Chorus
Units: 1 Max Units: 08 Terms Offered: FaSp Rehearsal and performance of choral literature from all periods of music history. Instruction Mode: Lecture Grading Option: Letter

MUEN 508 USC Apollo Chorus
Units: 1 Max Units: 04 The USC Apollo Chorus, a choir open to all students, faculty, and staff of any gender, performs tenor/bass repertoire. Instruction Mode: Lecture Grading Option: Letter

MUEN 510 University Concert Choir
Units: 1 Max Units: 4.0 Terms Offered: FaSp Performance of choral works of all styles and periods. Instruction Mode: Lecture Grading Option: Letter

MUEN 511 USC Oriana Choir
Units: 1 Max Units: 04 The USC Oriana Choir, a choir open to all students, faculty, and staff of any gender, performs treble repertoire. Instruction Mode: Lecture Grading Option: Letter

MUEN 512 Chamber Singers
Units: 1 Max Units: 04 Performance of Choral Music and choral masterworks from the 16th century to the present. Instruction Mode: Lecture Grading Option: Letter

MUEN 514 Opera Chorus
Units: 1 Max Units: 4.0 Terms Offered: FaSp Study and performance of operatic choruses and extended ensembles of all styles and periods. Duplicates Credit in former MUEN 414. Instruction Mode: Lecture Grading Option: Letter

MUEN 520 USC Symphony
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of orchestra repertoire Duplicates Credit in former MUEN 420. Instruction Mode: Lecture Grading Option: Letter

MUEN 521 USC Concert Orchestra
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of orchestra repertoire. Instruction Mode: Lecture Grading Option: Letter

MUEN 523 University Wind Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and participation in concert programs. Duplicates Credit in former MUEN 423. Instruction Mode: Lecture Grading Option: Letter

MUEN 525 Wind and Percussion Chamber Music
Units: 1 Max Units: 4.0 Terms Offered: FaSp Performance of chamber music for wind and percussion instruments. Duplicates Credit in former MUEN 425. Instruction Mode: Lecture Grading Option: Letter

MUEN 526 Guitar Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of literature composed, transcribed and arranged for small ensembles, including literature for small ensembles of guitar and other instruments, as well as voice. Duplicates Credit in former MUEN 426. Instruction Mode: Lecture Grading Option: Letter

MUEN 527 String Chamber Music
Units: 1 Max Units: 4.0 Terms Offered: FaSp Preparation and performance of small ensemble literature for strings. Duplicates Credit in former MUEN 427. Instruction Mode: Lecture Grading Option: Letter

MUEN 528 Keyboard Collaboration
Units: 1 Max Units: 4.0 Terms Offered: FaSp Continuation of MUEN 328. Instruction Mode: Lecture Grading Option: Letter

MUEN 529 Jazz Ensemble
Units: 1 Max Units: 04 Rehearsal and performance of literature written for large jazz ensemble. Registration Restriction: Open only to Master and Doctoral students Duplicates Credit in former MUEN 429 Instruction Mode: Lecture Grading Option: Letter

MUEN 530 Contemporary Music Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Performance of 20th-century music; readings of student and faculty compositions; experimental music; guest conductors, composers, performers; annual concert series. Duplicates Credit in former MUEN 430. Instruction Mode: Lecture Grading Option: Letter

MUEN 531 Guitar Big Band
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and preparation of big band literature adapted for large guitar ensemble. Guitarists perform in place of the traditional trumpet, trombone and sax sections. Instruction Mode: Lecture Grading Option: Letter

MUEN 532 Jazz Chamber Music
Units: 1 Max Units: 4.0 Terms Offered: FaSp Preparation and performance of advanced literature for jazz chamber groups. Instruction Mode: Lecture Grading Option: Letter

MUEN 535 University Brass Band
Units: 1 Max Units: 4.0 The study, rehearsal and performance of standard brass choir and brass band literature. Duplicates Credit in former MUEN 435. Instruction Mode: Lecture Grading Option: Letter

MUEN 544 Vocal Chamber Music
Units: 1 Max Units: 4.0 Terms Offered: Fa Study of solo ensemble vocal literature such as duets, trios, quartets, madrigals, etc. Duplicates Credit in former MUEN 444. Instruction Mode: Lecture Grading Option: Letter

MUEN 550 Early Music Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of vocal and instrumental ensemble music of the Renaissance and Baroque, with emphasis on chamber music for solo voices and bowed or plucked strings. Instrumentalists are required to perform on either their own or the school's historical instruments. Duplicates Credit in former MUEN 450. Instruction Mode: Lecture Grading Option: Letter

MUEN 626 Guitar Ensemble
Units: 1 Max Units: 04 Rehearsal and performance of literature composed, transcribed and arranged for small ensembles, including literature for small ensembles of guitar and other instruments, as well as voice. Instruction Mode: Lecture Grading Option: Letter

MUEN 628 Keyboard Collaboration
Units: 1 Max Units: 4.0 Terms Offered: FaSp Continuation of MUEN 328. Instruction Mode: Lecture Grading Option: Letter

MUEN 650 Early Music Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and public performance of vocal and instrumental music of the Renaissance and Baroque era; emphasis is on large- and small-scale chamber works. Instrumentalists are required to perform on historical instruments. Instruction Mode: Lecture Grading Option: Letter

Music History and Literature

MUHL 231 Music History
Units: 3 Terms Offered: Fa A study of the musical styles and genres from antiquity

to c. 1680 within their historical context. Detailed analysis of selected works. *Prerequisite:* MUCO 132b, MUCO 133b , MUHL 385a Duplicates Credit in MUHL 385a. Instruction Mode: Lecture Grading Option: Letter

MUHL 232 Music History II
Units: 3 Terms Offered: Sp A study of the musical styles and genres from c. 1680 to c. 1850 within their historical context. Detailed analysis of selected works. *Prerequisite:* MUCO 132b, MUCO 133b. Duplicates Credit in MUHL 385b. Instruction Mode: Lecture Grading Option: Letter

MUHL 250g Music and Ideas
Units: 4 A topical study of critical issues and cultural relationships found in music from antiquity to the present and across musical genres and styles. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

MUHL 331 Music History III
Units: 3 A study of the musical styles and genres from c. 1850 to the present within their historical context. Detailed analysis of selected works. *Prerequisite:* MUCO 132b, MUCO 133b; *Recommended Preparation:* MUCO 232b, MUCO 233b. Duplicates Credit in former MUHL 280a. Instruction Mode: Lecture Grading Option: Letter

MUHL 332 Studies in Musical Culture
Units: 3 Special musical repertoires, issues, and critical problems; emphasis determined by the department. *Recommended Preparation:* MUHL 231, MUHL 232, MUEN 331, MUCO 232b, MUCO 233b. Duplicates Credit in former MUHL 280b. Instruction Mode: Lecture Grading Option: Letter

MUHL 333 Music History Review
Units: 1, 2 Terms Offered: FaSpSm Supervised review of the materials covered in undergraduate music history courses for students whose music history examinations indicate the need for further study. Instruction Mode: Lecture Grading Option: Letter

MUHL 350g Western Art Music History I
Units: 4 A study of the musical styles and genres from antiquity through early modern periods within their historical context. Detailed analysis of selected works. *Recommended Preparation:* MUHL 250g Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUHL 351 Western Art Music History II
Units: 4 A study of the musical styles and genres in the late modern and contemporary eras within their historical context. Detailed analysis of selected works. *Recommended Preparation:* MUHL 250g and MUHL 350 Instruction Mode: Lecture Grading Option: Letter

MUHL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUHL 403 Armenian Musical Culture
Units: 2 Study of the four branches of Armenian music within the context of past and present Armenian culture. Instruction Mode: Lecture Grading Option: Letter

MUHL 476 Music Criticism
Units: 2 Procedure and practice in forming critical judgments of music and in writing music criticism; practical journalism; professional and community ethics. Instruction Mode: Lecture Grading Option: Letter

MUHL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUHL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUHL 550 Music and the Holocaust
Units: 2 Study of the creation and performance of Holocaust-related music from 1933 to the present, including interaction with other arts. *Prerequisite:* MUHL 570 Instruction Mode: Lecture Grading Option: Letter

MUHL 560 Studies in World Music I
Units: 2 Terms Offered: Fa The indigenous and syncretic musics of Africa, India, Indonesia, and the Balkan countries. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 561 Studies in World Music II
Units: 2 Terms Offered: Sp The indigenous and syncretic musics of the post-Soviet political landscape, the Far East, the Middle East, and Latin America. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 570 Research Materials and Techniques
Units: 2 Terms Offered: FaSpSm Introduction to music research, information science and technical writing. Required of all graduate students majoring in music. Instruction Mode: Lecture Grading Option: Letter

MUHL 572 Seminar in Historical Musical Notation
Units: 2 Terms Offered: Fa Performing, reading, and editing historical notation from original sources. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 573 Music of the Middle Ages
Units: 2, 2 years Terms Offered: SpSm Chief musical developments in Western Europe from the beginning of the Christian era to the middle of the 14th century. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 574 Music of the Renaissance
Units: 2 Terms Offered: SpSm Chief musical developments in Western Europe from the middle of the 14th century to the end of the 16th. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 575 Music of the Baroque Era
Units: 2 Terms Offered: FaSm Styles, forms, composers, and compositions of the Baroque era. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 576 Music of the Classical Period
Units: 2, 2 years Terms Offered: SpSm Development of classical style in symphonic music, opera, and chamber music. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 577 Music of the 19th Century
Units: 2, 2 years Terms Offered: FaSm Vocal and instrumental music of the Romantic era from late Beethoven through Brahms. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 578 Music since 1900
Units: 2 Terms Offered: FaSpSm Musical developments in Europe and the Americas from 1900 to the present. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 579 Studies in Music History
Units: 4 Max Units: 16.0 Terms Offered: FaSp Intensive study of major problems, issues, and interpretations in the history of music. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 580 Historical Perspectives in Jazz
Units: 2 Chief musical developments in the principal styles of Jazz from their inception to the present. *Prerequisite:* graduate standing or departmental approval. Instruction Mode: Lecture Grading Option: Letter

MUHL 583 Special Studies in Medieval Music
Units: 2 Max Units: 4.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 584 Special Studies in Renaissance Music
Units: 2 Max Units: 4.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 585 Special Studies in Baroque Music
Units: 2 Max Units: 6.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 586 Special Studies in the Music of the Classical Period, 1730–1800
Units: 2 Max Units: 6.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 587 Special Studies in the Music of the 19th Century
Units: 2 Max Units: 6.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 588 Special Studies in Music since 1900
Units: 2 Max Units: 6.0 Music problems and composers of the period. Specific emphasis to be determined by the department.

Prerequisite: MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 589 Seminar in Renaissance Repertories and Performance Practice
Units: 2 Terms Offered: Sp Study and discussion of Renaissance music sources and performance practice treatises. *Corequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUHL 591 Seminar in Baroque Repertories and Performance Practice
Units: 2 Study and discussion of Baroque music sources and performance practice treatises. *Corequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 595 Seminar in Performance Practices
Units: 2 Max Units: 4.0 Scholarly preparation and authentic performance of music written before c. 1770. Ornamentation and improvisation, tunings and temperaments, early language pronunciation, historical instruments, etc. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUHL 681 Studies in Musicology
Units: 4 Max Units: 16.0 Terms Offered: FaSp Close study of musical repertories and issues (particularly ones transcending period divisions), with emphasis on recent scholarship and methodologies. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 683 Seminar in Medieval Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 684 Seminar in Renaissance Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 685 Seminar in Baroque Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 686 Seminar in Classical Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 687 Seminar in Romantic Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 688 Seminar in Music since 1900
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUHL 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Music Industry

MUIN 270 Introduction to the Music Industry
Units: 4 Terms Offered: FaSp A survey of the music business with emphasis on distribution of recorded music, music publishing, performance rights societies, record companies, agents, personal managers and contracts. Instruction Mode: Lecture Grading Option: Letter

MUIN 272x Basics of the Music Industry
Units: 4 Terms Offered: FaSp Introductory survey of the music business. Topics include: copyright, record companies, contracts, music publishing, performance rights societies, managers, agents, and other artist team/income considerations. Duplicates Credit in former MUIN 372ax. Instruction Mode: Lecture Grading Option: Letter

MUIN 280 Communications in the Music Industry
Units: 4 A comprehensive course on communications specific to the music industry with a focus on press and publicity for artists. *Prerequisite:* MUIN 270 or MUIN 272x Instruction Mode: Lecture Grading Option: Letter

MUIN 286 Record Production Management
Units: 2 Terms Offered: FaSp Function of the record producer, studio procedures, music business law, union relations, artist management, copyright and publishing agreements, record company structure. Instruction Mode: Lecture Grading Option: Letter

MUIN 287 The Business and Economics of the Recording Industry
Units: 2 Terms Offered: Fa Economic considerations of home, studio and location recording. Equipment, labor, facilities, media, legal and tax considerations will be explored. Instruction Mode: Lecture Grading Option: Letter

MUIN 320 Critical Listening, Acoustics and Audio Perception
Units: 4 Development of perceptual skills for detailed analysis and awareness of the timbral, dynamic, temporal and spatial attributes of sound as they relate to audio production. Instruction Mode: Lecture, Lab Grading Option: Letter

MUIN 340 Introduction to Sound Reinforcement
Units: 4 Terms Offered: FaSpSm An introduction to the practical application of large scale sound reinforcement for concerts, sporting events, church services and convention situations. Instruction Mode: Lecture Grading Option: Letter

MUIN 360 Introduction to Music Law
Units: 4 Terms Offered: FaSp A study of entertainment law with a focus on the music industry. Areas of study include contracts, domestic practices, international practices, copyright protection, trademarks. *Prerequisite:* MUIN 270. Instruction Mode: Lecture Grading Option: Letter

MUIN 370 Music Publishing and Licensing
Units: 2 Terms Offered: Sp A contemporary survey of the methods used to monetize music through licensing/media placement, covering music publishing, songwriter agreements, performance rights and licenses for traditional/new media. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Letter

MUIN 372 Business and Legal Aspects of the Music Industry
Units: 4 An intermediate/advanced-level survey of music copyright law, artist contract analysis, infringement case studies as they affect modern/emerging business models and global music licensing. *Prerequisite:* MUIN 270 or MUIN 272x Duplicates Credit in former MUIN 372b Instruction Mode: Lecture Grading Option: Letter

MUIN 385 Radio in the Music Industry
Units: 4 Terms Offered: Fa A survey of radio; its operation and effect on the music industry. Topics include advertising, playlists, program direction, FCC, networks, news, promotion, payola and format development. Instruction Mode: Lecture, Discussion Grading Option: Letter

MUIN 410 Marketing, Branding and Strategic Alliances in Music
Units: 2 Terms Offered: FaSp An in-depth study of music marketing, non-traditional revenue streams for artists, musicians, and labels including artist endorsements, artist tour sponsorships, digital music programs, music licensing, merchandise, and a primary focus on brand partnership deals in the music space. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Letter

MUIN 420 DIY Music Marketing
Units: 2 Terms Offered: FaSp An exploration of the most current and effective marketing strategies and online branding tools for promoting, monetizing, and sustaining the career of the independent creative artist. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Letter

MUIN 425 Live Music Production and Promotion
Units: 4 A survey of the presentation of the live musical experience. Both classical and popular concert presentation will be examined including venue selection, promotion and security. Instruction Mode: Lecture Grading Option: Letter

MUIN 430 Artist Management and Development
Units: 4 A study of issues relating to the personal management of music artists including negotiating contracts, image, career development, agents, touring, merchandising, fees and duties. Instruction Mode: Lecture, Discussion Grading Option: Letter

MUIN 435 Manufacture and Distribution of Musical Products
Units: 4 Terms Offered: Sp An in-depth study of musical instrument manufacture and distribution in the United States. Topics covered include sheet music, instrument rentals, lessons and band operations. Instruction Mode: Lecture Grading Option: Letter

MUIN 440 Arts Management
Units: 4 Terms Offered: Fa A survey of the management of non-profit and for-profit arts organizations with emphasis on funding, donor development tax status and promotion. Instruction Mode: Lecture Grading Option: Letter

MUIN 443 The Business of Music for Visual Media
Units: 4 Terms Offered: FaSpSm Introduction to music designed for synchronization to picture including history of music in cinema, music editing, supervision, performance rights licensing, production, and music scoring procedures. *Prerequisite:* MUIN 360 or MUIN 372. Instruction Mode: Lecture Grading Option: Letter

MUIN 444 Music Supervision
Units: 4 An advanced focus on the music supervisor's role, working with directors, producers, licensing representatives and executives to select, budget and clear songs for broadcast/new media. *Prerequisite:* MUIN 360 or MUIN 372 Instruction Mode: Lecture Grading Option: Letter

MUIN 445 International Music Industry
Units: 4 Terms Offered: Sp A survey of international operations of music distribution, publishing, touring, law, promotion, customs and practices. *Prerequisite:* MUIN 360. Instruction Mode: Lecture Grading Option: Letter

MUIN 450 Practicum in Music Industry Issues (Internship)
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Field application of music industry theories and practices; part-time employment. Project jointly defined by student, employer and professor. *Prerequisite:* MUIN 360 or MUIN 372. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 460 Streaming Economy in the Music Industry
Units: 2 Focus on identifying the economic impact current music streaming models have on artists, record labels, publishing and consumers. *Prerequisite:* MUIN 270 or MUIN 272x Instruction Mode: Lecture Grading Option: Letter

MUIN 461 Music Festival Design and Management
Units: 2 Focus on planning, booking, marketing, promoting, ticketing and operating a festival in an ever-changing marketplace. *Prerequisite:* MUIN 270 or MUIN 272x Instruction Mode: Lecture Grading Option: Letter

MUIN 462 Technology, Big Data and Marketing in the Music Industry
Units: 2 Analyzing technology's relationship to the music industry. Use of data and analytics to develop successful strategies for new and existing artists. *Prerequisite:* MUIN 270 or MUIN 272x Instruction Mode: Lecture Grading Option: Letter

MUIN 464 Public Assembly Venue Management
Units: 2 Review and examination of the principles and practices associated with managing theaters, arenas, stadiums and all other public assembly venue types. Instruction Mode: Lecture Grading Option: Letter

MUIN 475 Advanced Concert Management
Units: 4 Terms Offered: Sp Application of theories, technologies, and practices of the live music industry. Focus on the business, management, marketing, promotion, and production of professional concert events. *Prerequisite:* MUIN 425. Instruction Mode: Lecture Grading Option: Letter

MUIN 476a Advanced Sound Reinforcement
Units: 2 Terms Offered: FaSp Special problems of multimedia mixing with simultaneous audio re-processing for live performance situations including rigging, house mix, monitor mix, venues and power distribution. Instruction Mode: Lecture Grading Option: Letter

MUIN 476b Advanced Sound Reinforcement
Units: 2 Terms Offered: FaSp Special problems of multimedia mixing with simultaneous audio re-processing for live performance situations including rigging, house mix, monitor mix, venues and power distribution. Instruction Mode: Lecture Grading Option: Letter

MUIN 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUIN 495 Web Design for the Music Industry
Units: 4 Terms Offered: FaSp A hands-on experience in which students work in teams to create web sites specifically designed to promote, market, and sell musical artists' products online. Instruction Mode: Lecture Grading Option: Letter

MUIN 496 Music Media Solutions
Units: 4 Terms Offered: FaSp Group study of one current music media issue, focusing on possible solutions with practical applications. Stress on leadership, critical thinking, and professional practices. Instruction Mode: Lecture Grading Option: Letter

MUIN 497 Current Topics, Case Studies, and Analysis
Units: 2 Max Units: 6.0 Terms Offered: FaSp Exploration of emerging topics and trends in business and technology in the music and entertainment industries. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Letter

MUIN 498a Final Capstone Project
Units: 1 Terms Offered: FaSp Culmination of the four-year course of study. Affords students the opportunity to experience guided work to meet the professional demands of the industry. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUIN 498b Final Capstone Project
Units: 1 Terms Offered: FaSp Culmination of the four-year course of study. Affords students the opportunity to experience guided work to meet the professional demands of the industry. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUIN 510 The Music Industry: Careers, Rights and Income Streams
Units: 4 History, procedures, economics and evolving technologies involved with careers, rights and income connected with artists, songwriters, producers, labels, music publishing, performance rights and visual media. Instruction Mode: Lecture Grading Option: Letter

MUIN 511 Music Industry History: Entrepreneurs, Moguls and Catalogs
Units: 2 Focus on recorded music's sounds and innovators. Includes in-depth research, discussion, presentations and memorization for greater cultural context. Instruction Mode: Lecture Grading Option: Letter

MUIN 512 The Management of Live Performances
Units: 2 Focus on the Artist, Promoter

and Venue, and the roles they play in the Live Performance space, applying theory, technology, and practice. Instruction Mode: Lecture Grading Option: Letter

MUIN 515 Live Touring Strategy
Units: 2 Part of an emphasis track that focuses on advanced live touring strategies, methods and practices. Projects will apply theory and practice in a directed team oriented approach. Instruction Mode: Lecture Grading Option: Letter

MUIN 520 Artist Management: Campaign Planning, Pitching, Partnerships
Units: 2 Lecture and experiential learning focused on the role of an artist's personal manager including developing their story, assets and strategy for various product release campaigns. *Prerequisite:* MUIN 510 Instruction Mode: Lecture Grading Option: Letter

MUIN 521 Music Industry/Producers Forum
Units: 1 Student-driven discussion, networking and Q&A with guest industry leaders and role models, including producers, artists, music supervisors, concert promoters, agents, label executives, managers and attorneys. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 522 Music Marketing, Branding and Campaigns
Units: 3 An overview of music specific concepts and opportunities spanning various roles, tools, forms of music consumption, and campaign stages as it pertains to music marketing. Instruction Mode: Lecture Grading Option: Letter

MUIN 523 Survey/Analysis of Music Agreements
Units: 4 Focus on demystifying "legalese" and music industry standards by assessing actual contract examples for context, including recording, songwriter, producer, media licensing, sponsorship and band partnerships. *Prerequisite:* MUIN 510 Instruction Mode: Lecture Grading Option: Letter

MUIN 525 Concert Promotion, Venue Management and Event Planning
Units: 3 Overview of the three areas that comprise most of the live performance spaces, and focuses on the artist, promoter and venue ("Circle of Live") and the roles they play in the performance. Instruction Mode: Lecture Grading Option: Letter

MUIN 526 Music Supervision, Production and Creative Licensing
Units: 3 A comprehensive look at contemporary music supervision for all visual media. Students will creatively apply guided lessons using real world example cases and projects. *Prerequisite:* MUIN 510 and MUIN 511 Instruction Mode: Lecture Grading Option: Letter

MUIN 530 Mentorship
Units: 1 A semester bridge for students working on job preparation, career skills, and continued efforts before launching their final campaign projects and graduation portfolio. *Prerequisite:* MUIN 520 Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 540 Artist Management: Campaign Execution and Hindsight Analysis
Units: 2 Lecture and experiential learning focused on the role of an artist's personal manager including executing various release campaigns and hindsight assessment to inform future endeavors. *Prerequisite:* MUIN 520 Instruction Mode: Lecture Grading Option: Letter

MUIN 541 Data Analytics: Music Marketing Decisions and Presentations
Units: 2 The when, why and how data analysis tools are used to assist music professionals and better support marketing decisions, beyond the realm of intuition and aesthetic appeal. *Prerequisite:* MUIN 522 Instruction Mode: Lecture Grading Option: Letter

MUIN 542 Developing Copyright Laws and Business Models
Units: 3 Study of advanced copyright law, conflicts and entrepreneurial opportunities to gain insight into what is evolving for the globalized digital music industry. *Prerequisite:* MUIN 510 Instruction Mode: Lecture Grading Option: Letter

MUIN 570 The Music Industry
Units: 4 Terms Offered: FaSpSm A graduate level survey of the music business with emphasis on distribution of recorded music, music publishing, performance rights societies, musical products and live music. Instruction Mode: Lecture Grading Option: Letter

MUIN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 598 Internship
Units: 1 Max Units: 04 Students gain insight, experience and networking opportunities within the industry areas they wish to consider as a career. *Prerequisite:* MUIN 510 Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUIN 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Jazz Studies

MUJZ 100mx Jazz: America's Music
Units: 4 Music of the jazz greats. Experience through live performances, field trips, readings, recordings, videos and guest lectures. Instruction Mode: Lecture Grading Option: Letter

MUJZ 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MUJZ 105a Jazz Theory
Units: 2 Terms Offered: FaSp Study of basic and advanced concepts of jazz melody, harmony and form. Includes functional chord idioms and relationships, compositional and improvisational devices, and song forms. Instruction Mode: Lecture Grading Option: Letter

MUJZ 105b Jazz Theory
Units: 2 Terms Offered: FaSp Study of basic and advanced concepts of jazz melody, harmony and form. Includes functional chord idioms and relationships, compositional and improvisational devices, and song forms. Instruction Mode: Lecture Grading Option: Letter

MUJZ 141a Basic Keyboard Skills for the Improviser
Units: 2 Terms Offered: FaSp Reading skills related to jazz accompanying, including the ability to identify and play chords on the piano utilizing different voicings. Instruction Mode: Lecture Grading Option: Letter

MUJZ 141b Basic Keyboard Skills for the Improviser
Units: 2 Terms Offered: FaSp Reading skills related to jazz accompanying, including the ability to identify and play chords on the piano utilizing different voicings. Instruction Mode: Lecture Grading Option: Letter

MUJZ 142a Jazz Ear Training
Units: 2 Terms Offered: FaSp Sight-singing and melodic/rhythmic reading and dictation applied to jazz repertoire. Includes vocalization of scales and chord patterns and study of rhythmic reading and jazz articulation. Instruction Mode: Lecture Grading Option: Letter

MUJZ 142b Jazz Ear Training
Units: 2 Terms Offered: FaSp Sight-singing and melodic/rhythmic reading and dictation applied to jazz repertoire. Includes vocalization of scales and chord patterns and study of rhythmic reading and jazz articulation. Instruction Mode: Lecture Grading Option: Letter

MUJZ 150 Beginning Jazz Improvisation
Units: 2 Max Units: 4.0 Terms Offered: FaSp Development of beginning improvisational skills including underlying principles of theory, harmony, jazz ear training, and jazz style. Instruction Mode: Lecture Grading Option: Letter

MUJZ 153 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and performance forum. Registration Restriction: Open only to jazz studies majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 180 Techniques of Jazz Improvisation
Units: 2 Max Units: 4.0 Development of improvisational skills through instrumental performance. Instruction Mode: Lecture Grading Option: Letter

MUJZ 195L Jazz Elements I
Units: 2 Max Units: 8.0 Terms Offered: FaSp Study of compositional, improvisational, performance, and arranging elements found in jazz. Students will model influential groups and jazz artists. Instruction Mode: Lecture, Lab Grading Option: Letter

MUJZ 196 Jazz Combo I
Units: 2 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of literature for jazz chamber groups. Duplicates Credit in MUEN 332. Instruction

Mode: Lecture Grading Option: Credit/No Credit

MUJZ 197a Vocal Jazz Elements I
Units: 2 Study of stylistic, musical, improvisational, rhythmic, historical, performance, and arranging elements found in the vocal jazz genre. Students will explore concepts through the study of influential jazz vocal artists as well as their own performances. Instruction Mode: Lecture Grading Option: Letter

MUJZ 197b Vocal Jazz Elements I
Units: 2 Study of stylistic, musical, improvisational, rhythmic, historical, performance, and arranging elements found in the vocal jazz genre. Students will explore concepts through the study of influential jazz vocal artists as well as their own performances. *Prerequisite:* MUJZ 197a Instruction Mode: Lecture Grading Option: Letter

MUJZ 200a Jazz Styles Analysis
Units: 2 Theoretical skills and analytical techniques related to jazz styles from Dixieland to the present. Styles through Progressive Swing. Duplicates Credit in former MUCO 200ab. Instruction Mode: Lecture Grading Option: Letter

MUJZ 200b Jazz Styles Analysis
Units: 2 Theoretical skills and analytical techniques related to jazz styles from Dixieland to the present. Bebop to the present. Duplicates Credit in former MUCO 200ab. Instruction Mode: Lecture Grading Option: Letter

MUJZ 218a Afro-Latin Percussion Instruments
Units: 2 Instruction in the performance of percussion instruments associated with African, South American, and Caribbean music traditions, with special emphasis on adaptation to jazz music. Instruction Mode: Lecture Grading Option: Letter

MUJZ 218b Afro-Latin Percussion Instruments
Units: 2 Instruction in the performance of percussion instruments associated with African, South American, and Caribbean music traditions, with special emphasis on adaptation to jazz music. Instruction Mode: Lecture Grading Option: Letter

MUJZ 252 Individual Instrument Performance Class I
Units: 1 Max Units: 4.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Required of all first and second year wind and percussion majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MUJZ 253 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and performance forum. Registration Restriction: Open only to jazz studies majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 286a The History of Jazz
Units: 3 Terms Offered: FaSpSm A study of the evolution of American jazz music from its roots in Africa to the present day. Includes an introduction to world music elements. *Prerequisite:* MUCO 132b and MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 286b The History of Jazz
Units: 3 Terms Offered: FaSpSm A study of the evolution of American jazz music from its roots in Africa to the present day. Includes an introduction to world music elements. *Prerequisite:* MUCO 132b and MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. Duplicates Credit in former MUJZ 201 and MUJZ 401. Instruction Mode: Lecture Grading Option: Letter

MUJZ 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction: secondary emphasis for music majors, principal emphasis for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MUJZ 201 and MUJZ 401. Instruction Mode: Lecture Grading Option: Letter

MUJZ 305a Advanced Jazz Theory
Units: 2 Terms Offered: FaSpSm Analysis and transcription of jazz performances and scores, encompassing questions of style, form, harmonic and melodic language, and considerations of rhythm. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 305b Advanced Jazz Theory
Units: 2 Terms Offered: FaSpSm Analysis and transcription of jazz performances and scores, encompassing questions of style, form, harmonic and melodic language, and considerations of rhythm. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 311 Vocal Jazz Techniques
Units: 2 Max Units: 04 Development of skills needed for the professional vocal jazz musician. Study of the standard jazz repertoire, vocal improvisation, lead sheet writing, and working with rhythm sections. *Recommended Preparation:* MUJZ 195L or MUJZ 197b Instruction Mode: Lecture Grading Option: Letter

MUJZ 341 Keyboard Skills for Improvisers
Units: 2 Reading skills related to jazz accompanying; "fake" books, chord progressions commonly used in jazz. *Prerequisite:* MPKS 250a, MPKS 250b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 342a Aural Skills for Improvisers
Units: 1 Terms Offered: FaSp Sight-singing and dictation applied to jazz repertoire. Vocalization of modal and synthetic jazz scales and chordal qualities. *Prerequisite:* MUCO 132b. Duplicates Credit in former MUCO 342ab. Instruction Mode: Lecture Grading Option: Letter

MUJZ 342b Aural Skills for Improvisers
Units: 1 Terms Offered: FaSp Sight-singing and dictation applied to jazz repertoire. Vocalization of modal and synthetic jazz scales and chordal qualities. *Prerequisite:* MUCO 132b. Duplicates Credit in former MUCO 342ab. Instruction Mode: Lecture Grading Option: Letter

MUJZ 347 Jazz Composition
Units: 2 Max Units: 4.0 Composing in the jazz medium. Duplicates Credit in former MUCO 347. Instruction Mode: Lecture Grading Option: Letter

MUJZ 350g A History of Jazz Music
Units: 4 A history of jazz music and the styles of music considered antecedents to jazz. *Recommended Preparation:* MUHL 250 Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUJZ 353 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and performance forum. Registration Restriction: Open only to jazz studies majors. Duplicates Credit in former PLDV 410. Instruction Mode: Lecture Grading Option: Letter

MUJZ 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUJZ 395 Jazz Elements II
Units: 2 Max Units: 08 Advanced study of compositional, improvisational, performance, conducting, and arranging elements found in the jazz repertory. Students will be encouraged to forge individual musical expressions. *Prerequisite:* MUJZ 195L or MUJZ 197b Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture, Lab Grading Option: Letter

MUJZ 396 Jazz Combo II
Units: 2 Max Units: 8.0 Terms Offered: FaSp Preparation and performance of literature for jazz combos. *Prerequisite:* MUJZ 195. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUJZ 400 Arranging for Jazz Ensemble
Units: 2 Scoring for jazz ensemble with emphasis on writing for sections of like and mixed instruments as well as full ensemble. Duplicates Credit in former MUCO 400. Instruction Mode: Lecture Grading Option: Letter

MUJZ 403 Studio Singing Techniques
Units: 2 Terms Offered: FaSp Study of technique, theory and aural skills as applied to studio singing; critical listening; study of various styles; ear training and sight singing as these apply to working in a studio. *Recommended Preparation:* jazz background; can read music and sing well. Instruction Mode: Lecture Grading Option: Letter

MUJZ 419m The Jazz Experience: Myths and Culture
Units: 4 Terms Offered: FaSp An examination of the music, culture, and mythology of jazz revealed through the study of jazz fiction, film, poetry, and recorded examples. Instruction Mode: Lecture Grading Option: Letter

MUJZ 443 Jazz Pedagogy
Units: 2 Terms Offered: Sp Concepts, methods, and resources; examination and comparison of textbooks, recordings, tapes, and materials related to the study and teaching of jazz. Duplicates Credit in former MUED 443. Instruction Mode: Lecture Grading Option: Letter

MUJZ 450 Intermediate Jazz Improvisation
Units: 2 Max Units: 4.0 Terms Offered: FaSp Development of intermediate improvisational skills including underlying principles of theory, harmony, jazz ear training, and jazz style. *Recommended Preparation:* MUJZ 150. Instruction Mode: Lecture Grading Option: Letter

MUJZ 451 Advanced Jazz Improvisation
Units: 2 Max Units: 4.0 Terms Offered: Sp Development of advanced improvisational skills, including Lydian-chromatic and bi-modal techniques, through instrumental performance. Instruction Mode: Lecture Grading Option: Letter

MUJZ 452 Individual Instrument Performance Class II
Units: 1 Max Units: 4.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Required of all third and fourth year wind and percussion majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MUJZ 453 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and performance forum. Registration Restriction: Open only to jazz studies majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 486 Jazz Masters from World War II to the Present
Units: 2 Examination of major jazz artists from World War II to the present with emphasis on the innovators of each period. Detailed analysis of selected repertoire. *Recommended Preparation:* MUJZ 419. Duplicates Credit in former MUHL 486. Instruction Mode: Lecture Grading Option: Letter

MUJZ 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUJZ 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUJZ 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 545 Jazz Ensemble Development
Units: 2, 2 years Terms Offered: Sp Techniques, approaches, teaching materials, and music useful in developing jazz ensembles in educational settings, from junior high school through college. Duplicates Credit in former MUED 547. Instruction Mode: Lecture Grading Option: Letter

MUJZ 547 Jazz Composition
Units: 2 Max Units: 4.0 Terms Offered: Fa Application of theoretical and compositional techniques used in jazz to written music. Analysis and performance of historical and contemporary examples will be included. Duplicates Credit in former MUCO 547. Instruction Mode: Lecture Grading Option: Letter

MUJZ 551 Graduate Jazz Improvisation
Units: 2 Terms Offered: Sp Development of proficiency in improvising to advanced jazz concepts, including transposition, substitute harmony, superimposed harmony, atypical harmonic schemes and contemporary chord and scale types. *Prerequisite:* MUJZ 451. Instruction Mode: Lecture Grading Option: Letter

MUJZ 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MUJZ 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MUJZ 588 Special Studies in Jazz Performance
Units: 2 Max Units: 6.0 Performance problems, composers and/or stylistic analysis of music from the jazz idiom. Specific emphasis to be determined by the Jazz Studies department. Instruction Mode: Lecture Grading Option: Letter

MUJZ 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUJZ 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUJZ 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 688 Special Topics in Jazz Performance
Units: 2 Max Units: 4.0 Terms Offered: Fa Examination and analysis of solo and compositional repertory of the jazz idiom through transcription and comparative research. Specific emphasis to be determined by the Jazz Studies department. Instruction Mode: Lecture Grading Option: Letter

MUJZ 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

School of Music

MUSC 102gw World Music
Units: 4 Exploration of music and cultures of the world. Engagement with international musicians, global issues, field work and musical diasporas in Los Angeles. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former MUHL 302 Instruction Mode: Lecture Grading Option: Letter

MUSC 110 Freshman Forum
Units: 1 Terms Offered: FaSp Introduction to issues and skills relevant to the professional musical world of today. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUSC 115gp Western Music as Sounding History
Units: 4 An introduction to Western art music and culture from the Medieval, Renaissance, Baroque, Classical, Romantic and Modern eras through reading, listening, analyzing and writing about music. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Duplicates Credit in former MUHL 315 Instruction Mode: Lecture Grading Option: Letter

MUSC 170gp Classics of Music and Literature: from Ancient Greece Through Contemporary LA
Units: 4 Terms Offered: FaSp (Enroll in CLAS 170gp)

MUSC 200gmw The Broadway Musical: Reflections of American Diversity
Units: 4 A uniquely American genre, the Broadway musical serves as a catalyst for inquiry into human diversity, cross-culturalism, and significant social and political issues. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former MUSC 400 Instruction Mode: Lecture Grading Option: Letter

MUSC 210g Electronic Music and Dance Culture
Units: 4 The origins and development of EDM and its relatives such as disco, house, techno, rave and electronica, focusing on cultural and technological influences. Satisfies New General Education in Category A: The Arts Duplicates Credit in former MUSC 410 Instruction Mode: Lecture Grading Option: Letter

MUSC 215 Music, Mind and the Brain
Units: 4 Terms Offered: Irregular (Enroll in PSYC 215Lg)

MUSC 250gmw The Music of Black Americans
Units: 4 A chronicle of the musical contribution of Africans and African Americans to American society and to the foundations of musical genres and styles throughout the world. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former MUSC 450 Instruction Mode: Lecture Grading Option: Letter

MUSC 255 Songwriting I
Units: 2 Terms Offered: FaSp Development of musical and lyrical skills, composing, listening, analysis, and critiques of popular original music. Instruction Mode: Lecture Grading Option: Letter

MUSC 320gmw Hip-hop Music and Culture
Units: 4 A history of hip-hop music from its inception to the present: its musical processes and styles, as well as attendant social, political and cultural issues. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World

Duplicates Credit in former MUSC 420 Instruction Mode: Lecture Grading Option: Letter

MUSC 355 Songwriting II
Units: 2 Terms Offered: FaSp Continuation of Songwriting I; particular emphasis on the analysis of the techniques of important popular songwriters and the application of these techniques to original songs. *Prerequisite:* MUSC 255. Duplicates Credit in former MUCO 252. Instruction Mode: Lecture Grading Option: Letter

MUSC 371g Musical Genre Bending
Units: 4 The aesthetic and ethical issues of genre-bending music in 20th and 21st century rock, classical, jazz, and folk music. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUSC 372g Music, Turmoil and Nationalism
Units: 4 An exploration of musical practices and styles which reflect and shape national identities and which focus on those created in response to political turmoil in many forms. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUSC 373g Writing About Popular Music
Units: 4 Immerses students in criticism, scholarship, and creative writing dealing with popular music. Students participate in that discourse through developing their own authorial voices. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUSC 422 The Beatles: Their Music and Their Times
Units: 4 Music, lyrics, recordings, production techniques, career strategy, social ramifications, and especially the technological impact of the musical group known as The Beatles. Instruction Mode: Lecture Grading Option: Letter

MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies
Units: 2 Critical examination of the lyrics, structure, associated mythology, technology, and evolving styles of popular music reflecting the turbulent societal changes during the Sixties and Seventies. Instruction Mode: Lecture Grading Option: Letter

MUSC 424 Iconic Figures of Popular Music
Units: 2 Max Units: 8.0 Terms Offered: FaSp Music, life, recordings, and attendant musical, cultural and political influences of a seminal musician or group in 20th or 21st century popular music. Instruction Mode: Lecture Grading Option: Letter

MUSC 430m Music and the Holocaust
Units: 4 Terms Offered: FaSp Study of the creation and performance of Holocaust related music from 1933 to the present, including interaction with other arts. Instruction Mode: Lecture Grading Option: Letter

MUSC 444 American Roots Music: History and Culture
Units: 4 Terms Offered: Irregular The history, genre, styles, songs, lyrics, and influences of American vernacular music in the 20th century, including the background that spawned these musical genres. Instruction Mode: Lecture Grading Option: Letter

MUSC 455 Songwriting III: The Performing Songwriter
Units: 2 Continuation of Songwriting I and II with emphasis on the development of performance skills of original popular music in preparation for songwriting showcases. *Prerequisite:* MUSC 355. Duplicates Credit in former MUCO 254. Instruction Mode: Lecture Grading Option: Letter

MUSC 460 Film Music: History and Function from 1930 to the Present
Units: 4 Terms Offered: Fa A survey of the art and craft of film music as practiced by outstanding composers in motion pictures. Instruction Mode: Lecture Grading Option: Letter

MUSC 465 Music, Television and American Culture
Units: 4 Terms Offered: Sp An exploration of the social and cultural impact of music written for, popularized by, or exploited by American television from the 1950s through today. Instruction Mode: Lecture Grading Option: Letter

MUSC 470 Contemporary Popular Music: A Global Perspective
Units: 2 Terms Offered: Sm Contemporary popular music in global culture; includes performance and collaboration opportunities with local musicians. Instruction Mode: Lecture Grading Option: Letter

MUSC 475 Musician's Health and Wellness
Units: 2 Interactive exploration of injury prevention, body awareness disciplines, effective practice strategies, warm-ups and stretches, performance anxiety, hearing protection, and other pertinent wellness topics for musicians. *Recommended Preparation:* Music background Instruction Mode: Lecture Grading Option: Letter

MUSC 480 Young Artist Project I
Units: 2 Ideation and development of plans for unique individualized, mentored projects related to students' diversified and often hybrid work as classical musicians. Instruction Mode: Lecture Grading Option: Letter

MUSC 481 Young Artist Project II
Units: 2 Refinement, execution and reflection on unique individualized, mentored projects related to students' diversified and often hybrid work as classical musicians. *Prerequisite:* MUSC 480 Instruction Mode: Lecture Grading Option: Letter

MUSC 496 Careers in Music
Units: 2 Terms Offered: Sp A study of the practical aspects of the music business, including the history, procedures, standard practices, economics and technologies employed by the music industry. Instruction Mode: Lecture Grading Option: Letter

MUSC 498x Internship in Music
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Practical work experience in the student's field of study, at an off-campus location. Students are individually supervised by faculty. Registration Restriction: Open only to Bachelor of Music and Bachelor of Arts, Music majors only. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUSC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUSC 598 Internship in Music
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Practical work experience in the student's field of study, at an off-campus location. Students are individually supervised by faculty. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUSC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUSC 798 Internship in Music
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Practical work experience in the student's field of study, at an off-campus location. Students are individually supervised by faculty. Registration Restriction: Open only to doctoral students in music. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUSC 800 Studies for the Qualifying Examination in Music
Units: 0 Terms Offered: FaSpSm Studies for the qualifying examination. Duplicates Credit in the former GRSC 800 Instruction Mode: Lecture Grading Option: Credit/No Credit

Nautical Science

NAUT 301a Seamanship and Navigation
Units: 2 Terms Offered: FaSp An experiential approach to sailing and seafaring, introducing offshore sailing theory and techniques, navigation, and basic oceanography as relevant to seamanship, leadership and communication skills. Duplicates Credit in former NAUT 001a Instruction Mode: Lecture Grading Option: Letter

NAUT 301b Seamanship and Navigation
Units: 2 Terms Offered: FaSp An experiential approach to sailing and seafaring, introducing offshore sailing theory and techniques, navigation, and basic oceanography as relevant to seamanship, leadership and communication skills. *Prerequisite:* NAUT 301a or NAUT 001ax Duplicates Credit in former NAUT 001b Instruction Mode: Lecture Grading Option: Letter

NAUT 302ax Advanced Seamanship and Navigation
Units: 2 Terms Offered: FaSp Responsibilities and operations commanding an offshore sailing vessel including sailing theory and advanced techniques, advanced navigation, ships engineering and oceanography relevant to seamanship. *Prerequisite:* NAUT 301b or NAUT 001bx Duplicates Credit in former NAUT 002a Instruction Mode: Lecture Grading Option: Letter

NAUT 302bx Advanced Seamanship and Navigation
Units: 2 Terms Offered: FaSp Responsibilities and operations commanding an offshore sailing vessel including sailing theory and advanced techniques, advanced navigation, ships engineering and oceanography relevant to seamanship. *Prerequisite:* NAUT 302ax or NAUT 002ax Duplicates Credit in former

NAUT 002b Instruction Mode: Lecture Grading Option: Letter

Neuroscience (Undergraduate)

NEUR 199 Neuroscience Colloquium
Units: 1 Terms Offered: Sp (Enroll in BISC 199)

NEUR 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

NEUR 407 Cellular and Molecular Neuroscience
Units: 4 Terms Offered: FaSp (Enroll in BISC 407)

NEUR 408 Systems Neuroscience: From Synapses to Perception
Units: 4 Terms Offered: Sp (Enroll in BISC 408)

NEUR 421 Neurobiology
Units: 4 Terms Offered: Fa (Enroll in BISC 421)

NEUR 422 Neuropsychology
Units: 4 Terms Offered: Irregular (Enroll in PSYC 424)

NEUR 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disord
Units: 4 Terms Offered: Sp (Enroll in BISC 423)

NEUR 424 Brain Architecture
Units: 4 Terms Offered: Sp (Enroll in BISC 424)

NEUR 426 Principles of Neural Development
Units: 4 Terms Offered: Sp (Enroll in BISC 426)

NEUR 427 Neuropsychopharmacology
Units: 4 Terms Offered: Fa (Enroll in PSYC 427)

NEUR 440 Foundations of Cognitive Neuroscience
Units: 4 Terms Offered: FaSp (Enroll in PSYC 440)

NEUR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

NEUR 493x Neuroscience Honors Seminar
Units: 1 Max Units: 4.0 Terms Offered: FaSp Students attend lectures of distinguished neuroscientists visiting USC and give short, chalk-talk presentations summarizing the lecture. The presentations are critiqued by the students. *Prerequisite:* BISC 220 or BISC 221; *Recommended Preparation:* BISC 421. Instruction Mode: Lecture Grading Option: Letter

NEUR 494x Honors Thesis
Units: 2 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

NEUR 534L Computational Neuroengineering
Units: 3 (Enroll in BME 575)

NEUR 535 Brain Theory and Artificial Intelligence
Units: 3 (Enroll in CSCI 564)

NEUR 542 Hearing and Communication Neuroscience
Units: 4 Terms Offered: Sp (Enroll in BISC 521)

Neuroimaging and Informatics

NIIN 500 Neuroimaging and Systems Neuroscience
Units: 3 Terms Offered: Fa Detailed overview of neuroanatomy, neurophysiology, and neural systems with an emphasis on human neuroanatomy and imaging. Examples from clinical cases and their consequences will be explored. Registration Restriction: Open only to NIIN students or with permission of the instructor and director of education Instruction Mode: Lecture Grading Option: Letter

NIIN 510 Fundamentals of Human Neuroimaging
Units: 3 Terms Offered: Fa Survey of anatomical and functional neuroimaging approaches and their use to explore the healthy as well as diseased human brain. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 520 Experimental Design for Neuroimaging
Units: 3 Terms Offered: Sp Examine experimental design approaches for experimental and clinical neuroimaging investigation. Topics on how to develop rigorous experiments to test theories of cognitive and clinical neuroscience. Registration Restriction: Open only to Neuroimaging and Informatics majors Instruction Mode: Lecture Grading Option: Letter

NIIN 530 Neuroimaging Data Acquisition w/ Magnetic Resonance Imaging
Units: 3 Terms Offered: Fa Introduces the various approaches used to image the living brain using MR-based techniques. Covers neuroimaging scanning technologies, pulse sequence design, and sources of image artifact. *Recommended Preparation:* familiarity with Matlab. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 540 Neuroimaging Data Processing Methods
Units: 3 Terms Offered: Fa Comprehensive investigation of data processing methods, software strategies, and workflow design and execution methodologies. Registration Restriction: Open only to Neuroimaging and Informatics majors Instruction Mode: Lecture Grading Option: Letter

NIIN 550 Computational Modeling in Neuroimaging
Units: 3 Terms Offered: Sp Addresses the current neuroinformatics approaches to large-scale data representations, mining, and visualization in brain imaging. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 560 Brain Architecture and Neuroanatomic Exploratory Techniques in Animal Models
Units: 3 Terms Offered: Sp Introduction to basic theories and methodological approaches to neuroanatomy in animal models including histology, microscopy, behavioral investigations, and neuroinformatics. Registration Restriction: Open only to Neuroimaging and Informatics majors Instruction Mode: Lecture, Lab Grading Option: Letter

NIIN 570 Neuroimaging Genetics
Units: 3 Terms Offered: Sp Lectures on human genetics and epigenetics. Discuss how applying these concepts to brain imaging advances our understanding of healthy development and neurological disease. Emphasis on critical thinking applied both to designing neuroimaging genetics studies and to constructively assessing peer work and existing neuroimaging genetics literature. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 580 Introduction to Data Science in Neuroimaging
Units: 3 Terms Offered: Sp Basics of data science as applied to neuroimaging data. Topics include neuroimaging data preparation and quality control, basics of programming and statistical models and machine learning techniques appropriate for the analyses of neuroimaging data. *Recommended Preparation:* NIIN 510, NIIN 540 Registration Restriction: Open only to NIIN majors or with the permission of the instructor and NIIN Director of Education Instruction Mode: Lecture Grading Option: Letter

NIIN 597 Current Topics in Neuroimaging Informatics
Units: 1 Terms Offered: Fa Leading researchers in the areas of basic and clinical brain imaging, computational methods, and informatics formally discuss their work for which students provide written critical review and comment. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 600 Science Communications
Units: 1 Terms Offered: Sp Learn writing and communication elements critical for success in science-related fields, including clear writing, effective presentations and career development skills. Registration Restriction: Open only to NIIN majors or with the permission of the instructor and NIIN Director of Education Instruction Mode: Lecture Grading Option: Letter

Naval Science

NSC 135 Introduction to Naval Science
Units: 2 Terms Offered: Fa Introduction to the structure, principles, and practices, lines of command and control, and functions of the various components of the naval service. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 137 Seapower and Maritime Affairs
Units: 3 Terms Offered: Sp Analysis of U.S. Navy development and campaigns; evolution of strategic, tactical, and maritime doctrines; interaction of naval affairs with national security and domestic policies. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 251 Seamanship and Ship Operations
Units: 3 Terms Offered: Fa Vector solutions of relative motion, tactical problems; tactical communications, instructions; fleet communications, organizations; rules of the Nautical Road; aviation and maritime

meteorology; operation plans and orders. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 283 Naval Ships Systems I (Engineering)
Units: 3 Terms Offered: Sp Types, structure, and purpose of Naval ships, compartmentation, propulsion systems, auxiliary power systems, interior communications, ship control; ship design and stability. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 335 Navigation
Units: 3 Terms Offered: Fa Purposes, methods, and instruments of navigation; terrestrial and celestial navigation and nautical astronomy; time diagrams; lines of position by observation of celestial bodies. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 337 Naval Ships Systems II (Weapons)
Units: 3 Terms Offered: Sp Systems approach to naval weapons; linear analysis of ballistics; weapons control systems configurations and dynamics. Field trips. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 343 Evolution of Warfare
Units: 3 Terms Offered: Fa Causes and practice of warfare from ancient times; impact of changes in strategy, tactics, and technology; modern revolutionary warfare, global conflict, and politico-military relationships. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 392 Amphibious Warfare
Units: 3 Terms Offered: Fa Concepts of seaborne military operations; relationship of factors involved; characteristic operations of World War II; amphibious operation planning. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 393 Fundamentals of Maneuver Warfare
Units: 3 Characteristics, requirements and problems of maneuver warfare; modern tactical principles and current military developments; other aspects of warfare and impact on maneuver warfare doctrine; historical perspectives for present and future decision-making. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 453 Leadership and Management I
Units: 3 Terms Offered: Fa Principles of human relationships; principles of decision making and management at the junior officer level; theory and techniques of leadership. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 454 Leadership and Management II
Units: 3 Terms Offered: Sp Introduction to primary duties of junior naval officers; counseling and interviewing techniques; review of basic administrative responsibilities at the division officer level. Instruction Mode: Lecture, Lab Grading Option: Letter

Neuroscience (Graduate)

NSCI 521 Hearing and Communication Neuroscience
Units: 4 Terms Offered: Sp (Enroll in BISC 521)

NSCI 524 Advanced Overview of Neurosciences
Units: 4 Terms Offered: Fa Study of the nervous system at multiple levels through the analysis of four themes: motor control; emotion, motivation, and decision-making; memory and learning; and vision. *Prerequisite:* BISC 421. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 524. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHBI 524

NSCI 525 Advanced Overview of Neurosciences II
Units: 4 Terms Offered: Sp Sensory and motor systems, cognitive neuroscience, behavioral systems, computational neuroscience. *Prerequisite:* BISC 421. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 525. Instruction Mode: Lecture Grading Option: Letter

NSCI 531 Molecular and Cellular Neurobiology
Units: 4 Terms Offered: FaSpSm Introduces fundamental principles of advanced molecular and cellular neurobiology including proteins and nucleic acids, cell biology of neurons and glia, synaptic transmission and neuronal signaling. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 531. Instruction Mode: Lecture Grading Option: Letter Crosslisted as INTD-567

NSCI 532 Systems and Behavioral Neurobiology
Units: 3 Terms Offered: Fa Systems and behavioral neurobiology: hierarchical mechanisms controlling behavior, experimental techniques; perceptual (visual, auditory, somatosensory) systems; sensorimotor systems; motivated behavior; learning, memory and adaptation. Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter

NSCI 533 Cognitive Neuroscience
Units: 4 Terms Offered: Sp (Enroll in PSYC 540)

NSCI 539 Seminar in Neurobiology
Units: 1 Max Units: 4 Terms Offered: FaSp Seminar in Neurobiology. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 539. Instruction Mode: Lecture Grading Option: Letter

NSCI 540 Advanced Seminars in Neuroscience
Units: 1 Max Units: 8.0 Terms Offered: FaSpSm Advanced topic based seminar style courses in the diverse areas of Neuroscience. *Recommended Preparation:* NSCI 524. Registration Restriction: Open only graduate students. Instruction Mode: Lecture Grading Option: Letter

NSCI 541 Advanced Seminars in Neuroscience
Units: 2 Max Units: 12 Terms Offered: FaSpSm Advanced topic-based, seminar-style courses in the diverse areas of Neuroscience. *Prerequisite:* NSCI 524. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 541. Instruction Mode: Lecture Grading Option: Letter

NSCI 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

NSCI 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics providing background for instruction and research in neuroscience through lectures, discussions, assigned readings and student presentations. Instruction Mode: Lecture Grading Option: Letter

NSCI 790 Research
Units: 1, 2, 3, 4, 5, 6 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 790. Instruction Mode: Lecture Grading Option: Credit/No Credit

NSCI 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

NSCI 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

NSCI 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

NSCI 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

NSCI 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

Nursing

NURS 500 Bridge Course
Units: 2 Key concepts from chemistry, biochemistry, genetics, cell biology, metabolism, microbiology, and immunology in an 8-week format. Successful completion of this unique preparatory course is expected to position students for success in the graduate level pathophysiology and pharmacology courses. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Credit/No Credit

NURS 501 Pathophysiology for Advanced Nursing Practice
Units: 4 Advanced physiology/ pathophysiology including general principles that apply across the lifespan. *Recommended Preparation:* Recent (within five years), satisfactory completion of undergraduate courses that include Organic Chemistry, Nutrition, Anatomy and Physiology. It is expected that enrolled students have reviewed their undergraduate course work in human anatomy and physiology, and possess a working knowledge of cell biology, biochemistry, nutrition, and human genetics at the undergraduate level. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 502 Advanced Health Assessment Across the Life Span
Units: 3 Development of advanced critical thinking and clinical judgement skills through comprehensive health assessment. Health promotion and health maintenance content is utilized to assess health status and evaluate health risk among individuals and groups. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Credit/No Credit

NURS 503 Theory: Clinical Management of Adult Patients
Units: 3 The scope of practice and responsibilities of the family nurse practitioner in prevention of disease, health maintenance, and the diagnosis and management of patients with common illnesses are explored. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 504 Pharmacology for Advanced Practice Nursing
Units: 3 Advanced pharmacology including pharmacodynamics, pharmacokinetics, and pharmacotherapeutics of all broad categories of agents. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 505 Clinical Practicum: Management of Adult Patients
Units: 3 Primary health care to patients throughout the life cycle with a focus on the prevention of disease, health maintenance, and the diagnosis and management of patients with common illnesses. *Prerequisite:* NURS 503 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Credit/No Credit

NURS 507 Theory: Clinical Management of the Childbearing/Childrearing Family
Units: 3 Diagnosing and managing childbearing women from preconception through uncomplicated pregnancy and postpartum periods and providing primary care to children and their families from newborn through adolescence periods. *Prerequisite:* NURS 503 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 600 Theory: Clinical Management of Adult Patients with Complex Medical Issues
Units: 3 The scope of practice and responsibilities of the family nurse practitioner in the diagnosis and management of patients with acute, complex and chronic illnesses are explored. *Prerequisite:* NURS 503 and NURS 507 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 601 Clinical Practicum: Management of the Childbearing/ Childrearing Family
Units: 3 Clinical practicum is intended to prepare FNP students to provide primary health care to childbearing/ childrearing families from preconception through adolescent phase of the life cycle. *Prerequisite:* NURS 507 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Credit/No Credit

NURS 602 Research/Analytical Methods
Units: 3 Understanding and applying commonly used research methodologies and data analysis techniques in healthcare research. *Recommended Preparation:* statistics Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 603 Transforming Research Evidence into Practice
Units: 3 Preparing the advanced practice nursing student to critically evaluate knowledge, research and evidence for implementation of best practices in healthcare in order to deliver safe, ethical, culturally sensitive evidence based care for patients in diverse settings. *Prerequisite:* NURS 602 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 604 Clinical Practicum: Management of Adult Patients with Complex Medical Issues
Units: 3 Application of theoretical concepts studied in NURS 600. Comprehensive assessments, formulation of differential diagnoses, and the development of plans of care to manage acute and chronic complex in a variety of practice settings. *Prerequisite:* NURS 600 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Credit/No Credit

NURS 605 Professional Issues in Advanced Practice Nursing
Units: 2 The professional role and legal responsibilities of the nurse practitioner at entry to clinical practice and throughout a career are explored. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 606 Health Policy Principles in Changing Health Care Contexts
Units: 2 Foundation for leadership in interprofessional collaborative endeavors to address health policy that prepares learners to analyze and influence health policy and explores the role of nurse practitioners in the creation and modification of health policy. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 607 Theory: Family Primary Care
Units: 2 Capstone course draws on material and concepts learning throughout the FNP program and explores additional complex issues including management of pain, caregiver burden, palliative care, and end of life. *Prerequisite:* NURS 503 and NURS 507 and NURS 600 and NURS 602 and NURS 603 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 608 Clinical Practicum: Family Primary Care
Units: 3 Prepares the family nurse practitioner student for entry into practice in the diagnosis and management of patients with acute, complex, and chronic illnesses in the primary care setting. *Corequisite:* NURS 607 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Credit/No Credit

Occlusion

OCCL 310 Fundamentals of Dental Morphology
Units: 1 Fundamentals of tooth form; carving of the permanent teeth. Instruction Mode: Lecture Grading Option: Letter

OCCL 502 Occlusion
Units: 1 Principles of occlusion as related to clinical application of techniques and procedures to diagnose and treatment plan malfunctions of the stomatognathic system. Instruction Mode: Lecture Grading Option: Letter

OCCL 521a Dental Morphology and Function
Units: 3 Fundamentals of tooth form; principles of occlusion. Instruction Mode: Lecture Grading Option: Letter

OCCL 521b Dental Morphology and Function
Units: 2 Fundamentals of tooth form; principles of occlusion. Instruction Mode: Lecture Grading Option: Letter

OCCL 522 Occlusion Laboratory
Units: 1 Laboratory experience in functional analysis and correction of occlusal disharmonies. Instruction Mode: Lecture Grading Option: Letter

OCCL 601 Advanced Concepts of Occlusion
Units: 1 Historical perspective of occlusion; occlusal equilibration, effect of occlusal adjustment, instrumentation useful in occlusal therapy. Includes clinic and laboratory experience. Instruction Mode: Lecture Grading Option: Letter

Otolaryngology, Head and Neck Surgery

OHNS 200 Communication Development and Disorders Across the Life Span
Units: 4 Terms Offered: Sp Introduction to speech, language and hearing issues across the lifespan; examination of how issues of communication relate to social, medical and educational services needed. Instruction Mode: Lecture Grading Option: Letter

OHNS 301 The Practice of Educational Speech-Language Pathology
Units: 4 Terms Offered: Fa Examination of the interprofessional practice of educational speech-language pathologists and the multiple professionals working in the pediatric arena to serve children in schools. Instruction Mode: Lecture Grading Option: Letter

OHNS 302 Hearing Science and Technology
Units: 4 Terms Offered: Fa Examination of emerging trends in the protection of hearing and treatment of hearing loss, explored across disciplines, including biology, biomedical engineering, electrical engineering, arts, neuroscience and psychology. Instruction Mode: Lecture Grading Option: Letter

OHNS 401 The Practice of Medical Speech-Language Pathology
Units: 4 Terms Offered: Sp Introduction to the practice of medical speech language pathology; examination of the role of the speech language pathologist as a member of the medical speech pathology team. Instruction Mode: Lecture Grading Option: Letter

OHNS 402 The Dynamic Profession of Audiology
Units: 4 Terms Offered: Sp Exploration of how our understanding of hearing and balance disorders continues to evolve with advances in science and technology, with opportunities for interprofessional practice and collaboration. Instruction Mode: Lecture Grading Option: Letter

OHNS 500 Neuroanatomy and Neurophysiology for Speech, Language and Hearing
Units: 3 Terms Offered: Fa Neuroanatomy and neurophysiology with a concentration on basic human communication and swallowing processes, specifically pertaining to disorders and differences in speech, language and hearing. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 501 Speech Sound Disorders
Units: 3 Terms Offered: Fa Focus on speech-sound production, assessment and treatment of childhood articulation and phonological disorders, emphasizing the study of efficient and effective procedures and service delivery models. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 502 Language and Literacy Disorders
Units: 3 Terms Offered: Fa Focus on language and literacy disorders in children from birth through adolescence. Special emphasis on assessment, prevention and intervention methods across populations and multi-cultural backgrounds. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 503 Research Methods in Communication Sciences and Disorders
Units: 3 Terms Offered: Fa Basic and applied research procedures in communication sciences and disorders, including research design, data collection and analysis and application to evidence-based practice for clinical practice. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 504 Speech-Language Pathology Methods and Evidence-Based Practice
Units: 3 Terms Offered: Fa Overview of the clinical process for the prevention and remediation of communication disorders with emphasis on clinical methodology. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 505 Audiology for Speech-Language Pathologists
Units: 2 Terms Offered: Sp Introduction to the discipline and practice of audiology, including the nature of hearing and balance, how these systems are clinically assessed and impacts of altered function. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 506 Autism Spectrum Disorder, AAC and Cognitive Communication Disorders in Children
Units: 3 Terms Offered: Sp Assessment and treatment of Autism Spectrum Disorders and other cognitive disabilities including language, social skills, behavior, consideration for assistive technology and augmentative and alternative communication. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 507 Voice and Resonance Disorders
Units: 3 Terms Offered: Fa Nature of normal voice production and the assessment and treatment of physiological and other disorders of pitch, loudness, voice quality, including resonance and alaryngeal voice. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 508 Assessment of Communication Disorders
Units: 3 Terms Offered: Sp Principles, methods and materials to assess communication disorders. Models of assessment and testing, techniques, administration, scoring and interpretation, report writing and related issues. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 509 Dysphagia
Units: 3 Terms Offered: Sp Anatomy and physiology of the normal swallow and neurological/oncologic disorders which affect the swallowing process. Current practice for clinical and instrumentation analysis, evaluation and treatment. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 510 Clinical Practicum in Speech-Language Pathology
Units: 2 Terms Offered: Sp Supervised clinical hours in assessment and treatment of individuals with varying communication disorders at a variety of age levels in educational or medical settings. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 511 Aural (Re)Habilitation
Units: 3 Terms Offered: Sm Introduction to the theories, concepts and components that underlie aural habilitation and rehabilitation to individuals with hearing loss, and concomitant services to their family members. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 512 Communication Disorders in Early Childhood
Units: 3 Terms Offered: Sm Normal and atypical development relating to prevention, evaluation, treatment planning and remediating communication disorders in early childhood. Involvement of family, interdisciplinary teaming and legal requirements. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 513 Adult Neurogenic and Related Cognitive Communication Disorders
Units: 3 Terms Offered: Sm Acquired communication disorders including aphasia, right hemisphere disorder, traumatic brain injury, dementia, concussion. Assessment and treatment of these disorders including executive functioning and work/life/family/social implications. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 514 Clinical Rotations in Speech-Language Pathology
Units: 3 Max Units: 06 Terms Offered: Sm Supervised clinical hours in assessment and treatment of individuals with varying communication disorders at two specialty rotations for six weeks each. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 515 School-Based Issues in Speech-Language Programs
Units: 3 Terms Offered: Fa Legislative foundations for speech-language programs in schools, including due process, prevention, referral and assessment,

Individualized Education Program (IEP) processes and procedures, service delivery and accountability. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 516 Motor Speech Disorders/ Craniofacial Disorders
Units: 3 Terms Offered: Fa Motor speech disorders including the dysarthrias and apraxia of speech, as well as craniofacial disorders. Neurological bases, characteristics, differential diagnosis, assessment, treatment and interprofessional collaboration. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 517 Multicultural Issues in Speech-Language Pathology
Units: 2 Terms Offered: Fa Assessment and intervention considerations and methods for individuals with communication disorders from diverse population; focus on cultural sensitivity and commitment to inclusiveness, equity and diversity. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 518 Research/Capstone in Communication Sciences and Disorders
Units: 1 Max Units: 02 Terms Offered: FaSp Capstone Research Project addressing a problem in the field of communication sciences and disorders. Students will work with a PhD-level faculty member and will culminate in a submission for presentation in a poster session at a professional conference. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 519 Externship in Speech-Language Pathology
Units: 3 Max Units: 06 Terms Offered: FaSp Speech-language pathology clinical experience in a supervised school-based, medically-based or private practice setting. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 520 Professional Issues in Speech-Language Pathology
Units: 1 Terms Offered: Sp Professional issues that affect speech-language pathology in different work settings. Practice issues, licensing and certification, ethics, reimbursement and funding, national and state practice guidelines. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 521 Fluency Disorders
Units: 2 Terms Offered: Sp Topics related to assessment and treatment of fluency disorders. Theories, characteristics and behavioral and psychological and psycho-social impact. Clinical focus, counseling and transitional planning. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 522 Telepractice and Technological Applications in Speech-Language Pathology
Units: 2 Terms Offered: Sm Examination of technological applications and service delivery via telepractice. Problem solving and empirical evidence related to assessment, intervention, data collection, licensure, regulations and potential barriers. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

OHNS 523 Counseling in Speech-Language Pathology
Units: 2 Terms Offered: Sm The role of the speech-language pathologist in providing communication counseling to address the broader impact of communication and swallowing disorders. Registration Restriction: Open only to master students in the Speech-Language Pathology program Instruction Mode: Lecture Grading Option: Letter

Orofacial Pain Oral Medicine

OFPM 701 CPR, Blood and Airborne Infections and Common Emergencies for Dental Residents
Units: 1 Terms Offered: Sm CPR training, review of common dental emergencies, and blood and airborne pathogens in dental patients. Instruction Mode: Lecture Grading Option: Letter

OFPM 702a Soft Tissue Disease for Dental Residents
Units: 1 Terms Offered: Sm Seminars on the various mucosal, cutaneous, gingival and salivary diseases and lesions in the oral and maxillofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 702b Soft Tissue Disease for Dental Residents
Units: 2 Terms Offered: Fa Seminars on the various mucosal, cutaneous, gingival and salivary diseases and lesions in the oral and maxillofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 703 Local Anesthesia, Minor Surgery and Biopsy Procedures for Dental Residents
Units: 1 Terms Offered: Sm Seminars on local anesthesia methods and minor surgical procedures appropriate for the oral and maxillofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents
Units: 1 Terms Offered: Sm Review of the oral and maxillofacial region osseous and odontogenic pathologies and the various imaging methods used to examine this anatomic region. Instruction Mode: Lecture Grading Option: Letter

OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents
Units: 2 Terms Offered: Sp Seminars on the diagnostic and therapeutic procedures appropriate for chronic neurogenic based pain disorders that occur in the orofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 706 TMD, Orthopedics, Rheumatology and Physical Therapy for Dental Residents
Units: 2 Terms Offered: Fa Seminars on various topics relating to the diagnosis and management of Temporomandibular disorders. Instruction Mode: Lecture Grading Option: Letter

OFPM 707 Pharmacology Series for Dental Residents
Units: 2 Terms Offered: FaSpSm Seminars on common medications used in the practice of oral medicine and chronic orofacial pain. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 709 Headaches for Dental Residents
Units: 1 Terms Offered: Sp Seminars on the diagnosis, prevention and management (including pathophysiologic mechanisms) of episodic and chronic headache disorders. Instruction Mode: Lecture Grading Option: Credit/No Credit

OFPM 710a Knowledge Assessment for OFPOM Residents
Units: 1 Terms Offered: Sm Includes several intensive calibration/training sessions, with multiple practical demonstrations of methods and techniques. Skill development includes TM joint injection, myofascial palpation, oral cancer screening, biopsy, trigger-point injections and salivary gland cannulation, with mock and virtual patients. Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 710b Knowledge Assessment for OFPOM Residents
Units: 1 Terms Offered: Sm Several intensive calibration/training/ sessions based on content that the resident is expected to have mastered by the end of the program, specifically in the field of Oral Medicine. *Prerequisite:* OFPM 710a Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 721 Neurosciences for Dental Residents
Units: 2 Terms Offered: Fa Seminars on the neurophysiologic and neuroanatomic bases of chronic orofacial pain disorders. Instruction Mode: Lecture Grading Option: Letter

OFPM 722 Internal Medicine and Systemic Disease for Dental Residents
Units: 2 Terms Offered: Sp Seminars on common systemic diseases and the potential interactions with oral disease and treatment. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GDEN-722

OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents
Units: 2 Terms Offered: Fa Seminars on various topics relating to oral motor disorders and sleep disordered breathing (as it relates to the mandible and tongue.) Instruction Mode: Lecture Grading Option: Letter

OFPM 724 Psychological and Psychometric Assessment for Dental Residents
Units: 2 Terms Offered: Sm Seminars on various topics relating to biobehavioral

diagnosis and, where appropriate, psychological management of patients with chronic illness in the orofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 725 Epidemiology, Nutrition and Aging for Dental Residents
Units: 2 Terms Offered: Sm Seminar on the epidemiology of oral disease and nutritional topics as related to the aging patient. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GDEN-725

OFPM 726 Immunology and Immunosuppression for Dental Residents
Units: 2 Terms Offered: FaSpSm Seminar course on immunology and immunosuppression as it relates to diseases in the oral and maxillofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 727 Infectious Disease, Oral Microbiology and Virology for Dental Residents
Units: 2 Terms Offered: Sm Seminar organized around infectious diseases in the oral, pharyngeal and nasal region. Instruction Mode: Lecture Grading Option: Letter

OFPM 728 Case Presentations by OFP-OM Residents
Units: 2 Terms Offered: Sp Case presentations by Orofacial Pain/Oral Medicine residents in which each resident presents and defends the diagnostic and treatment methods selected for a particular case. Instruction Mode: Lecture Grading Option: Letter

OFPM 729a Capstone Project for OFPOM Residents
Units: 0.5 Terms Offered: Sp Residents complete their capstone research project in a topic in the area of their chosen focus/specialization. Registration Restriction: Open only to Herman Ostrow School of Dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 729b Capstone Project for OFPOM Residents
Units: 0.5 Terms Offered: Fa Residents complete their capstone research project in a topic in the area of their chosen focus/specialization. *Prerequisite:* OFPM 729a Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 729c Capstone Project for OFPOM Residents
Units: 0.5 Terms Offered: Sp Residents complete their capstone research project in a topic in the area of their chosen focus/specialization. *Prerequisite:* OFPM 729b Registration Restriction: Open only to Herman Ostrow School of Dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 729d Capstone Project for OFPOM Residents
Units: 0.5 Terms Offered: Fa Residents complete their capstone research project in a topic in the area of their chosen focus/specialization. *Prerequisite:* OFPM 729c Registration Restriction: Open only to Herman Ostrow School of Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 730a Case Portfolio Preparation by Online OFPOM Residents
Units: .5 Terms Offered: FaSpSm Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 730b Case Portfolio Preparation by Online OFPOM Residents
Units: .5 Terms Offered: FaSpSm Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. *Prerequisite:* OFPM 730a Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 730c Case Portfolio Preparation by Online OFPOM Residents
Units: .5 Terms Offered: FaSpSm Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. *Prerequisite:* OFPM 730b Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 730d Case Portfolio Preparation by Online OFPOM Residents
Units: .5 Terms Offered: FaSpSm Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. *Prerequisite:* OFPM 730c Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 730e Case Portfolio Preparation by Online OFPOM Residents
Units: .5 Terms Offered: FaSpSm Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. *Prerequisite:* OFPM 730d Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture Grading Option: Letter

OFPM 731 Case Portfolio Review and Defense
Units: 0.5 Terms Offered: Sm Residents must complete their capstone research project in a topic in the area of their chosen focus/specialization. *Prerequisite:* OFPM 730b Instruction Mode: Lecture, Discussion Grading Option: Letter

Orofacial Pain

OFP 705 Neurogenic Based Oral and Facial Pains
Units: 2 Terms Offered: FaSpSm Covers the prevalence, differential diagnosis, prevention and management for the various neurogenic orofacial and headache disorders occurring in the oral regions. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 705 Instruction Mode: Lecture Grading Option: Letter

OFP 706 TMD, Orthopedics, Rheumatology, and Physical Therapy
Units: 2 Terms Offered: FaSpSm Prevalence, differential diagnosis, prevention and management for the common and uncommon temporomandibular, arthrogenous, motor, mobility and growth disorders occurring in the oral region. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 706 Instruction Mode: Lecture Grading Option: Letter

OFP 707 Pharmacology Series
Units: 2 Terms Offered: FaSpSm Educate dental graduate students about the general pharmacologic principles and appropriate use of specific pharmaco-therapeutic classes of drugs. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 707 Instruction Mode: Lecture Grading Option: Letter

OFP 710 Knowledge Assessment
Units: 1 Terms Offered: FaSpSm Students attend USC campus to validate skills and perform in-person evaluations. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 710a Instruction Mode: Lecture Grading Option: Letter

OFP 723 Systems Physiology, Motor Disorders, and Sleep Apnea
Units: 2 Terms Offered: FaSpSm Presentation, diagnosis, mechanism and management of oral motor disorders and sleep disordered breathing providing knowledge about general issues of physiology associated with the masticatory system. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 723 Instruction Mode: Lecture Grading Option: Letter

OFP 724 Psychological and Psychometric Assessment
Units: 2 Terms Offered: FaSpSm Practical aspects of psychological issues (diagnosis and treatment) and psychometrics as they impact patients in an orofacial pain and oral medicine specialty clinic. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 724 Instruction Mode: Lecture Grading Option: Letter

OFP 730a Case Portfolio Preparation
Units: .5 Terms Offered: FaSpSm Case portfolio preparation with weekly online presentations and discussions of de-identified patient cases. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 730a Instruction Mode: Lecture Grading Option: Letter

OFP 730b Case Portfolio Preparation
Units: .5 Terms Offered: FaSpSm Case portfolio preparation with weekly online presentations and discussions of de-identified patient cases. *Prerequisite:* OFP 730a Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 730b Instruction Mode: Lecture Grading Option: Letter

OFP 730c Case Portfolio Preparation
Units: .5 Terms Offered: FaSpSm Case portfolio preparation with weekly online presentations and discussions of de-identified patient cases. *Prerequisite:*

OFP 730b Registration Restriction: Open only to the Herman Ostrow School of Dentistry Duplicates Credit in OFPM 730c Instruction Mode: Lecture Grading Option: Letter

Oral Medicine Oral Diagnosis

OMOD 501 Emergency Dental Treatment
Units: 1 Dental emergencies in a general dental practice; emphasis on diagnosis of pain, trauma, infections, abscesses, myofacial problems, pulpal considerations, restorative goals; interrelationship of these areas. Instruction Mode: Lecture Grading Option: Letter

OMOD 502 Chronic Orofacial Pain
Units: 2 Current concepts of pain mechanisms; application to differential diagnosis, treatment, and management of chronic head, neck, and dental pain. Instruction Mode: Lecture Grading Option: Letter

OMOD 505 Oral Medicine
Units: 2 Detection, recognition, assessment, management and treatment modification of medical conditions presented by dental patients. Instruction Mode: Lecture Grading Option: Letter

OMOD 506 Infection Control
Units: 1 Infection control and clinical asepsis in the dental office; ethical and legal aspects; specific agents of disease; epidemiology. Instruction Mode: Lecture Grading Option: Letter

OMOD 551a Clinic: Physical Evaluation
Units: 0 Obtaining medical history, performing modified physical exams and clinical laboratory tests, establishing physical status. Understanding rationale and indications for modifying dental therapy; clinic and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 551b Clinic: Physical Evaluation
Units: 0 Obtaining medical history, performing modified physical exams and clinical laboratory tests, establishing physical status. Understanding rationale and indications for modifying dental therapy; clinic and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 551c Clinic: Physical Evaluation
Units: 0 Obtaining medical history, performing modified physical exams and clinical laboratory tests, establishing physical status. Understanding rationale and indications for modifying dental therapy; clinic and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 551d Clinic: Physical Evaluation
Units: 1 Obtaining medical history, performing modified physical exams and clinical laboratory tests, establishing physical status. Understanding rationale and indications for modifying dental therapy; clinic and seminar. Instruction Mode: Lecture Grading Option: Letter

OMOD 562a Clinic: Hospital Dentistry
Units: 0 Clinical experience in dentistry for the medically compromised and physically handicapped patient in a hospital environment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 562b Clinic: Hospital Dentistry
Units: 0 Clinical experience in dentistry for the medically compromised and physically handicapped patient in a hospital environment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 562c Clinic: Hospital Dentistry
Units: 0 Clinical experience in dentistry for the medically compromised and physically handicapped patient in a hospital environment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 562d Clinic: Hospital Dentistry
Units: 1 Clinical experience in dentistry for the medically compromised and physically handicapped patient in a hospital environment. Instruction Mode: Lecture Grading Option: Letter

OMOD 563a Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563b Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563c Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563d Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563e Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563f Clinic: Emergency Dental Treatment
Units: 1 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: Letter

Operative Dentistry

OPER 520 Preclinical Operative Dentistry (ISP)
Units: 3 Preparation for clinical work through study of fundamentals of cavity design and restoration of cavity preparations on extracted teeth mounted in a manikin. Instruction Mode: Lecture Grading Option: Letter

OPER 521a Preclinical Operative Dentistry I
Units: 1, 2, 3 Introduction to terminology, materials, and instruments used in operative dentistry; fundamentals of amalgam restoration; principles of cavity preparation; amalgam manipulation, condensation, and carving using extracted teeth. Instruction Mode: Lecture Grading Option: Letter

OPER 521b Preclinical Operative Dentistry I
Units: 1, 2, 3 Introduction to terminology, materials, and instruments used in operative dentistry; fundamentals of amalgam restoration; principles of cavity preparation; amalgam manipulation, condensation, and carving using extracted teeth. Instruction Mode: Lecture Grading Option: Letter

OPER 522 Preclinical Operative Dentistry II
Units: 3 Fundamentals of cavity design; restoration of cavity preparations on extracted teeth mounted in the manikin. Instruction Mode: Lecture Grading Option: Letter

OPER 561a Clinic: Operative Dentistry I
Units: 0 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OPER 561b Clinic: Operative Dentistry I
Units: 0 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OPER 561c Clinic: Operative Dentistry I
Units: 0 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OPER 561d Clinic: Operative Dentistry I
Units: 6 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: Letter

OPER 562a Clinic: Operative Dentistry II
Units: 0, 1, 2, 3, 4, 5, 6 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OPER 562b Clinic: Operative Dentistry II
Units: 0, 1, 2, 3, 4, 5, 6 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: Letter

OPER 620 Conservative Cast Gold Restorations
Units: 2 Principles of cavity preparation, fabrication technique and finishing for conservative cast gold restorations; includes lab and clinic. Instruction Mode: Lecture Grading Option: Letter

OPER 701a Seminar: Advanced Operative Dentistry I
Units: 2 Terms Offered: Fa In-depth study of the biomechanics applied to cavity preparation according to material selection, bonding procedures, and protection of

the pulpdentin. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: In-progress to Credit/No Credit

OPER 701b Seminar: Advanced Operative Dentistry I
Units: 2 Terms Offered: Fa In-depth study of the biomechanics applied to cavity preparation according to material selection, bonding procedures, and protection of the pulpdentin. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 702aL Advanced Dental Morphology for Esthetic Restorations
Units: 3 Terms Offered: Sm In-depth study of the dental morphology, dental optical properties, and laboratorial procedures for restorative replication of esthetical and morphological aspects found in the natural tooth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 702bL Advanced Dental Morphology for Esthetic Restorations
Units: 3 Terms Offered: Fa In-depth study of the dental morphology, dental optical properties, and laboratorial procedures for restorative replication of esthetical and morphological aspects found in the natural tooth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 704a Operative Dentistry and Biomaterials Literature Review
Units: 1 Terms Offered: FaSpSm Weekly seminar devoted to review of the historic, classic, and current literature in advanced operative dentistry and dental biomaterials. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

OPER 704b Operative Dentistry and Biomaterials Literature Review
Units: 1 Terms Offered: FaSpSm Weekly seminar devoted to review of the historic, classic, and current literature in advanced operative dentistry and dental biomaterials. *Prerequisite:* OPER 704a Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

OPER 704c Operative Dentistry and Biomaterials Literature Review
Units: 1 Terms Offered: FaSpSm Weekly seminar devoted to review of the historic, classic, and current literature in advanced operative dentistry and dental biomaterials. *Prerequisite:* OPER 704b Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

OPER 704d Operative Dentistry and Biomaterials Literature Review
Units: 1 Terms Offered: FaSpSm Weekly seminar devoted to review of the historic, classic, and current literature in advanced operative dentistry and dental biomaterials. *Prerequisite:* OPER 704c Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

OPER 704e Operative Dentistry and Biomaterials Literature Review
Units: 1 Terms Offered: FaSpSm Weekly seminar devoted to review of the historic, classic, and current literature in advanced operative dentistry and dental biomaterials. *Prerequisite:* OPER 704d Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

OPER 704f Operative Dentistry and Biomaterials Literature Review
Units: 1 Terms Offered: FaSpSm Weekly seminar devoted to review of the historic, classic, and current literature in advanced operative dentistry and dental biomaterials. *Prerequisite:* OPER 704e Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture Grading Option: Letter

OPER 705L Dental Photography
Units: 1 Terms Offered: FaSpSm Basic principles of dental photography and its use in clinical dentistry for shade selection, replication of dental esthetic components, and clinical case documentation. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture, Lab Required Grading Option: Letter

OPER 706 Operative Implant Dentistry
Units: 1 Terms Offered: Sp Basic principles of implants applied to operative and adhesive dentistry. Registration Restriction: Open only to Advanced Operative and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 710a Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710b Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710c Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710d Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710e Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710f Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710h Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 715aL Applied Adhesion Sciences
Units: 2 Terms Offered: FaSpSm Advanced adhesive procedures for esthetic dental rehabilitation. Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 715bL Applied Adhesion Sciences
Units: 2 Terms Offered: FaSpSm Advanced adhesive procedures for esthetic dental rehabilitation. *Prerequisite:* OPER 715a Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 715cL Applied Adhesion Sciences
Units: 2 Terms Offered: FaSpSm Advanced adhesive procedures for aesthetic dental rehabilitation. *Prerequisite:* OPER 715b Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 720a Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720b Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background

of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720c Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720d Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720e Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720f Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720h Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 725a Cariology
Units: 1 Terms Offered: FaSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. Registration Restriction: Open only to Advanced Operative and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 725b Cariology
Units: 1 Terms Offered: FaSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. *Prerequisite:* OPER 725a Registration Restriction: Open only to Advanced Operative and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 730a Seminar: Advanced Operative Dentistry IV
Units: 1 Terms Offered: FaSpSm In-depth study, analysis, and treatment involved in the management of discolored and developmental defects of the teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 730b Seminar: Advanced Operative Dentistry IV
Units: 1 Terms Offered: FaSpSm In-depth study, analysis, and treatment involved in the management of discolored and developmental defects of the teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 730c Seminar: Advanced Operative Dentistry IV
Units: 1 Terms Offered: FaSpSm In-depth study, analysis, and treatment involved in the management of discolored and developmental defects of the teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 730d Seminar: Advanced Operative Dentistry IV
Units: 1 Terms Offered: FaSpSm In-depth study, analysis, and treatment involved in the management of discolored and developmental defects of the teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 735aL Research Methodology
Units: 2 Terms Offered: FaSpSm Study of research methodologies for scientific investigation on dental biomaterials. Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture, Lab Required Grading Option: Letter

OPER 735bL Research Methodology
Units: 2 Terms Offered: FaSpSm Study of research methodologies for scientific investigation on dental biomaterials. *Prerequisite:* OPER 735aL Registration Restriction: Open only to the Herman Ostrow School of Dentistry Instruction Mode: Lecture, Lab Required Grading Option: Letter

OPER 740a Seminar: Advanced Operative Dentistry V
Units: 2 Terms Offered: FaSpSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 740b Seminar: Advanced Operative Dentistry V
Units: 2 Terms Offered: FaSpSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 740c Seminar: Advanced Operative Dentistry V
Units: 2 Terms Offered: FaSpSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 750a Seminar: Advanced Operative Dentistry VI
Units: 2 Terms Offered: FaSpSm Advanced studies of restorative techniques of severely damaged teeth, selection and use of different post systems, core build-up, and bonding to the root canal. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 750b Seminar: Advanced Operative Dentistry VI
Units: 2 Terms Offered: FaSpSm Advanced studies of restorative techniques of severely damaged teeth, selection and use of different post systems, core build-up, and bonding to the root canal. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 750c Seminar: Advanced Operative Dentistry VI
Units: 2 Terms Offered: FaSpSm Advanced studies of restorative techniques of severely damaged teeth, selection and use of different post systems, core build-up, and bonding to the root canal. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760a Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760b Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760c Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to

Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760d Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760e Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760f Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760h Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 765a Seminar: Advanced Operative Dentistry VIII
Units: 1 Terms Offered: FaSpSm Advanced studies of computer-generated restorations (CAD/CAM) and digital imaging in dentistry for anterior and posterior teeth. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 765b Seminar: Advanced Operative Dentistry VIII
Units: 1 Terms Offered: FaSpSm Advanced studies of computer-generated restorations (CAD/CAM) and digital imaging in dentistry for anterior and posterior teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 765c Seminar: Advanced Operative Dentistry VIII
Units: 1 Terms Offered: FaSpSm Advanced studies of computer-generated restorations (CAD/CAM) and digital imaging in dentistry for anterior and posterior teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 765d Seminar: Advanced Operative Dentistry VIII
Units: 1 Terms Offered: FaSpSm Advanced studies of computer-generated restorations (CAD/CAM) and digital imaging in dentistry for anterior and posterior teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 770aL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770bL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770cL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770dL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770eL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770fL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770hL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 780a Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: In-progress to Credit/No Credit

OPER 780b Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780c Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780d Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780e Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced

Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780f Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780h Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyse and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. *Prerequisite:* OPER 780f Registration Restriction: Open only to master and professional students in Advanced Operative and Adhesive Dentistry, and Advanced Operative Dentistry majors Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 795a Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OPER 795b Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795c Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795d Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795e Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 10.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795f Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795h Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795i Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795j Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

Oral Pathology and Radiology

OPR 701 Bone Pathology and Oral and Maxillofacial Radiology
Units: 1 Terms Offered: FaSpSm Focus on the interpretation of hard tissue imaging studies, including conventional dental imaging in the diagnosis along with the basics of medical radiographic modalities. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 702 Principles and Practice of Oral Medicine
Units: 1 Terms Offered: FaSpSm An overview of patients with primary oral conditions and oral diseases related to systemic pathology. Practice management issues discussed. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 703 General and Systemic Human Pathology
Units: 1 Terms Offered: FaSpSm Disease mechanisms and principles of the pathological entities associated with each organ system. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 704 Oral Pathology and Maxillofacial Medicine
Units: 2 Terms Offered: FaSpSm Review of oral diseases affecting the oral cavity which includes developmental conditions, pigmented lesions, Immune-Mediated and Allergic Conditions, mucosal and connective tissue abnormalities. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 705 Oral Histopathology and Surgical Pathology
Units: 2 Terms Offered: Sp Various diagnostic modalities, interventional diagnostic procedures, and the description of microscopic features of oral developmental, reactive, and neoplastic conditions relevant to surgical pathology. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 706 Evidence-Based Practice and Literature Review
Units: 1 Terms Offered: Sp Focus on discussion of patient-centered approaches to clinical treatment and decision-making. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 708 Diagnostic Radiology
Units: 2 Terms Offered: FaSpSm Case-based radiology course reviewing head and neck cases; interpretation using conventional and advance imaging such as MRI, CBCT and CT Scan. Registration Restriction: Open only to Herman Ostrow School of Dentistry Oral Pathology and Radiology students Instruction Mode: Lecture Grading Option: Letter

OPR 730 Clinical Cases in Oral Pathology and Radiology
Units: 2 Terms Offered: FaSpSm E-portfolio of Oral Pathology or Radiology cases, demonstrating the ability to apply the knowledge to different cases and scenarios. Registration Restriction: Open only to Herman Ostrow School of Dentistry Oral Pathology and Radiology students Instruction Mode: Lecture Grading Option: Letter

OPR 730a Case Portfolio Preparation
Units: 0.5 Terms Offered: Fa Weekly online conferences and discussions, and the documentation of six cases or scenarios, to demonstrate understanding of the knowledge and application to real situations. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 730b Case Portfolio Preparation
Units: 0.5 Terms Offered: Sm Weekly online conferences and discussions, and the documentation of six cases or scenarios, to demonstrate understanding of the knowledge and application to real situations. *Prerequisite:* OPR 730a Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 732 Knowledge Assessment
Units: 1 Terms Offered: FaSpSm Residents attend the USC campus, with several intensive calibration/training/seminar

sessions provided by faculty. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

Orthodontics

ORTH 501a Seminar: Orthodontics
Units: 0, 1 Clinical use of cephalometrics and orthodontic prediction; removable orthodontic appliances and their design; case analysis; mixed dentition cases; adult tooth positioning; orthodontic banding; molar uprighting. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 501b Seminar: Orthodontics
Units: 0, 1 Clinical use of cephalometrics and orthodontic prediction; removable orthodontic appliances and their design; case analysis; mixed dentition cases; adult tooth positioning; orthodontic banding; molar uprighting. Instruction Mode: Lecture Grading Option: Letter

ORTH 521 Preclinical Orthodontics
Units: 2 Evaluation, prevention, and treatment of dento-facial malformations. Construction of basic appliances to treat orthodontic problems encountered by the general practitioner. Instruction Mode: Lecture Grading Option: Letter

ORTH 561a Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 521. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561b Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561a. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561c Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561b. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561d Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561c. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561e Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561d. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561f Clinic: Orthodontic Therapy
Units: 2 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561e. Instruction Mode: Lecture Grading Option: Letter

ORTH 674 Clinical and Molecular Bone Biology
Units: 2 Terms Offered: Sp Explore the impact of the application of new molecular techniques to bone biology research on our understanding of osteoporosis, osteosarcoma, hypercalcemis, etc. Open to advanced program students in dentistry only. Instruction Mode: Lecture Grading Option: Credit/No Credit

ORTH 701a Cephalometrics: Growth and Development
Units: 2, 3, 4 Principles and mechanics; measurement techniques; developmental morphology; analysis and diagnosis; treatment rationales; gross radiological anatomy and osteology; facial growth. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 701b Cephalometrics: Growth and Development
Units: 2, 3, 4 Principles and mechanics; measurement techniques; developmental morphology; analysis and diagnosis; treatment rationales; gross radiological anatomy and osteology; facial growth. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 702 Seminar: Review of the Orthodontic Literature
Units: 5 Two trimester Course Review of current orthodontic literature. Instruction Mode: Lecture Grading Option: Letter

ORTH 703a Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703b Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703c Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703d Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703e Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703f Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703h Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703i Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 704a Seminar: Orthodontics in Theory and Practice
Units: 2 Review of various approaches to orthodontic treatment; includes presentation of cases. Instruction Mode: Lecture Grading Option: Credit/No Credit

ORTH 704b Seminar: Orthodontics in Theory and Practice
Units: 2 Review of various approaches to orthodontic treatment; includes presentation of cases. Instruction Mode: Lecture Grading Option: Credit/No Credit

ORTH 704c Seminar: Orthodontics in Theory and Practice
Units: 2 Review of various approaches to orthodontic treatment; includes presentation of cases. Instruction Mode: Lecture Grading Option: Credit/No Credit

ORTH 705a Orthodontic Practice Management
Units: 2 Terms Offered: FaSpSm Office management and patient relations in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 705b Orthodontic Practice Management
Units: 2 Terms Offered: FaSpSm Office management and patient relations in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 705c Orthodontic Practice Management
Units: 2 Terms Offered: FaSpSm Office management and patient relations in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 706 Surgical Orthodontics
Units: 2 Diagnosis, treatment, prognosis, and management of orthognathic problems. Instruction Mode: Lecture Grading Option: Letter

ORTH 707 Interdisciplinary Aesthetic Treatment
Units: 2 Terms Offered: Sp Commonly encountered interdisciplinary aesthetic problems. Communication and teamwork between orthodontists and general dentists, as well as other specialists will be emphasized. Instruction Mode: Lecture Grading Option: Letter

ORTH 708 Information Technology in Orthodontic Practice
Units: 2 Terms Offered: Fa Practical applications of information technology in contemporary orthodontics. Topics include office management systems, videocaphalometrics, and video imaging in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 709 Advanced Information Technology in Orthodontic Practice
Units: 2 Terms Offered: Sm Follows

ORTH 708 and is designed to provide background and up-to-date information on advanced technologies in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 721 Biomechanics and Orthodontic Technic
Units: 8 Primary orthodontic techniques and basic diagnostic procedures. Typodont treatment of malocclusion, record taking, retention appliances, and beginning biomechanics. Instruction Mode: Lecture Grading Option: Letter

ORTH 744 Statistical Methods and Research Design in Orthodontics
Units: 2 Terms Offered: FaSpSm Experimental design and analysis as applied to orthodontic basic sciences and clinical research; descriptive and inferential statistics, bioethics, writing a research proposal, and evaluation of literature. *Recommended Preparation:* high school algebra Registration Restriction: Open only to the Herman Ostrow School of Dentristry Instruction Mode: Lecture Grading Option: Credit/No Credit

ORTH 751a Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751b Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751c Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751d Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751e Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751f Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751h Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751i Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 791 Library Research
Units: 1, 2, 3, 4, 5, 6 Organized literature searching and compiling of published data for purposes of developing writing and investigative skills. Instruction Mode: Lecture Grading Option: Letter

Ocean Sciences

OS 512 Introduction to Chemical and Physical Oceanography
Units: 4 Terms Offered: Fa Principles of physical, chemical, and geological oceanography including discussions of air-sea interaction, biogeochemical cycling and the role of the ocean in modulating climate and atmospheric composition; discussion section will cover formulation of basic calculations that illustrate these principles. *Prerequisite:* CHEM 105b and MATH 126 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as GEOL 512

OS 545 Modeling and Numerical Techniques for Marine Scientists
Units: 4 Terms Offered: Sp (Enroll in BISC 545)

OS 582 Advanced Biological Oceanography
Units: 4 Terms Offered: Fa (Enroll in BISC 582)

OS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

OS 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Course contents each semester will be selected to reflect current trends and new developments in the field of Ocean Sciences. Instruction Mode: Lecture Grading Option: Letter

OS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

OS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Occupational Science and Occupational Therapy

OT 100 THRIVE: Foundations of Well-Being
Units: 1 Terms Offered: FaSp Exploration of themes of thriving including well-being, self-care, and connection. Application to university life, building community, developing identity and integrating learned topics into everyday life. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OT 101x Caring For Your Self: Engaging in Healthy Habits and Routines
Units: 2 Terms Offered: FaSp Application of occupational science evidence and occupational therapy principles of lifestyle and self-care behavior change to support self-analysis and integration of healthy habits and routines. Credit Restriction: Not available for major credit for Occupational Therapy students Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OT 105g Culture, Medicine and Politics
Units: 4 (Enroll in ANTH 105)

OT 200 Medical Terminology for Health Professions
Units: 1 Foundation of medical terminology and hospital abbreviations useful for practice in health care. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 220 Lifestyle Design: Introduction to Occupational Therapy
Units: 2 Terms Offered: FaSp Introduction to theoretical concepts concerning the relationship of engagement in activities (occupations) to health and well being. Application of these perspectives to students' own lives. Instruction Mode: Lecture Grading Option: Letter

OT 250 Introduction to Occupational Science and Occupational Therapy
Units: 4 Introduction to concept of occupation and overview of human drive for meaningful activity; impact of occupations on health and wellbeing; analysis of personal occupational patterns; selected therapeutic applications. Instruction Mode: Lecture Grading Option: Letter

OT 251x Across the Lifespan: Occupations, Health and Disability
Units: 4 Terms Offered: FaSp Exploration of the transformative power of occupation throughout the lifespan for all individuals. Instruction Mode: Lecture Grading Option: Letter

OT 260 Human Functional Anatomy for Allied Health Professions
Units: 3 Terms Offered: FaSpSm Lecture and cadaver lab-based, human anatomy course focused on the interaction of anatomical systems relative to functional activity, health and wellness. *Recommended Preparation:* introductory undergraduate course in biology Instruction Mode: Lecture, Lab Grading Option: Letter

OT 261 Human Physiology for Allied Health Professions
Units: 3 Terms Offered: FaSpSm Overview of human physiology emphasizing systems that sustain homeostasis and motion with a focus on biological foundations for a healthy lifestyle. Relevant pathophysiologic issues discussed. *Recommended Preparation:* undergraduate biology course Instruction Mode: Lecture, Lab Grading Option: Letter

OT 280 Essential Occupations of Emerging Adulthood
Units: 2 Terms Offered: FaSp Examination of challenges associated with the emerging adulthood stage of development through an occupational science lens; strategies to promote health and well-being for this population. Instruction Mode: Lecture Grading Option: Letter

OT 299 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSp Recent developments in occupational therapy and occupational science for undergraduate students. Instruction Mode: Lecture Grading Option: Letter

OT 300 Occupational Expressions of Diverse Identities and Lifestyles
Units: 4 Exploration of the diverse ways occupational practices become central to identity, reify standard social ideologies, and are manipulated to redress conventional standards. Instruction Mode: Lecture Grading Option: Letter

OT 310 Creativity Workshop
Units: 2 Terms Offered: FaSpSm Theories and practice of the creative process in varied media, genres and occupations. Explores creativity in the arts, sciences, professions, evolution, daily life, and culture. Instruction Mode: Lecture Grading Option: Letter

OT 312 Creating a Sustainable Lifestyle
Units: 2 Scientists and policymakers advocate lifestyle changes as crucial to solving the environmental crisis. Investigation into the development of habits that promote environmental sustainability and personal wellbeing. Instruction Mode: Lecture Grading Option: Letter

OT 320 The Nature of Human Occupation: Form, Function, and Meaning
Units: 4 The complex nature of human occupation is covered from an interdisciplinary perspective. Emphasis is on how occupation contributes to human experience in a lived world. Instruction Mode: Lecture Grading Option: Letter

OT 325 The Brain: Mind, Body, and Self
Units: 4 Terms Offered: FaSpSm Exploration of neuroscience as it impacts everyday living, from the fundamentals of neurons and synapses, to the neural basis of language, empathy, and social interaction. Instruction Mode: Lecture Grading Option: Letter

OT 330 Perspectives on the Daily Life of Families
Units: 4 Examines family structures and processes, the occupational dimensions of families, and the meanings embedded in the acts of daily life of contemporary families. Instruction Mode: Lecture Grading Option: Letter

OT 333 Sports Ethics
Units: 4 Terms Offered: FaSp Critically examines ethical issues central to the world of sports that range from matters of fair play and cheating to performance-enhancing drugs and gene-doping. Instruction Mode: Lecture Grading Option: Letter

OT 340 Occupational Foundations of Human-Animal Interaction
Units: 4 Terms Offered: Sp Explores how interactions with companion animals expand human capacity for action and contribute to human health, well-being and participation, in different cultural contexts, across the life-span. Instruction Mode: Lecture Grading Option: Letter

OT 350 Disability, Occupations, and the Health Care System
Units: 4 Exploration of the ways in which able bodyism, sexism, racism, classism and homophobia contribute to occupational opportunities or barriers and weave their way into health care. Instruction Mode: Lecture Grading Option: Letter

OT 355 Doing Social Justice
Units: 2 Terms Offered: FaSp Exploration of solutions to social problems through collective occupations. Introduces theories and practices of social justice, human rights, occupational justice and occupational reconstructions. Instruction Mode: Lecture Grading Option: Letter

OT 360 Creating the Self through Narrative: Acts of Life Story Production
Units: 4 Analysis of life stories, life histories, and testimonies in social interactions, texts, and films. Life stories are an occupation to re-create the "Self" in response to conflict and change. Instruction Mode: Lecture Grading Option: Letter

OT 370 Understanding Autism: Participation Across the Lifespan
Units: 4 Terms Offered: FaSp Introduction to Autism Spectrum Disorder (ASD) from a neurodevelopmental perspective, with a focus on the daily living experience and occupational participation for individuals with ASD. Instruction Mode: Lecture Grading Option: Letter

OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation
Units: 4 Narrative as guide and structure of practical action. Special emphasis on chronic illness and disability and narrative structure of clinical interactions. Instruction Mode: Lecture Grading Option: Letter

OT 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

OT 405 Foundations: Occupation
Units: 2 Terms Offered: FaSm Introduction to basic tenets of occupational therapy history and practice, the profession's language, and foundations of occupational science; incorporates experience and self-analysis of occupation. Registration Restriction: Open only to upper division and Masters level Occupational Therapy majors. Instruction Mode: Lecture, Discussion Grading Option: Letter

OT 406L Foundations: Creativity, Craft and Activity Analysis
Units: 2 Terms Offered: FaSm Exploration of craftsmanship in both historical and contemporary contexts; engagement in the craft experience to encourage creativity and to develop proficiency in analysis of performance. Registration Restriction: Open only to upper division, Master and Professional OT majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 440L Foundations: Kinesiology
Units: 2 Terms Offered: FaSpSm Review of joint and muscle structure and function; application of basic biomechanical, neuromuscular and musculoskeletal principles to the analysis of everyday activities and therapeutic interventions. Registration Restriction: Open only to upper division and master's Occupational Therapy majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 441L Foundations: Neuroscience
Units: 2 Terms Offered: FaSpSm Application of basic neural function to the analysis of daily living tasks and activities; review of pathological conditions that interfere with performance in occupation. Registration Restriction: Open only to upper division and Master's occupational Therapy majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

OT 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Course content to be selected in occupational therapy and occupational science. Instruction Mode: Lecture Grading Option: Letter

OT 500a Clinical Problems in Occupational Therapy
Units: 2, 3, 4 Terms Offered: FaSpSm Specific applications of occupational therapy practice in varied clinical/health settings. Seminar to integrate theory with application of intervention principles for various populations. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 500b Clinical Problems in Occupational Therapy
Units: 2, 3, 4 Terms Offered: FaSpSm Specific applications of occupational therapy practice in varied clinical/health settings. Seminar to integrate theory with application of intervention principles for various populations. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 500c Clinical Problems in Occupational Therapy
Units: 2, 3, 4 Terms Offered: FaSpSm Specific applications of occupational therapy practice in varied clinical/health settings. Seminar to integrate theory with application of intervention principles for various populations. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 501L Practice Immersion: Adult Physical Rehabilitation
Units: 8 Terms Offered: FaSp Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in adult rehabilitation and geriatrics; incorporates related Level I Fieldwork. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 401. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 502L Practice Immersion: Mental Health
Units: 8 Terms Offered: FaSp Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in mental health practice; incorporates related Level I Fieldwork. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 402. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 503L Practice Immersion: Pediatrics
Units: 8 Terms Offered: FaSp Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in pediatrics; incorporates related Level I Fieldwork. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 403. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 511 Therapeutic Use of Self
Units: 2 Terms Offered: Fa Exploration of efficacy, therapeutic use of self, empathy and mindfulness; development of self-awareness to support the art, craft and skill of effective therapeutic relationships. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 410. Instruction Mode: Lecture Grading Option: Letter

OT 515 Neuroscience of Behavior
Units: 4 Terms Offered: Fa Foundation for understanding neural functions involved in typical/atypical behaviors; review of neural circuitry, experimental methods, basic behavioral systems, higher order cognitive functions and associated disorders. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 451. Instruction Mode: Lecture Grading Option: Letter

OT 518 Quantitative Research for Evidence-Based Practice
Units: 4 Terms Offered: Fa Traditions and methods of quantitative research; emphasis on formulation of clear clinical questions; finding, evaluating, and applying evidence to a clinical problem; includes journal club. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 480. Instruction Mode: Lecture Grading Option: Letter

OT 521 Clinical Reasoning
Units: 3 Terms Offered: Sp Dynamic look at creation and application of professional knowledge and expertise; examines interrelationship between theory and practice; incorporates narrative and illness experiences in clinical reasoning. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 411. Instruction Mode: Lecture Grading Option: Letter

OT 523 Communication Skills for Effective Practice
Units: 3 Terms Offered: Fa Principles of written, verbal and non-verbal communication with professionals, clients and families, from a personal and professional perspective; group interventions; interview skills; advocacy as communication. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 430. Instruction Mode: Lecture Grading Option: Letter

OT 525 Qualitative Research for Evidence-Based Practice
Units: 4 Terms Offered: Sp Traditions and methods of qualitative research; development of skills for research design, implementation and dissemination; critique of qualitative research for evidence-based practice and occupational science. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 470. Instruction Mode: Lecture Grading Option: Letter

OT 534 Health Promotion and Wellness
Units: 2 Terms Offered: Fa Examination of relationship of occupation to health, wellbeing, participation; critical thinking about lifestyle factors influencing occupational engagement; occupational science and wellness in occupational therapy practice. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 504. Instruction Mode: Lecture Grading Option: Letter

OT 537 Occupation-Centered Programs for the Community
Units: 4 Terms Offered: Fa Development of a proposal for new or extended services; includes trends analysis, needs assessment, literature review, marketing plan, mock funding request, program evaluation and presentation. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 570. Instruction Mode: Lecture Grading Option: Letter

OT 538 Current Issues in Practice: Adulthood and Aging
Units: 2 Terms Offered: Fa Exploration of adulthood, aging and occupation; current topics related to aging population and occupational therapy to promote health and participation throughout the lifespan. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 508. Instruction Mode: Lecture Grading Option: Letter

OT 540 Leadership Capstone
Units: 2 Terms Offered: Sp Professional capstone in leadership, advocacy, ethical reasoning, professional behavior, and public policy as it impacts the practice of occupational therapy; independent professional externship. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 580. Instruction Mode: Lecture Grading Option: Letter

OT 545 Advanced Seminar in Occupational Science
Units: 2 Terms Offered: FaSp Advanced analysis of occupational science concepts including dimensions of occupation and the impact of occupation on health and wellbeing; factors associated with participation in occupation at the individual, community and global levels. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 585. Instruction Mode: Lecture Grading Option: Letter

OT 560 Contemporary Issues in School-Based Practice
Units: 4 Terms Offered: FaSp Current issues in school-based occupational therapy evaluation, ongoing assessment and intervention. Topics include successful collaboration in inclusive classrooms and on IFSP and IEP teams. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 561 Occupational Therapy in Acute Care
Units: 4 Terms Offered: Sp Knowledge and skills for occupational therapy practice in acute care settings using a systems-based approach; includes an experiential learning component at Keck Hospital of USC. Registration Restriction: Open only to Occupational Science and Occupational Therapy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 562 Advanced Hand Rehabilitation and Certification (PAMs)
Units: 4 Terms Offered: Sp Evidence-based and occupation-based practice for hand and upper extremity conditions; application of PAMs as preparatory for occupation. Applicable toward California educational requirements for advanced practice. *Corequisite:* OT 573. Registration Restriction: Open only to Occupational Science and Occupational Therapy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 563 Occupational Therapy in Primary Health Care Environments
Units: 2 Terms Offered: FaSp Examines the emerging role of occupational therapy in primary care, including the need occupational therapy can address in primary care. Registration Restriction: Open only to Occupational Science and Occupational Therapy majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 564 Sensory Processing and Sensory Integration
Units: 4 Terms Offered: FaSp Comprehensive overview of the basic neurobehavioral principles underlying sensory processing and sensory integration, patterns of dysfunction, and their relationship to everyday occupations and intervention. Registration Restriction: Open only to OT majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 565 Sensory Integration Interventions
Units: 4 Terms Offered: Sp Foundations and application of sensory integration principles in clinical practice, schools and community. Includes critique and integration of evidence, effective communication with parents, and documentation. *Corequisite:* OT 564 Registration Restriction: Open only to Occupational Science and Occupational Therapy students Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 566 Healthcare Communication with Spanish-Speaking Clients
Units: 2 Terms Offered: Sp Development of communicative proficiency and accuracy in Spanish within a therapeutic context. Introduction to Spanish language, adaptive communication strategies, and ethics in language-discordant communication. Registration Restriction: Open only to Occupational Science and Occupational Therapy students Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 567 Contemporary Issues: Occupational Therapy in Early Intervention
Units: 4 Terms Offered: Sp Exploration of occupational therapy in early intervention settings including; relevant legislation, family-centered care, cultural context, documentation, ethics, and neuroscientific foundations of infant mental health. Registration Restriction: Open only to Occupational Science and Occupational Therapy students Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 568 Sensory Processing and Sensory Integration: Special Topics
Units: 4 Terms Offered: FaSp Applications of sensory integration theory and intervention principles in diverse therapeutic contexts, including school-based settings, early intervention, autism spectrum disorders, and feeding and eating. Registration Restriction: Open only to OT students Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 571 Assistive Technology
Units: 4 Terms Offered: Sp Principles of assessment, selection, training, and follow-up with clients in the use of assistive technologies to enable and enhance participation in a meaningful occupation. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 572 Ergonomics
Units: 4 Terms Offered: Sp Focus on the effects of physical design in the workplace on users' injury rate, behavior, performance and stress levels. Intervention for repetitive motion included. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 573 Hand Rehabilitation
Units: 4 Terms Offered: Fa Occupation-based evaluation and intervention for individuals with acute and chronic hand disorders. Topics include scar management, splinting, peripheral nerve injury, wound healing and physical agent modalities. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 574 Enhancing Motor Control for Occupation
Units: 4 Terms Offered: FaSp Laboratory examining approaches to assessment and remediation of motor control following upper motor neuron lesions. An occupation-based approach to Neurodevelopmental Treatment (NDT) will be emphasized. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 575 Dysphagia Across the Lifespan: Pediatrics through Geriatrics
Units: 2 Terms Offered: Sp A comprehensive investigation of the anatomy and physiology of normal and abnormal swallowing. Didactic and hands-on study of assessment and treatment interventions will be addressed. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 576 Universal Design
Units: 4 Terms Offered: Fa Examination of the concepts and principles of universal design and the benefits of the approach for people with disabilities and for all individuals. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 577 Seminar in Occupational Therapy
Units: 2 Terms Offered: Sp Occupational therapy and the health care system. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 505. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 578 Therapeutic Communication: Facilitating Change in Clients
Units: 4 Terms Offered: FaSpSm Exploration of selected therapeutic communication styles intended to facilitate change including motivational interviewing, mindfulness practices, and cognitive approaches to therapeutic intervention. Registration Restriction: Open only to graduate students in Occupational Science and Occupational Therapy Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OT 579 Occupational Therapy in Adult-Neurorehabilitation
Units: 4 Terms Offered: Sp Comprehensive overview of occupational therapy evaluation and intervention in adult neurorehabilitation addressing motor, visual, cognitive, emotion, and language systems. Emphasizes evidence-based interventions with hands-on application. Registration Restriction: Open only to graduate and professional students in Occupational Therapy Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

OT 581 Quantitative Research for the Practicing Clinician
Units: 4 Terms Offered: FaSp Traditions and methods of quantitative research for practicing clinicians; emphasis on formulation of clear clinical questions; finding, evaluating, and applying evidence to a clinical problem. Registration Restriction: Open only to Occupational Therapy majors. Instruction Mode: Lecture Grading Option: Letter

OT 582 Occupational Science Foundations of Lifestyle Redesign
Units: 4 Terms Offered: FaSpSm Overview of the foundations and philosophy of Lifestyle Redesign®. Includes theoretical underpinnings, therapeutic methods , and examination of how occupational science informs Lifestyle Redesign® interventions. Registration Restriction: Open only to graduate students in Occupational Science and Occupational Therapy Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OT 583 Current Applications of Lifestyle Redesign
Units: 4 Terms Offered: FaSpSm Interactive practicum exploring the Lifestyle Redesign® approach to preventing and managing chronic health conditions. Topics include therapeutic process, lifestyle module design and service delivery models. Registration Restriction: Open only to graduate students in Occupational Science and Occupational Therapy Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OT 584 Clinical Applications of Telehealth Technologies in OT
Units: 2 Terms Offered: Sp Interactive course exploring the history of telehealth technologies; includes definitions, care models, remote services, applications, activity monitoring devices, technology enabled therapy, legislation, reimbursement. Registration Restriction: Open only to Occupational Science and Occupational Therapy graduate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 585 Advanced Seminar in Occupational Science
Units: 2 Terms Offered: FaSp Advanced analysis of occupational science concepts including dimensions of occupation and the impact of occupation on health and wellbeing; factors associated with participation in occupation at the individual, community and global levels.

OT 586 Fieldwork with Seminar
Units: 1, 2 Max Units: 06 Terms Offered: FaSpSm Fieldwork is mandatory to qualify for professional certification/licensure. Seminar facilitates reflective discussion and integration of class concepts to clinical practice. Registration Restriction: Open only to Occupational Therapy majors Duplicates Credit in former OT 486 Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading

to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Recent developments in occupational therapy and occupational science. Instruction Mode: Lecture Grading Option: Letter

OT 610 Sensory Integrative Dysfunction
Units: 4 Terms Offered: FaSpSm Differential evaluation of sensory integrative dysfunction; theory and procedure for enhancing the processing of sensory data by children with learning and behavior disorders. *Prerequisite:* admission by advance application and instructor's approval only; must be certified as an occupational or physical therapist. Instruction Mode: Lecture Grading Option: Letter

OT 612 Information Processing and Occupation
Units: 4 Phylogenesis and ontogenesis of human information processing capacity enabling engagement in occupation; components and contributions to adaptation and coping. Instruction Mode: Lecture Grading Option: Letter

OT 620 Current Issues in Occupational Science and Occupational Therapy
Units: 4 Terms Offered: Fa Review of current occupational science research as it is applied to practice; examination of leadership opportunities; development of proposal focusing on chosen area of study. Registration Restriction: Open only to Occupational Therapy doctoral students Instruction Mode: Lecture Grading Option: Letter

OT 621 Occupational Therapy Leadership: Contemporary Issues
Units: 4 Examination of themes in occupational therapy related to power, confidence, and identity; development of leadership skills; analysis of the impact of policy and advocacy on occupational therapy. Instruction Mode: Lecture Grading Option: Letter

OT 640 Conceptual Foundations of Occupational Science
Units: 4 Terms Offered: FaSp Analysis of the conceptual foundations and methodological orientations for occupational science, understandings of disciplinary perspectives, formulation of theoretical arguments, and the interpretation of research data. Instruction Mode: Lecture Grading Option: Letter

OT 641 The Nature of Occupation
Units: 4 Terms Offered: FaSp Theoretical and historical foundations for the study of occupation, engagement in living and learning in everyday life. Instruction Mode: Lecture Grading Option: Letter

OT 642 Therapeutic Uses of Self: Psychodynamic Perspectives
Units: 4 Terms Offered: FaSp Survey of the diversity of analytic conceptions of subjectivity and intersubjectivity. Emphasis on the way these ideas influence the notion of therapeutic efficacy within Occupational Science. Instruction Mode: Lecture Grading Option: Letter

OT 643 Meaningful Engagement in Everyday Life
Units: 4 Exploration of the subjective experience of meaningful engagement in work, play, and the occupational pursuits of everyday life, drawing on contributions from the social sciences. Instruction Mode: Lecture Grading Option: Letter

OT 644 Foundations of Research on Activity and Health
Units: 4 Terms Offered: FaSp Examination of effectiveness and efficacy research, study design and methodology, dimensions of adaptation and research methods through the lens of two division-based research programs. Instruction Mode: Lecture Grading Option: Letter

OT 645 Narrative, Healing and the Culture of Biomedicine
Units: 4 Terms Offered: FaSp Introduction to narrative as analytic framework for considering chronic illness, disability, occupation, and the moral and cultural influences on the clinical reasoning of health professionals. Instruction Mode: Lecture Grading Option: Letter

OT 646 Intersections of Occupational Science and Human Development
Units: 4 Terms Offered: FaSp Analysis of occupational science perspectives related to human development and participation in sociocultural practices and examination of developmental theories and their relationship to occupational science. Instruction Mode: Lecture Grading Option: Letter

OT 647 Producing New Knowledge in Occupational Science
Units: 4 Terms Offered: Sp Problems, theory, methods and contexts of research in occupational science, as a discipline that seeks to understand, explain, and promote human flourishing. *Prerequisite:* OT 640; *Recommended Preparation:* at least one advanced course in qualitative, quantitative, or mixed methods for research. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

OT 648 Researching Occupation: Engagement, Meaning, and Society
Units: 4 Terms Offered: FaSp *Recommended Preparation:* OT 640 and OT 660 Instruction Mode: Lecture Grading Option: Letter

OT 649 Researching Occupation: Function, Participation, and Health
Units: 4 Terms Offered: FaSp Approaches to studying health and wellbeing in everyday living from biological to population levels, including prevention, wellness, chronic illness, disability, and rehabilitation, emphasizing quantitative methods. *Recommended Preparation:* OT 641 and OT 660 Instruction Mode: Lecture Grading Option: Letter

OT 650 Development of Adaptive Skills
Units: 4 Terms Offered: Fa Critical analysis of occupation as means and product of human adaptation. Adaptive skill development from traditional and occupational science approaches. Research methods and results. Instruction Mode: Lecture Grading Option: Letter

OT 655 Work and Leisure
Units: 4 Terms Offered: Sp Ontogenesis and phylogenesis of work and leisure. Systems view of person/environmental interactions affecting competence and satisfaction with activity. Occupation and the need for mastery. Instruction Mode: Lecture Grading Option: Letter

OT 660 Research Practicum
Units: 2 Experiential learning through immersion in one or more externally funded research groups in the Division, enabling intense participation in multi-skilled research groups. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 661 Grant Writing for Occupational Science
Units: 2 Terms Offered: SpSm Integration of theory, research design, and methods to develop competitive grant applications for the study of occupation, with a focus on federal granting agencies. *Prerequisite:* OT 640 and OT 641 and OT 648 and OT 649 and OT 660 *Recommended Preparation:* At least one advanced course in qualitative, quantitative, or mixed-methods research design or statistical analysis is strongly recommended. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 686 Residency
Units: 6 or 12 Max Units: 24 Terms Offered: FaSpSm Residency involving development, administration, evaluation, or policy formulation for occupation-centered programs in clinical or community settings. Development of portfolio for professional doctorate. Graded CR/NC. Registration Restriction: Open only to OT majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 699 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSpSm Selected topics in occupational therapy and occupational sciences. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

OT 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Pain Medicine

PAIN 701 Pharmacotherapeutics for Pain
Units: 2 Terms Offered: Fa Introduction into the complex area of treatment with opioids and other pharmacological options. Instruction Mode: Lecture Grading Option: Letter

PAIN 702 Pain Classification and Diagnosis - Part 1
Units: 2 Terms Offered: Fa Introduction of pain classification and diagnosis to familiarize the student with a standardized approach to painful conditions. Instruction Mode: Lecture Grading Option: Letter

PAIN 703 Psychological Aspects of the Pain Experience: Individual and
Units: 2 Terms Offered: Fa Explore the psychological and social perspectives that influence chronic pain, reinforcing the need to look beyond the initial physical diagnosis. Instruction Mode: Lecture Grading Option: Letter

PAIN 704 Pain and Society: Epidemiology and Cultural issues
Units: 1 Terms Offered: Sp Explores the societal issues related to pain, including the role of culture, ethnicity, caregiving, social and psychological factors related to pain and pain management. Instruction Mode: Lecture Grading Option: Letter

PAIN 705 Pain Assessment: History and Physical Examination
Units: 1 Terms Offered: Sp Evaluation of patients suffering from pain, distinguishing between types of pain that may be acute or chronic. Instruction Mode: Lecture Grading Option: Letter

PAIN 706 Musculoskeletal Anatomy and Pathology
Units: 2 Terms Offered: Sp Anatomical survey of the human musculoskeletal system, focused on common pathologies that generate pain. Instruction Mode: Lecture Grading Option: Letter

PAIN 707 Pain Neuroscience
Units: 2 Terms Offered: Sp Anatomy of peripheral and central nociceptors, molecular mechanisms that underlie primary responses, neural networks, and neural mechanisms involved in hyperalgesia and allodynia. Instruction Mode: Lecture Grading Option: Letter

PAIN 708 Opioids
Units: 1 Terms Offered: Fa Explores opioid therapeutics including proper use, dosing, side effects and its management, use in special populations, and legal/ethical considerations for prescribers and dispensers. Instruction Mode: Lecture Grading Option: Letter

PAIN 709 Pain Classification and Diagnosis - Part 2
Units: 2 Terms Offered: Fa Knowledge and ability to recognize fine differences in various common pain conditions. Instruction Mode: Lecture Grading Option: Letter

PAIN 710 Advanced Pain Physiology and Neuroscience
Units: 1 Terms Offered: Fa Advanced neurophysiology of pain including immunology and epigenetics, neuropathic pain, inflammation, with a series of lectures and sessions to analyze clinical cases. Instruction Mode: Lecture Grading Option: Letter

PAIN 711 Research Methodology
Units: 2 Terms Offered: Fa Conduct a systematic review, research question, searching the literature, summarizing the evidence and interpreting the findings. Instruction Mode: Lecture Grading Option: Letter

PAIN 712a Pain Medicine Capstone
Units: 0.5 Terms Offered: Fa Collaborative research project or supervised internship (practicum) incorporating a service learning approach. Instruction Mode: Lecture Grading Option: Letter

PAIN 712b Pain Medicine Capstone
Units: 0.5 Terms Offered: Sp Collaborative research project or supervised internship (practicum) incorporating a service learning approach. Instruction Mode: Lecture Grading Option: Letter

PAIN 712c Pain Medicine Capstone
Units: 0.5 Terms Offered: Fa Collaborative research project or supervised internship (practicum) incorporating a service learning approach. Instruction Mode: Lecture Grading Option: Letter

PAIN 712d Pain Medicine Capstone
Units: 0.5 Terms Offered: Sp Collaborative research project or supervised internship (practicum) incorporating a service learning approach. Instruction Mode: Lecture Grading Option: Letter

PAIN 713a Case Studies
Units: 0.5 Terms Offered: Fa Multiple elements including weekly online discussions of cases; learning need assignments; defense of an 18 cases or scenarios e-Portfolio. Instruction Mode: Lecture Grading Option: Letter

PAIN 713b Case Studies
Units: 0.5 Terms Offered: Sp Multiple elements including weekly online discussions of cases; learning need assignments; defense of an 18 cases or scenarios e-Portfolio. *Prerequisite:* PAIN 713a Instruction Mode: Lecture Grading Option: Letter

PAIN 713c Case Studies
Units: 0.5 Terms Offered: Fa Multiple elements including weekly online discussions of cases; learning need assignments; defense of an 18 cases or scenarios e-Portfolio. Instruction Mode: Lecture Grading Option: Letter

PAIN 713d Case Studies
Units: 0.5 Terms Offered: Sp Multiple elements including weekly online discussions of cases; learning need assignments; defense of an 18 cases or scenarios e-Portfolio. *Prerequisite:* PAIN 713c Instruction Mode: Lecture Grading Option: Letter

PAIN 714 Public Policy and Legal issues
Units: 1 Terms Offered: Sp Public Policy and Legal Issues in Pain Medicine including the California Medical Board Guidelines for Pain Medication, CURES, and legislation related with the discipline. Instruction Mode: Lecture Grading Option: Letter

PAIN 715 History of Pain: Theory and Treatment
Units: 1 Terms Offered: Fa Trace through history our collective understanding of pain by examining the people, theories, and technologies which have brought us to our modern understanding. Instruction Mode: Lecture Grading Option: Letter

PAIN 716 Neuropathic Pain
Units: 1 Terms Offered: Sp Focus on pain caused by nervous system dysfunction; assessment, physiology, diagnoses and treatment. Instruction Mode: Lecture Grading Option: Letter

PAIN 717 Psychological Treatments for Chronic Pain
Units: 2 Terms Offered: Sp Information and demonstration on specific psychological treatments to decrease pain levels and manage pain flares. Instruction Mode: Lecture Grading Option: Letter

PAIN 718 Complementary Approaches
Units: 2 Terms Offered: Fa Treatment options in pain management; framework for integrative models of care. Instruction Mode: Lecture Grading Option: Letter

PAIN 719 Building a Practice: Institutional or Private
Units: 1 Building and managing a Pain Practice. Topics include the scope of practice, stratification of care, and marketing. Instruction Mode: Lecture Grading Option: Letter

PAIN 720 Physical and Occupational Therapies
Units: 1 Terms Offered: Sp Physical and Occupational Therapy techniques to assess and treat chronic pain. Instruction Mode: Lecture Grading Option: Letter

PAIN 721 Advanced Therapeutics
Units: 2 Terms Offered: Sp Patients who suffer from chronic pain often fail to respond to basic treatments. Therefore it is crucial for clinicians to be familiar with different treatment options. Instruction Mode: Lecture Grading Option: Letter

PAIN 722 Palliative Care in End of Life
Units: 1 Terms Offered: Fa Key concepts in palliative medicine and hospice care, ranging from management of common symptoms, to best practices in

communication with patients and their families. Instruction Mode: Lecture Grading Option: Letter

PAIN 723 Orofacial Pain and Headache
Units: 2 Terms Offered: Sp Foundational knowledge of orofacial neurogenic pain and headache disorders; prevalence, differential diagnosis, prevention and management. Instruction Mode: Lecture Grading Option: Letter

Pathology (Herman Ostrow School of Dentistry)

PTHL 312a Medicine and Pathology
Units: 1 Terms Offered: FaSpSm An integrated approach to clinical, gross and microscopic study of basic disease processes, systemic pathology, oral pathology, internal medicine, pathophysiology, physical evaluation and emergency medicine for significant organ systems. Clinical-pathologic correlation stressed. Evaluation, classification, and differential diagnosis of oral lesions; disease recognition and dental treatment modification. Instruction Mode: Lecture Grading Option: Letter

PTHL 312b Medicine and Pathology
Units: 3 Terms Offered: FaSpSm An integrated approach to clinical, gross and microscopic study of basic disease processes, systemic pathology, oral pathology, internal medicine, pathophysiology, physical evaluation and emergency medicine for significant organ systems. Clinical-pathologic correlation stressed. Evaluation, classification, and differential diagnosis of oral lesions; disease recognition and dental treatment modification. Instruction Mode: Lecture Grading Option: Letter

PTHL 312c Medicine and Pathology
Units: 2 Terms Offered: FaSpSm An integrated approach to clinical, gross and microscopic study of basic disease processes, systemic pathology, oral pathology, internal medicine, pathophysiology, physical evaluation and emergency medicine for significant organ systems. Clinical-pathologic correlation stressed. Evaluation, classification, and differential diagnosis of oral lesions; disease recognition and dental treatment modification. Instruction Mode: Lecture Grading Option: Letter

PTHL 501 Oral Pathology
Units: 4 Terms Offered: Sm Clinical radiographic, gross and microscopic characteristics of mucosal, skin, fibroseous and salivary gland diseases; odontogenic tumors and cysts; benign and malignant neoplasms and iatrogenic conditions. Instruction Mode: Lecture Grading Option: Letter

PTHL 504a Seminar: Oral Pathology
Units: 0 Clinico-pathologic discussion of oral pathosis cases. A variety of "unknown" cases representing diagnostic problems are analyzed. Etiology, pathogenesis, clinical/radiographic features, therapy and prognosis are stressed. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PTHL 504b Seminar: Oral Pathology
Units: 0 Clinico-pathologic discussion of oral pathosis cases. A variety of "unknown" cases representing diagnostic problems are analyzed. Etiology, pathogenesis, clinical/radiographic features, therapy and prognosis are stressed. Instruction Mode: Lecture Grading Option: Letter

PTHL 601 Advanced Oral Pathology Seminar
Units: 2 Detailed discussion and analysis of many cases representing a wide variety of oral pathologic conditions stressing differential diagnosis and clinical-pathologic correlations. Instruction Mode: Lecture Grading Option: Letter

PTHL 701 Clinicopathologic Conference
Units: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 Clinicopathologic correlation of diseases of the head and neck. Presented at LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

Pathology (Keck School of Medicine)

PATH 500a Basic and Applied Systemic Pathology
Units: 3 Terms Offered: Irregular Clinical, gross, and microscopic study of basic disease processes. Pathophysiology of major organ systems; etiology, pathogenesis and histopathology of important diseases; oral manifestations, clinical recognition.

PATH 500b Basic and Applied Systemic Pathology
Units: 2 Terms Offered: Irregular Clinical, gross, and microscopic study of basic disease processes. Pathophysiology of major organ systems; etiology, pathogenesis and histopathology of important diseases; oral manifestations, clinical recognition.

PATH 531 Cell Biology
Units: 4 (Enroll in INTD 531)

PATH 550 Introduction to Pathology
Units: 4 Terms Offered: Fa (Enroll in INTD 550)

PATH 551 Pathobiology of Disease
Units: 4 (Enroll in INTD 551)

PATH 553 Methods in Cellular and Clinical Pathology
Units: 3 Terms Offered: Fa Includes advanced techniques in cell biology, protein and immunochemistry. A practical approach to acquaint new graduate students with current methodologies and applications used in biomedical research. Duplicates Credit in former PATH 552a. Instruction Mode: Lecture Grading Option: Letter

PATH 554 Methods in Molecular Pathology
Units: 2 Terms Offered: Sp Theory and practice methods useful in experimental pathology; experimental design; statistical analysis; literature analysis; laboratory and radiation safety. Duplicates Credit in former PATH 552b. Instruction Mode: Lecture Grading Option: Letter

PATH 555 Biochemical and Molecular Bases of Disease
Units: 4 Terms Offered: Sp (Enroll in INTD 555)

PATH 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

PATH 570a Seminar in Pathology
Units: 1 Terms Offered: FaSp Recent advances in the understanding of diseased cells and tissues are reported and discussed using standard seminars, as well as autopsy organ reviews. Instruction Mode: Lecture Grading Option: Letter

PATH 570b Seminar in Pathology
Units: 1 Terms Offered: FaSp Recent advances in the understanding of diseased cells and tissues are reported and discussed using standard seminars, as well as autopsy organ reviews. Instruction Mode: Lecture Grading Option: Letter

PATH 570c Seminar in Pathology
Units: 1 Terms Offered: FaSp Recent advances in the understanding of diseased cells and tissues are reported and discussed using standard seminars, as well as autopsy organ reviews. Instruction Mode: Lecture Grading Option: Letter

PATH 570d Seminar in Pathology
Units: 1 Terms Offered: FaSp Recent advances in the understanding of diseased cells and tissues are reported and discussed using standard seminars, as well as autopsy organ reviews. Instruction Mode: Lecture Grading Option: Letter

PATH 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

PATH 572 Medical Physiology I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

PATH 573 Medical Physiology II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

PATH 581 Essentials of Animal Experimentation
Units: 1 Terms Offered: Fa A course providing basic information on the issues and responsibilities of investigators using animals in biomedical research. *Recommended Preparation:* graduate standing.

PATH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PATH 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

PATH 631 Viral Oncology
Units: 2 Terms Offered: Fa (Enroll in INTD 630)

PATH 650 Stem Cell Biology and Medicine
Units: 4 Terms Offered: Sp (Enroll in INTD 650)

PATH 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PATH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Primary Care Physician Assistant

PCPA 503 Behavioral Sciences I
Units: 4 Terms Offered: Fa First of three-semester sequence in current topics in behavioral medicine, psychological and cultural factors in health and illness, interpersonal and sociological aspects of patient care, and competencies for PA practice. Instruction Mode: Lecture Grading Option: Letter

PCPA 506 Behavioral Sciences II
Units: 4 Terms Offered: Sp Second of three-semester sequence in current topics in behavioral medicine, psychological and cultural factors in health and illness, interpersonal and sociological aspects of patient care, and competencies for PA practice. *Prerequisite:* PCPA 503. Instruction Mode: Lecture Grading Option: Letter

PCPA 509 Behavioral Sciences III
Units: 4 Terms Offered: Fa Last of three-semester sequence in current topics in behavioral medicine, psychological and cultural factors in health and illness, interpersonal and sociological aspects of patient care, and competencies for PA practice. *Prerequisite:* PCPA 506. Instruction Mode: Lecture Grading Option: Letter

PCPA 523 Clinical Skills I
Units: 4 Terms Offered: Fa Laboratory experiences with basic clinical skills essential to medical practice. First of four courses. Instruction Mode: Lecture Grading Option: Letter

PCPA 526 Clinical Skills II
Units: 4 Terms Offered: Sp Designed to prepare the physician assistant to conduct a complete physical examination. *Prerequisite:* PCPA 523 Registration Restriction: Open only to students in the Physician Assistant program Instruction Mode: Lecture Grading Option: Letter

PCPA 529 Clinical Skills III
Units: 4, 6 Terms Offered: Fa Designed to prepare the physician assistant to complete a series of medical procedures. *Prerequisite:* PCPA 526 Registration Restriction: Open only to students in the Physician Assistant program Instruction Mode: Lecture Grading Option: Letter

PCPA 530 Basic Medical Sciences I
Units: 3 Terms Offered: Fa Focuses on clinical anatomy, physiology, pathophysiology, and pathology, essential to understanding disease mechanisms commonly encountered in medicine. Registration Restriction: Open only to students in the Physician Assistant program Instruction Mode: Lecture Grading Option: Letter

PCPA 532 Clinical Skills IV
Units: 3 Terms Offered: Sp Laboratory experiences with basic clinical skills essential to medical practice. Last of four courses. *Prerequisite:* PCPA 529. Instruction Mode: Lecture Grading Option: Letter

PCPA 536 PA Critical Thinking Course I
Units: 1 Terms Offered: Fa Team-based learning to prepare the physician assistant to learn and practice, applying critical thinking in clinically relevant scenarios. Registration Restriction: Open only to students in the Physician Assistant program Instruction Mode: Lecture Grading Option: Letter

PCPA 537 PA Critical Thinking Course II
Units: 1 Terms Offered: Sp Builds upon PCPA 536; team-based learning to prepare the physician assistant to learn and practice applying critical thinking in clinically relevant scenarios. *Prerequisite:* PCPA 536 Registration Restriction: Open only to students in the Physician Assistant program Instruction Mode: Lecture Grading Option: Letter

PCPA 538 PA Critical Thinking Course III
Units: 1 Terms Offered: Fa Builds upon PCPA 537; team-based learning to prepare the physician assistant learn and practice applying critical thinking in clinically relevant scenarios. *Prerequisite:* PCPA 537 Registration Restriction: Open only to students in the Physician Assistant program Instruction Mode: Lecture Grading Option: Letter

PCPA 540 Basic Medical Sciences II
Units: 3 Terms Offered: Sp Builds upon PCPA 530; focuses on clinical anatomy, physiology, pathophysiology and pathology, essential to understanding disease mechanisms commonly encountered in medicine. *Prerequisite:* PCPA 530 Registration Restriction: Open only to students in the Physician Assistant Program Instruction Mode: Lecture Grading Option: Letter

PCPA 543 Topics in Medicine I
Units: 6 Terms Offered: Fa Designed to prepare the physician assistant learn the requisite medical and pharmacologic knowledge to diagnose and treat patients. Registration Restriction: Open only to students in the Physician Assistant program Instruction Mode: Lecture Grading Option: Letter

PCPA 546 Topics in Medicine II
Units: 6 Terms Offered: Sp Basic instruction in normal/abnormal states of organ systems in the study of human disease. The second of three courses that includes instruction in pathophysiology, pharmacology, diagnostic studies, and medicine. *Prerequisite:* PCPA 543. Instruction Mode: Lecture Grading Option: Letter

PCPA 549 Topics in Medicine III
Units: 6 Terms Offered: Fa Basic instruction in normal/abnormal states of organ systems in the study of human disease. The third of three courses that includes instruction in pathophysiology, pharmacology, diagnostic studies, and medicine. *Prerequisite:* PCPA 546. Instruction Mode: Lecture Grading Option: Letter

PCPA 550 Basic Medical Sciences III
Units: 3 Terms Offered: Fa Builds upon PCPA 540; focuses on clinical anatomy, physiology, pathophysiology and pathology, essential to understanding disease mechanisms commonly encountered in medicine. *Prerequisite:* PCPA 540 Registration Restriction: Open only to students in the Physician Assistant program Instruction Mode: Lecture Grading Option: Letter

PCPA 561 Clinical Assignment I
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 562 Clinical Assignment II
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 563 Clinical Assignment III
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 564a Clinical Assignment IV
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 564b Clinical Assignment IV
Units: 0 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 565a Clinical Assignment V
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a

program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 565b Clinical Assignment V
Units: 0 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 566 Clinical Assignment VI
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 567 Clinical Assignment VII
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 568 Clinical Assignment VIII
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 583 Advanced Topics in PA Studies: Education
Units: 4 Terms Offered: Sp Seminar format: students explore educational theories and methods used by PAs in a variety of settings, including clinical practice, classroom and community. Instruction Mode: Lecture Grading Option: Letter

PCPA 586 Advanced Topics in PA Studies: Research
Units: 4 Terms Offered: Sp Seminar format: students receive an integrated experience in research methods including methodology, data collection, analysis and evaluation. Instruction Mode: Lecture Grading Option: Letter

PCPA 589 Advanced Topics in PA Studies: Medical Care Organization
Units: 4 Terms Offered: Sp Seminar format: students will explore current topics in medical care organization and physician assistant practice including administration, financing, changing organizational settings, and workforce issues. Instruction Mode: Lecture Grading Option: Letter

Pediatric Dentistry

PEDO 310 Principles of Dentistry for Children
Units: 1 Role of the dental hygienist in dental care for the child patient. Principles of pediatric dentistry as related to education of the child patient and the parent. Instruction Mode: Lecture Grading Option: Letter

PEDO 501 Clinical Pediatric Dentistry
Units: 1 Scientific principles underlying contemporary pediatric dentistry, including prevention of disease; dental anomalies; habits and other problems in occlusal development; behavior management; child abuse. Instruction Mode: Lecture Grading Option: Letter

PEDO 521 Preclinical Pediatric Dentistry
Units: 2 Principles and techniques of cavity preparations in primary teeth; pulpal therapy; stainless steel crowns; space maintenance; diagnosis, treatment planning. Instruction Mode: Lecture Grading Option: Letter

PEDO 551a Clinic: Dentistry for Children I
Units: 0 Structured clinical experience in caring for the dental needs of the child patient. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PEDO 551b Clinic: Dentistry for Children I
Units: 0 Structured clinical experience in caring for the dental needs of the child patient. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PEDO 551c Clinic: Dentistry for Children I
Units: 2 Structured clinical experience in caring for the dental needs of the child patient. Includes special case seminars. Instruction Mode: Lecture Grading Option: Letter

PEDO 561a Clinic: Dentistry for Children II
Units: 0 Dental treatment of the child patient; preventive and restorative dentistry; space maintenance and interceptive orthodontic procedures. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PEDO 561b Clinic: Dentistry for Children II
Units: 0 Dental treatment of the child patient; preventive and restorative dentistry; space maintenance and interceptive orthodontic procedures. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PEDO 561c Clinic: Dentistry for Children II
Units: 1 Dental treatment of the child patient; preventive and restorative dentistry; space maintenance and interceptive orthodontic procedures. Instruction Mode: Lecture Grading Option: Letter

PEDO 701a Seminar: Advanced Pediatric Dentistry
Units: 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Discussions of literature related to pediatric dentistry. Biologic considerations in operative dentistry, odontogenesis, dental trauma, physiology of occlusion, pulpal biology. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 701b Seminar: Advanced Pediatric Dentistry
Units: 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Discussions of literature related to pediatric dentistry. Biologic considerations in operative dentistry, odontogenesis, dental trauma, physiology of occlusion, pulpal biology. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 702a Comprehensive Review of Pediatric Dentistry
Units: 5, 6, 7 each Terms Offered: FaSpSm Critical analysis of current pediatric dentistry literature and case conferences related to the application of contemporary issues in dentistry for the complex child patient. Instruction Mode: Lecture Grading Option: Letter

PEDO 702b Comprehensive Review of Pediatric Dentistry
Units: 5, 6, 7 each Terms Offered: FaSpSm Critical analysis of current pediatric dentistry literature and case conferences related to the application of contemporary issues in dentistry for the complex child patient. Instruction Mode: Lecture Grading Option: Letter

PEDO 703a Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 703b Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 703c Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 703d Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 703e Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 704a Prevention in Pediatric Dentistry
Units: 2 Discussions and readings pertaining to the analysis and incorporation of the many components of prevention into the contemporary pediatric dentistry practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 704b Prevention in Pediatric Dentistry
Units: 2 Discussions and readings pertaining to the analysis and incorporation of the many components of prevention into the contemporary pediatric dentistry practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 705 Pediatric Diseases
Units: 2 Discussion of medical conditions seen by the pediatric dentist in the hospital environment. Conditions include childhood cancer, HIV, heart disease, diabetes mellitus and blood dyscrasias. Instruction

Mode: Lecture Grading Option: Credit/No Credit

PEDO 706 Dental Care for Pediatric Patients with Disabilities
Units: 2 Medical, dental, psychological, and social problems of children with developmental disabilities; effect of problems on delivery of pediatric dentistry. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 707 Seminar: Cleft Palate Rehabilitation
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 Three trimester course discussions and case conferences related to treatment of patients with oral and facial anomalies: includes interceptive and corrective orthodontics, preventive and restorative treatment, and selected oral surgery-prosthetic rehabilitative procedures. Instruction Mode: Lecture Grading Option: Letter

PEDO 708 Practice Management
Units: 1 Terms Offered: FaSpSm Discussion of issues related to the contemporary practice of pediatric dentistry (seminars and office visitations). Topics include: purchasing a practice, associateships, hospital affiliations, practice administration and marketing, computers, jurisprudence and auxiliary utilization. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 709 Conscious Sedation in Pediatric Dentistry
Units: 1 Terms Offered: Sm Seminar topics include: review of pharmacology and effectiveness of commonly used oral agents, methods of administration, regulatory guidelines, patient monitoring, management of sedation related emergencies. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 721 Pediatric Physical Evaluation
Units: 2 Assessment of patient health status; evaluation and management of acute and chronic disease states which may be observed in the pediatric dental practice. Instruction Mode: Lecture Grading Option: Letter

PEDO 761a Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 761b Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 761c Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 761d Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 761e Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 771a Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771b Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771c Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771d Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771e Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771f Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 772a Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 772b Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 772c Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 772d Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 772e Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 773 Hospital Pediatric Clinics
Units: 2, 3, 4 Observation and participation in affiliated hospital clinics: anesthesiology, hematology, and genetic clinics; grand pediatric rounds and other conferences. Instruction Mode: Lecture Grading Option: Letter

PEDO 774 Clinical Genetics in Pediatric Dentistry
Units: 9 Genetic principles of oral, facial and cranial malformations; technique and theory of clinical genetics, differential diagnosis and treatment of disorders of the craniofacial complex. Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

PEDO 790a Directed Research: Pediatric Dentistry
Units: 1, 2, 3, 4, 5, 6 each An examination and analysis of clinical and laboratory problems in dentistry for children leading to completion of an original research project. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 790b Directed Research: Pediatric Dentistry
Units: 1, 2, 3, 4, 5, 6 each An examination and analysis of clinical and laboratory problems in dentistry for children leading to completion of an original research project. Instruction Mode: Lecture Grading Option: Credit/No Credit

Periodontics

PERI 310a Introduction to Periodontal Diseases
Units: 1 Terms Offered: FaSp Introduction to periodontal disease; emphasis on identification of normal periodontium, distinguishing of gingival and periodontal diseases; includes data collection and classification of gingival and periodontal diseases. Instruction Mode: Lecture Grading Option: Letter

PERI 310b Introduction to Periodontal Diseases
Units: 1 Terms Offered: FaSp Introduction to periodontal disease; emphasis on identification of normal periodontium, distinguishing of gingival and periodontal diseases; includes data collection and classification of gingival and periodontal diseases. Instruction Mode: Lecture Grading Option: Letter

PERI 415 Basic Periodontal Therapy
Units: 1 Basic therapeutic modalities of periodontal treatment; general principles and methods of surgical periodontal treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 502 Periodontal Diseases and Elements of Therapeutic Judgment
Units: 2 Periodontal pathologic processes; pathogenesis, classification and clinical features of gingivitis; periodontitis; other related diseases of periodontium including diagnosis and initial phases of treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 504 Advanced Periodontics
Units: 1 Periodontics as related to endodontics, orthodontics, and restorative dentistry; bone induction, osseous grafting, splinting, management of furcation lesions; maintenance, recall, and referral. Instruction Mode: Lecture Grading Option: Letter

PERI 521 Periodontal Surgery
Units: 2 General principles and methods of surgical periodontal treatment; includes laboratory exercises. Instruction Mode: Lecture Grading Option: Letter

PERI 550a Clinic: Introductory Periodontal Therapy
Units: 1 Laboratory and clinical development of periodontal therapy procedures; basic instrumentation principles. Instruction Mode: Lecture Grading Option: Letter

PERI 550b Clinic: Introductory Periodontal Therapy
Units: 1 Laboratory and clinical development of periodontal therapy procedures; basic instrumentation principles. Instruction Mode: Lecture Grading Option: Letter

PERI 561a Clinic: Periodontal Therapy I
Units: 0 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PERI 561b Clinic: Periodontal Therapy I
Units: 0 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PERI 561c Clinic: Periodontal Therapy I
Units: 0 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PERI 561d Clinic: Periodontal Therapy I
Units: 1 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: Letter

PERI 562a Clinic: Periodontal Therapy II
Units: 0, 1, 2 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PERI 562b Clinic: Periodontal Therapy II
Units: 0, 1, 2 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: Letter

PERI 602 Current Controversies in Periodontology
Units: 2 Examination of the major controversies in the field of periodontology; emphasis on the efficacy of current treatment modalities and future trends. Instruction Mode: Lecture Grading Option: Letter

PERI 701a Seminar: Review of Current Periodontal Literature
Units: 2, 3 Review and critical evaluation of the current periodontal literature. Instruction Mode: Lecture Grading Option: Letter

PERI 701b Seminar: Review of Current Periodontal Literature
Units: 2, 3 Review and critical evaluation of the current periodontal literature. Instruction Mode: Lecture Grading Option: Letter

PERI 702a Seminar: Periodontal Treatment Procedures
Units: 2 Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 702b Seminar: Periodontal Treatment Procedures
Units: 2 Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 703a Seminar: Periodontal Case Presentation
Units: 1, 2 Formalized presentation and discussion of clinical cases treated by advanced students. Instruction Mode: Lecture Grading Option: Letter

PERI 703b Seminar: Periodontal Case Presentation
Units: 1, 2 Formalized presentation and discussion of clinical cases treated by advanced students. Instruction Mode: Lecture Grading Option: Letter

PERI 704a Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704b Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704c Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704d Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704e Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704f Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704h Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704i Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704j Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 708 Seminar: Clinical Basis of Periodontics
Units: 4 Evaluation of the literature dealing with various types of therapy including the objectives of treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 710 Clinical Periodontal Photography
Units: 1 Demonstration of techniques used in intraoral photography for periodontal purposes, emphasis on proper clinical case documentation in seminar presentation and Specialty Board Certification. Instruction Mode: Lecture Grading Option: Letter

PERI 711 Occlusal Therapy in Periodontics
Units: 2 Anatomy of the TMJ mandibular movements; occlusal anatomy and their interrelationships; methods of occlusal correction using anatomy and mandibular movements as a guide. Instruction Mode: Lecture Grading Option: Letter

PERI 713a Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713b Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713c Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students.

Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713d Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713e Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713f Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713h Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713i Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713j Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 715 Treatment of Special Care Patients
Units: 3 Periodontal care and treatment of older population groups, handicapped patients, and other types of special patients, settings, and situations. Instruction Mode: Lecture Grading Option: Letter

PERI 716a Seminar: Special Topics in Periodontal Disease
Units: 3 Discussion of topics of immediate importance and controversy. Experts in the field are invited to participate as guest speakers. Instruction Mode: Lecture Grading Option: Letter

PERI 716b Seminar: Special Topics in Periodontal Disease
Units: 3 Discussion of topics of immediate importance and controversy. Experts in the field are invited to participate as guest speakers. Instruction Mode: Lecture Grading Option: Letter

PERI 750 Advanced Periodontal Instrumentation
Units: 3 Advanced root preparation techniques including design and manufacturing characteristics of various instruments, sharpening techniques, and root morphology as it relates to advanced instrumentation principles. Instruction Mode: Lecture Grading Option: Letter

PERI 752 Interdisciplinary Treatment: An Orthodontic Perspective
Units: 2 Effective recognition, evaluation and understanding of the orthodontic treatment phase required in interdisciplinary treatment plans; includes laboratory and clinical experience; applicable to orthodontics, periodontology, prosthodontics. Instruction Mode: Lecture Grading Option: Letter

PERI 761a Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761b Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761c Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761d Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761e Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761f Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761h Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761i Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761j Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 771a Periodontal Therapy in the Hospital
Units: 1 Role of the periodontist in hospital therapy. Treatment of complex cases in the hospital environment. Instruction Mode: Lecture Grading Option: Letter

PERI 771b Periodontal Therapy in the Hospital
Units: 1 Role of the periodontist in hospital therapy. Treatment of complex cases in the hospital environment. Instruction Mode: Lecture Grading Option: Letter

PERI 790a Directed Research: Periodontics
Units: 1, 2, 3, 4, 5, 6 each Research in clinical and experimental periodontology. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 790b Directed Research: Periodontics
Units: 1, 2, 3, 4, 5, 6 each Research in clinical and experimental periodontology. Instruction Mode: Lecture Grading Option: Credit/No Credit

Physiology and Biophysics

PHBI 524 Advanced Overview of Neurosciences
Units: 4 Terms Offered: Fa (Enroll in NSCI 524)

PHBI 531 Cell Biology
Units: 4 (Enroll in INTD 531)

PHBI 550 Seminar in Advanced Cellular, Molecular and Systemic Physiology
Units: 1 Max Units: 12.0 Terms Offered: FaSp Lectures and student presentations on advanced topics in molecular, cellular and systemic physiology. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHBI 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

PHBI 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

PHBI 572 Medical Physiology I
Units: 4 (Enroll in INTD 572)

PHBI 573 Medical Physiology II
Units: 4 (Enroll in INTD 573)

PHBI 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Grading Option: Graded IP/CR/NC.

PHBI 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Grading Option: Graded IP/CR/NC.

PHBI 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit upon acceptance of thesis. Grading Option: Graded IP/CR/NC.

PHBI 650 Mechanisms of Ion and Solute Transport Across Cell Membranes
Units: 2 Terms Offered: Sp Biophysical examination of the mechanisms of ion and solute transport across cell membranes;

emphasis on the structures of transport proteins and kinetic models of transport. *Recommended Preparation:* graduate level course in biochemistry, physical biochemistry, or cell biology Instruction Mode: Lecture Grading Option: Letter

PHBI 651 Molecular Modeling and Kinetic Simulations in Membrane Transport
Units: 2 Terms Offered: Sp Introduction to the principles of mathematical modeling of biological systems and molecular dynamics simulations, with emphasis on membrane transport. *Recommended Preparation:* graduate level courses in biochemistry or physical biochemistry, and cell biology Instruction Mode: Lecture Grading Option: Letter

PHBI 660 Understanding Diseases of Ion Transport
Units: 2 Terms Offered: Fa Examination of the genetics, biochemical mechanisms, and physiological characteristics of diseases caused by inherited mutations in ion channels and ion transport proteins. Instruction Mode: Lecture Grading Option: Letter

Physical Education

PHED 102a Weight Training
Units: 1 Terms Offered: FaSp Improvement of body shape, muscle endurance, and muscle strength; understanding of weight training and nutrition principles that can be utilized for future weight training development. Instruction Mode: Lecture Grading Option: Letter

PHED 102b Weight Training
Units: 1 Terms Offered: FaSp Training techniques and application of advanced weight training principles through weekly workouts; personal trainer certification exam preparation. Instruction Mode: Lecture Grading Option: Letter

PHED 104a Self-Defense
Units: 1 Terms Offered: FaSp Basic instruction of self-defense for beginners; strategies for standing and ground fighting situations with and without weapons. Instruction Mode: Lecture Grading Option: Letter

PHED 104b Self-Defense
Units: 1 Terms Offered: FaSp Intermediate instruction involving more advanced fighting strategies and techniques. Instruction Mode: Lecture Grading Option: Letter

PHED 105 Principles of Self Defense and Personal Safety
Units: 2 Terms Offered: FaSpSm Application of learned skills and strategies for identifying physical threats; increased situational awareness; understanding of when physical force may be required. Instruction Mode: Lecture Grading Option: Letter

PHED 106a Physical Conditioning
Units: 1 Terms Offered: FaSp Improvement in cardiorespiratory endurance, body composition, muscle endurance and flexibility; running, circuit training, resistance exercises; fitness principles and nutrition to develop individualized program. Instruction Mode: Lecture Grading Option: Letter

PHED 106b Physical Conditioning
Units: 1 Terms Offered: FaSp Advanced training methods focusing on continuing gains in fitness level. Instruction Mode: Lecture Grading Option: Letter

PHED 108 High Stress Physical Conditioning
Units: 1 Rigorous physical conditioning with emphasis on distance running and development of cardiovascular and upper body strength. A challenging regimen to enhance stamina and endurance. *Prerequisite:* PHED 106b or permission of instructor. Instruction Mode: Lecture Grading Option: Letter

PHED 110a Swimming
Units: 1 Terms Offered: FaSp Instruction and practice in basic strokes for beginners and intermediate swimmers; elementary springboard diving; water safety techniques; endurance training as a fitness program. Instruction Mode: Lecture Grading Option: Letter

PHED 110b Swimming
Units: 1 Terms Offered: FaSp Advanced instruction and practice of strokes; advanced endurance training. Instruction Mode: Lecture Grading Option: Letter

PHED 114 Lifesaving
Units: 1 American Red Cross Senior Lifesaving. *Prerequisite:* PHED 110a, PHED 110b or ability to pass Skills Test II. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHED 115 Surfing
Units: 1 Terms Offered: FaSpSm Fundamental instruction of surfing skills; water safety and wave etiquette; wave recognition and forecast interpretation; surf culture; board selection; surf related strengthening and conditioning. *Recommended Preparation:* Students will need to pass a swim test BEFORE being allowed to participate in the course. Swim test includes the following: continuous 150 yard swim in under 3 minutes; treading water for 10 minutes; surface dive with brick retrieval; and a 25 yard under water swim. Instruction Mode: Lecture Grading Option: Letter

PHED 118 Sleep for Peak Performance
Units: 2 Terms Offered: FaSpSm Introduction to sleep as it relates to physical and mental performance; breathing and meditation modalities to support healthy sleep; study of sleep systems, disorders, strategies. Instruction Mode: Lecture Grading Option: Letter

PHED 119 Introduction to Mindfulness
Units: 2 Terms Offered: FaSpSm Introduction to the principles of mindfulness; application of learned techniques to enhance mind body awareness; cultivate strategies to improve physical and mental health. Instruction Mode: Lecture Grading Option: Letter

PHED 120a Yoga
Units: 1 Terms Offered: FaSp Introduction to meditation, breathing techniques and postures as a means towards relaxation; increase muscle flexibility; understanding of basic anatomy and nutritional guidelines. Duplicates Credit in former PHED 120. Instruction Mode: Lecture Grading Option: Letter

PHED 120b Yoga
Units: 1 Terms Offered: FaSp A continuing study of intermediate and advanced yoga postures, breathing techniques and meditation as a means toward relaxation and stress-reduction. Instruction Mode: Lecture Grading Option: Letter

PHED 120c Yoga
Units: 1 Terms Offered: FaSpSm In-depth study of hatha yoga and its history; includes advanced asanas and meditation as a means toward overall health and wellness. *Prerequisite:* PHED 120b Instruction Mode: Lecture Grading Option: Letter

PHED 121 Yoga for Athletic Performance
Units: 1 Terms Offered: FaSpSm Skills and strategies for injury prevention and recovery from athletic training; application of yoga principles to improve posture, strength, flexibility, core stability and concentration. Instruction Mode: Lecture Grading Option: Letter

PHED 122 Kundalini Yoga and Meditation
Units: 1 Terms Offered: FaSp Ancient yoga practice combining postures, meditation, breathing, mantras and focus techniques; designed to improve mind body awareness, balance, strength, flexibility, techniques and nervous system function. Instruction Mode: Lecture Grading Option: Letter

PHED 123 Yoga Therapy
Units: 2 Terms Offered: FaSpSm Holistic discipline combining traditional yoga techniques with a modern medicine approach to treating a variety of health conditions; includes physical, mental and breathing practice. Instruction Mode: Lecture Grading Option: Letter

PHED 124 Walking for Fitness
Units: 1 Terms Offered: FaSp Develop a strong fitness foundation through walking; fitness assessment and individualized programs; gait biomechanics and power walking; injury prevention; strategies for special populations. Instruction Mode: Lecture Grading Option: Letter

PHED 125 Restorative Yoga
Units: 1 Terms Offered: FaSpSm Introduction to yoga principles for relaxation and rejuvenation of the body and mind; application of specific yoga poses, breathing methods and restorative techniques. Instruction Mode: Lecture Grading Option: Letter

PHED 126 AcroYoga
Units: 1 Terms Offered: FaSpSm Teamwork building fitness course combining mindfulness and yoga with the dynamic movement of acrobatics; strength, balance and mind body awareness; stretching, spotting and counter balancing. Instruction Mode: Lecture Grading Option: Letter

PHED 127 Principles of Traditional Yoga Through Community Outreach
Units: 2 Terms Offered: FaSpSm Introduction and reinforcement of yoga postures, breathing techniques and meditation; sharing yoga principles and benefits with grade schools; teaching and community service opportunity. Instruction Mode: Lecture Grading Option: Letter

PHED 129a Cardio Group Fitness
Units: 1 Terms Offered: FaSpSm Group fitness instruction incorporating a variety of training methods such as cycling, HITT (high intensity interval training), step, circuits; nutritional guidelines. Instruction Mode: Lecture Grading Option: Letter

PHED 129b Cardio Group Fitness
Units: 1 Terms Offered: FaSpSm Group exercise teaching techniques and application of fitness principles through weekly workouts; group fitness certification exam preparation. *Prerequisite:* PHED 129a Instruction Mode: Lecture Grading Option: Letter

PHED 131 Step Aerobics
Units: 1 Terms Offered: FaSp Development of physical fitness components through step aerobics; total body workout utilizing step movements and body sculpting exercises. Instruction Mode: Lecture Grading Option: Letter

PHED 133 Rock Climbing
Units: 1 Terms Offered: FaSp Acquisition of basic rock climbing skills, muscle strength, endurance and balance, climbing safety, ethics and environmental considerations; understanding equipment, problem solving. Instruction Mode: Lecture Grading Option: Letter

PHED 134 Hiking
Units: 1 Terms Offered: FaSpSm Introduction to hiking; specific conditioning to develop muscle strength and endurance; equipment; various terrain, weather conditions, safety; environmental impact and trail etiquette. Instruction Mode: Lecture Grading Option: Letter

PHED 135 Backpacking
Units: 1 Terms Offered: FaSpSm Acquisition of backpacking knowledge and skills; conditioning plan; nutrition and equipment selection; ethics and environmental considerations; navigation, safety and wilderness first aid; trip planning. *Recommended Preparation:* Students must be able to carry a weighted backpack through varied terrain for extended periods of time. Students must pass a fitness test given on the first day to be eligible Instruction Mode: Lecture Grading Option: Letter

PHED 138 Beach Volleyball
Units: 1 Terms Offered: FaSpSm Fundamental instruction of skills and tactics specific to sand volleyball and related physical conditioning; rules and strategies; history and culture. Instruction Mode: Lecture Grading Option: Letter

PHED 139a Volleyball
Units: 1 Terms Offered: FaSp Introduction to beginning and intermediate volleyball skills, rules, game tactics, and strategies. Emphasis on the development of: passing, setting, hitting, serving, blocking, and digging. Instruction Mode: Lecture Grading Option: Letter

PHED 139b Volleyball
Units: 1 Terms Offered: FaSp Advanced techniques; focus on offenses and defenses used in game situations. Instruction Mode: Lecture Grading Option: Letter

PHED 140a Tennis
Units: 1 Terms Offered: FaSp Fundamental instruction of basic strokes for beginners and intermediate players; rules, scoring, court etiquette, strategies; singles and doubles; practice and match play. Instruction Mode: Lecture Grading Option: Letter

PHED 140b Tennis
Units: 1 Terms Offered: FaSp Reinforcement of basic strokes and instruction of advanced strokes; advanced strategies; singles and doubles; practice and match play. Instruction Mode: Lecture Grading Option: Letter

PHED 140c Tennis
Units: 1 Terms Offered: FaSp Development of strokes and strategies for advanced tournament players; drills and matches. Instruction Mode: Lecture Grading Option: Letter

PHED 143a Racquetball
Units: 1 Terms Offered: FaSp Instruction of basic stroke technique for beginners and intermediate players; rules, scoring, game tactics; practice of strokes and competition. Instruction Mode: Lecture Grading Option: Letter

PHED 143b Racquetball
Units: 1 Terms Offered: FaSp Development of advanced skills and strategies; singles and doubles practice and competition. Instruction Mode: Lecture Grading Option: Letter

PHED 145 Team Handball
Units: 1 Terms Offered: FaSpSm Instruction and practice of serving, ceiling shots, lobs, three wall shots and passing; rules, offensive and defensive strategies; sport specific conditioning; fundamental drills and games. Instruction Mode: Lecture Grading Option: Letter

PHED 148a Archery
Units: 1 Terms Offered: FaSpSm Fundamental instruction of archery technique for beginners and intermediates; historical origins; form; the shot cycle; mindfulness; scoring; equipment; sport specific training. Duplicates Credit in former PHED 148a Instruction Mode: Lecture Grading Option: Letter

PHED 148b Archery
Units: 1 Terms Offered: FaSpSm Continuing study of archery fundamentals focusing on the bio mechanics and mindfulness of the shot process; training methods and competition; setup and tuning. *Prerequisite:* PHED 148a Duplicates Credit in former PHED 148 Instruction Mode: Lecture Grading Option: Letter

PHED 150a Table Tennis
Units: 1 Terms Offered: FaSpSm Fundamental instruction of basic strokes for beginning and intermediate players; rules, scoring strategies; singles and doubles; practices and match play. Duplicates Credit in former PHED 150 Instruction Mode: Lecture Grading Option: Letter

PHED 150b Table Tennis
Units: 1 Terms Offered: FaSpSm Reinforcement of basic strokes for experienced players; development of advanced strokes including serves, use of spin, counter hits, footwork; drills and match play. *Prerequisite:* PHED 150a Duplicates Credit in former PHED 150 Instruction Mode: Lecture Grading Option: Letter

PHED 151a Badminton
Units: 1 Terms Offered: FaSpSm Fundamental instruction of basic strokes for beginners and intermediate players; rules, scoring, strategies; footwork and court positioning; practical drills and games. Instruction Mode: Lecture Grading Option: Letter

PHED 151b Badminton
Units: 1 Terms Offered: FaSpSm Fundamental instruction of basic strokes for beginners and intermediate players; rules, scoring, strategies; footwork and court positioning; practical drills and games. *Prerequisite:* PHED 151a Instruction Mode: Lecture Grading Option: Letter

PHED 152 Beach Soccer
Units: 1 Terms Offered: FaSpSm Fundamental instruction of skills and team tactics specific to beach soccer; sport specific conditioning, drills and games; rules and strategies; history and culture. Instruction Mode: Lecture Grading Option: Letter

PHED 153 Futsal
Units: 1 Terms Offered: FaSpSm Fundamental instruction of skills and tactics specific to Futsal; rules; strategies; elements of play that differ from soccer; conditioning, drills, and games. Instruction Mode: Lecture Grading Option: Letter

PHED 154a Soccer
Units: 1 Terms Offered: FaSp Development of basic skills for beginners, intermediate and advanced players; rules, positioning elements of play, small group and team tactics; full field scrimmages. Instruction Mode: Lecture Grading Option: Letter

PHED 154b Soccer
Units: 1 Terms Offered: FaSp Advanced development of skills, positioning, tactics and conditioning. Instruction Mode: Lecture Grading Option: Letter

PHED 155a Golf
Units: 1 Terms Offered: FaSpSm Basic skills development and knowledge in stance, grip and swing mechanics; course strategy; use of woods, irons and putting; history rules and etiquette. Duplicates Credit in PHED 155 Instruction Mode: Lecture Grading Option: Letter

PHED 155b Golf
Units: 1 Terms Offered: FaSpSm Development and reinforcement of swing mechanics, shot selection, etiquette and rules; application of course strategies on golf course and driving range. *Prerequisite:* PHED 155a Instruction Mode: Lecture Grading Option: Letter

PHED 156a Basketball
Units: 1 Terms Offered: FaSp Basic skill development in dribbling, passing, shooting, rebounding and defense; rules, history, and etiquette; drills and full court games. Instruction Mode: Lecture Grading Option: Letter

PHED 156b Basketball
Units: 1 Terms Offered: FaSp Development of advanced skills; team strategy; offenses and zone defenses; drills and full court games. Instruction Mode: Lecture Grading Option: Letter

PHED 160 Stress Management for Healthy Living
Units: 2 Terms Offered: FaSp Instruction on the effects of stress as it relates to work, sport and academics; coping strategies are discussed and applied through physical conditioning interventions. Instruction Mode: Lecture Grading Option: Letter

PHED 161 First Aid
Units: 1 First Aid safety education and infant, child, and adult CPR; demonstrated proficiency and successful completion of exam prepares students for Red Cross certification. Duplicates Credit in former

PHED 171. Instruction Mode: Lecture Grading Option: Letter

PHED 162 Principles of Athletic Coaching
Units: 2 Terms Offered: FaSpSm Introduction to coaching strategies; team management; philosophy; ethics; leadership. Methodologies in sport specific training; skill progression; conditioning; athlete motivation; budgeting; fundraising. Instruction Mode: Lecture Grading Option: Letter

PHED 163 Health Coaching
Units: 3 Terms Offered: FaSpSm Skills and strategies of coaching principles promoting healthy lifestyle change. Motivational communication techniques; goal setting; designing safe, effective exercise program; health coach certification exam preparation. Instruction Mode: Lecture Grading Option: Letter

PHED 165 Varsity Athletics
Units: 1 Max Units: 4.0 Participation in the university's inter-collegiate programs as sanctioned and governed by the PAC-10 Conference and/or the NCAA. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHED 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: Sp Selected topics in Physical Education, including mindfulness and stress management, offered in a variety of settings. Instruction Mode: Lecture Grading Option: Letter

Philosophy

PHIL 100g Central Problems of Philosophy
Units: 4 Explores questions about human beings and their place in nature, including questions about knowledge, mind and body, freedom and determinism, and the existence of God. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, discussion Grading Option: Letter

PHIL 101 Free People, Free Thought and Free Markets
Units: 4 Terms Offered: FaSpSm The philosophical foundations of modern political and economic thought, including economic rationality, neoclassical economics, free-market vs. socialist economies and behavioral economics. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ECON 101

PHIL 102gp Historical Introduction to Philosophy
Units: 4 Introduction to the central philosophical works that have shaped western thought. Includes ancient, early modern and contemporary writings. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 103g Philosophy, Politics and Economics in Europe, from Renaissance to Enlightenment
Units: 4 Introduction to the central ideas of philosophy, science, politics and economics in western European history between 1450 and 1800. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 104g Ancient Foundations of Western Thought
Units: 4 Explores writings of ancient philosophers who first raised, and continue to influence our thinking about, fundamental questions concerning nature, knowledge, justice, happiness, and death. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in PHIL 115. Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 110g Modern Foundations of Western Thought
Units: 4 Explores the writings of philosophers, from Descartes to Kant, who responded to, and helped to shape, the scientific and political upheavals of the modern period. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in former PHIL 101 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 115g Ancient Greek Culture and Society
Units: 4 Focus on the literary achievement from the beginning of Greek literature to the fourth century with a special emphasis on the philosophers. Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 120g Introduction to Formal Logic
Units: 4 Introduces formal tools for distinguishing between good and bad arguments or inferences. Covers both propositional logic and predicate logic. Satisfies New General Education in F Quantitative Reasoning Duplicates Credit in former PHIL 250ab Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 122a Reasoning and Argument
Units: 2 Terms Offered: FaSp Techniques for constructing good arguments and for assessing and criticizing the arguments of others. Duplicates Credit in former PHIL 250ab. Instruction Mode: Lecture Grading Option: Letter

PHIL 122b Reasoning and Argument
Units: 2 Terms Offered: FaSp Techniques for constructing good arguments and for assessing and criticizing the arguments of others. Duplicates Credit in former PHIL 250ab. Instruction Mode: Lecture Grading Option: Letter

PHIL 130g The Physical World and Our Place In It
Units: 4 Exploration of basic questions about the nature of reality. Topics may include personal identity, freedom and determinism, causation and laws of nature. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 138g Introduction to the Philosophy of Religion
Units: 4 Explores arguments for and against the existence of God, as well as questions about the nature and rationality of faith. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 141gp The Professions and the Public Interest in American Life
Units: 4 The study of the nature and role of professionals in life and society, forces that shape and direct them, foundations and applications of professional ethics. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture Grading Option: Letter

PHIL 166gw Current Moral and Social Issues
Units: 4 Terms Offered: FaSp Critical study of controversial social issues such as abortion, euthanasia, the death penalty, war and terrorism, sexual morality, affirmative action and economic justice. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in former PHIL 140g Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 168g The Meaning of Life
Units: 4 Explores philosophical treatments of the problem of the meaning or purpose of human life. Satisfies New General Education in B Humanistic Inquiry Duplicates Credit in former PHIL 155 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 172gmw Social Ethics for Earthlings and Others
Units: 4 Terms Offered: FaSp A systematic study of contemporary issues in social and political philosophy engaging multimedia works of science fiction to illuminate classic Western moral and political theories. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Duplicates Credit in former PHIL 137 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 174gw Freedom, Equality, and Social Justice
Units: 4 Terms Offered: FaSp Explores the nature of justice, and how apparently conflicting ideals, such as freedom and equality, are to be balanced within a just society. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 178gw Moral Dilemmas in the Legal Domain
Units: 4 Philosophical theories of law and applications to controversies of importance to society and our legal system, such as free speech, civil disobedience, and self defense. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social

Issues Duplicates Credit in former PHIL 135g. Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 222g Logic and Language
Units: 4 Introduces symbolic logic and explores its application to the philosophy of language, plus meta-logical and philosophical results about its scope and limits. Satisfies New General Education in Category F: Quantitative Reasoning Duplicates Credit in PHIL 350 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 236g Issues in Space and Time
Units: 4 What is time? What is the difference between past, present and future? Is time-travel possible? And what paradoxes might it give rise to? Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in PHIL 286Lg Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 240g Mind, Self, and Consciousness
Units: 4 Explores philosophical questions about the human mind and consciousness, and how they relate to the brain and to the physical world more generally. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in PHIL 262g Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 242 Theories of Art
Units: 4 An introduction to general theories of art and to issues concerning particular arts such as literature and drama, photography and film, painting, architecture and music. Instruction Mode: Lecture Grading Option: Letter

PHIL 246Lg Foundations of Cognitive Science
Units: 4 Terms Offered: FaSp Introduction to research in interdisciplinary cognitive science, highlighting ideas and methods from philosophy, psychology, linguistics, neuroscience, and computer science. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHIL 252g The Ways of Paradox
Units: 4 Terms Offered: FaSp Focusing on selected paradoxes in science and philosophy calling into question common views of infinity, space and time, causation and rational belief and action. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 254gp Science, Knowledge and Objectivity
Units: 4 Max Units: max 4 How does science differ from pseudo-science? When is it rational to accept a scientific theory? And do such theories provide genuine knowledge of reality? Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 255gp Existentialism in Philosophy, Literature and Film
Units: 4 A study of existentialist philosophy and its influence in 19th and 20th century culture, including both literature and film. Focus on works by Kierkegaard, Nietzsche, Camus, Sartre, Beauvoir, Dostoevsky, Godard, and others. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

PHIL 256g Science, Religion, and the Making of the Modern Mind
Units: 4 Terms Offered: FaSp Exploration of the philosophical and religious implications of major scientific revolutions, such as those of Copernicus, Galileo, and Darwin. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in former PHIL 220g. Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 258g Probability and Rational Choice
Units: 4 Explores formal tools for thinking about uncertainty. In an uncertain world, how is it rational to form our beliefs, make decisions, and interact with others? Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 260gw Ethical Theory and Practice
Units: 4 Terms Offered: FaSp Explores various conceptions of morality and what makes actions right or wrong, together with the implications of these views for concrete ethical issues. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 262g Mind and Self: Modern Conceptions
Units: 4 Philosophical problems about the nature of mind associated with the rise of modern science; topics include the mind/body relation, personal identity, rationality and freedom. Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 265g Ethics, Technology and Value
Units: 4 Terms Offered: FaSp Introduces and explores philosophical and ethical questions and theories related to technology, including biomedical technologies, internet applications and artificial intelligence. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ENGR 265

PHIL 270g Conceptual Foundations of Conflict
Units: 4 Terms Offered: FaSp Explore the nature of interpersonal conflict: war, polarization, abuse, silencing, public reason, democracy, cancel culture and resistance. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 284gp Ideas on Trial
Units: 4 The trials of Socrates, Joan of Arc, the Salem witches, Galileo, Scopes and the Nuremberg and Eichmann trials; their social and cultural consequences. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 285Lg Knowledge, Explanation, and the Cosmos
Units: 4 Terms Offered: FaSpSm The nature and limits of knowledge and explanation, and challenges in understanding the origin of the universe and the place of intelligent life within it. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHIL 286Lg Issues in Space and Time
Units: 4 Examining the nature of space and time, how they relate, and how material objects relate to them. Some included topics: substantivalism, temporal directionality, persistence, hyperspace. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHIL 288gp Love and its Representation in Western Literature, Film, and Philosophy
Units: 4 Key works that have shaped the European and American cultural inheritance, with a special focus on the nature of love. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in the former PHIL 225 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 311 The Quest for the Individual in Early Modern Europe
Units: 4 The legal, religious, economic and philosophical bases of the rise of individualism from its roots in ancient times through its development in Europe from the 15th through the 18th centuries. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 319

PHIL 314 Origins of Free Market Thought in Early Modern Europe
Units: 4 The varied history of ideas of a free market from Cicero, through the Middle Ages and Renaissance, to the Enlightenment, Adam Smith, Colbert and beyond. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 315

PHIL 315 History of Western Philosophy: Ancient Period
Units: 4 Major figures in the history of Western philosophical thought from the pre-Socratics to the Hellenistic period; emphasis on Plato and Aristotle. Instruction Mode: Lecture Grading Option: Letter

PHIL 317 History of Western Philosophy: Medieval Period
Units: 4 Central themes in Jewish, Christian and Islamic philosophy from late antiquity through the scholastic period. Instruction Mode: Lecture Grading Option: Letter

PHIL 320 History of Western Philosophy: Modern Period
Units: 4 The development of philosophy from the 16th to the 19th centuries;

emphasis on Continental Rationalism, British Empiricism, and the philosophy of Kant. Instruction Mode: Lecture Grading Option: Letter

PHIL 336 Philosophy of Mind and Language
Units: 4 Explores how language shapes thought, how social norms impact meaning and communication, the nature of speech acts, with applications to hate speech and pornography. Instruction Mode: Lecture Grading Option: Letter

PHIL 337 Political Philosophy
Units: 4 Analysis of some of the main political philosophies of the modern era; emphasis on the ethical and metaphysical foundations of political philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 339 Philosophy of Economics
Units: 4 Central topics in the philosophy of economics, including models of economic rationality, the aggregation of preferences and the conditions in which markets yield undesirable outcomes. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ECON 339

PHIL 340 Ethics
Units: 4 Terms Offered: FaSpSm Study of major philosophical theories of moral right and wrong, such as utilitarianism, Kantianism, egoism, virtue ethics, and theological ethics. Instruction Mode: Lecture Grading Option: Letter

PHIL 347 Philosophy in Literature
Units: 4 Philosophical content in representative European and American literature; philosophical problems about literature such as the nature of truth and meaning in fiction. Instruction Mode: Lecture Grading Option: Letter

PHIL 350 Symbolic Logic
Units: 4 Introduction to basic techniques of propositional and quantificational logic, and elements of probability. Especially useful to philosophy, mathematics, science, and engineering majors. Instruction Mode: Lecture Grading Option: Letter

PHIL 351 Reasoning and Logic
Units: 4 Study of reasoning as a strategy for arriving at knowledge in dependence upon logical theory. Logical theories are developed alongside historically influential strategies of reasoning. Not open to freshmen. Instruction Mode: Lecture Grading Option: Letter

PHIL 352 Logic and Language
Units: 4 Introduction to modern symbolic logic, with applications to the philosophy of language, plus meta-logical and philosophical results about its scope and limits. Instruction Mode: Lecture Grading Option: Letter

PHIL 355 Existentialism
Units: 4 A critical survey of major 19th and 20th century existentialist writers, including Kierkegaard, Dostoevsky, Tolstoy, Kafka, Nietzsche, Camus, and Sartre. Instruction Mode: Lecture Grading Option: Letter

PHIL 360 Epistemology and Metaphysics
Units: 4 Examination of problems in metaphysics and/or epistemology. Conducted at the intermediate level. Instruction Mode: Lecture Grading Option: Letter

PHIL 361 Philosophy of Religion
Units: 4 The existence of God; mysticism, miracles and the possibility of disembodied existence; the problem of evil; religion and morality; the meaning of religious language. Instruction Mode: Lecture Grading Option: Letter

PHIL 362 Possible Worlds
Units: 4 Introduction to possible worlds as a tool for asking and answering questions about what might be, what must be, and what can never be. Instruction Mode: Lecture Grading Option: Letter

PHIL 363 Philosophy of Perception
Units: 4 Philosophical investigation of sense perception as it relates to issues in epistemology, metaphysics, the philosophy of mind, and the philosophy of science. Instruction Mode: Lecture Grading Option: Letter

PHIL 385 Science and Rationality
Units: 4 Examination of the rationality of the scientific enterprise, and of the relation between science and human values. Instruction Mode: Lecture Grading Option: Letter

PHIL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PHIL 410 Early Greek Thought
Units: 4 A study of the Greek thinkers from Homer to the age of Socrates; emphasis on the pre-Socratic philosophers. Instruction Mode: Lecture Grading Option: Letter

PHIL 411 Plato
Units: 4 Detailed study of the evolution of Plato's thought as revealed in selected dialogues. Instruction Mode: Lecture Grading Option: Letter

PHIL 415 Aristotle
Units: 4 Intensive study of selected topics taken from Aristotle's writings in natural philosophy, in metaphysics, and in other areas of philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 416 The Ancient Stoics
Units: 4 Terms Offered: FaSp A study of Stoicism, the ancient Greek and Roman Stoics' theories about the cosmos, psychology, knowledge, ethics, fate and philosophy as "medicine for the soul." Instruction Mode: Lecture Grading Option: Letter

PHIL 421 Continental Rationalism
Units: 4 Development of philosophy on the continent from the 17th to the 19th centuries; emphasis on the philosophical works of Descartes, Leibniz, and Spinoza. Instruction Mode: Lecture Grading Option: Letter

PHIL 422 British Empiricism
Units: 4 Development of philosophy in Great Britain from the 17th to the 19th centuries; emphasis on Locke, Berkeley, and Hume. Instruction Mode: Lecture Grading Option: Letter

PHIL 423 The Critical Philosophy of Kant
Units: 4 Intensive study of the philosophical works of Kant. Instruction Mode: Lecture Grading Option: Letter

PHIL 424 19th Century Philosophy
Units: 4 Leading figures and movements in 19th century philosophy; works of such philosophers as Hegel, Schopenhauer, Mill, Nietzsche, and Bradley. Instruction Mode: Lecture Grading Option: Letter

PHIL 427 Twentieth Century Anglo-American Philosophy
Units: 4 The rise of analytic philosophy; major ethical, metaphysical, epistemological, views; Frege, Moore, Russell, early and late Wittgenstein and Quine. Instruction Mode: Lecture Grading Option: Letter

PHIL 428 Anglo-American Philosophy Since 1950
Units: 4 The maturing of the analytic tradition from the later Wittgenstein through Ryle, Strawson, Hare, Austin, Grice, Quine, Davidson, Kripke, and beyond. Instruction Mode: Lecture Grading Option: Letter

PHIL 430 Philosophy of Law
Units: 4 Philosophical theories about the nature of law, relations between law and morality, and analysis of normative concepts central to law, such as responsibility, punishment, negligence. Instruction Mode: Lecture Grading Option: Letter

PHIL 431 Law, Society, and Politics
Units: 4 Terms Offered: Fa A systematic presentation of the main philosophical perspectives on the interactions between law and the social-political aspects of our lives. Instruction Mode: Lecture Grading Option: Letter

PHIL 437 Social and Political Philosophy
Units: 4 The nature of man and society, the nature and justification of state and government, political rights and political obligation, justice and equality. Instruction Mode: Lecture Grading Option: Letter

PHIL 440 Contemporary Ethical Theory
Units: 4 Ethical theories in the 20th century; contemporary theories of value and obligation; metaethical theories; intuitionism, naturalism, and non-cognitivism; concepts of justice, human rights, and freedom. Instruction Mode: Lecture Grading Option: Letter

PHIL 442 History of Ethics to 1900
Units: 4 An historical and critical study of the great moral philosophers, including Plato, Aristotle, Aquinas, Kant, and the British moralists. Instruction Mode: Lecture Grading Option: Letter

PHIL 443 Value Theory
Units: 4 The evaluation of individual and social ends; consideration of such topics as values and rational choice, the good of a person, hedonism, welfare, ideals, and utopias.

PHIL 445 Philosophy of the Arts
Units: 4 Principal theories of the nature of, and response to, art; examination of form and content in various arts; consideration of the role of criticism. Instruction Mode: Lecture Grading Option: Letter

PHIL 446 Aesthetics and the Film
Units: 4 Problems in the philosophy of art raised by film, such as the notion of "cinematic"; the nature of interpretation of films; criteria for evaluating films. Instruction Mode: Lecture Grading Option: Letter

PHIL 450 The Limits of Logic
Units: 4 Systematic study of the formal limits on what can be counted, expressed

in language, systematically computed or rigorously proved, including Goedel's Incompleteness Theorems. *Prerequisite:* PHIL 350 Instruction Mode: Lecture Grading Option: Letter

PHIL 452 Modal Logic
Units: 4 Elements of propositional and quantified modal logic and the logic of counterfactual conditionals with an eye to some of their applications in contemporary philosophy. *Prerequisite:* PHIL 350, or PHIL 351, or PHIL 352. Instruction Mode: Lecture Grading Option: Letter

PHIL 455 Phenomenology and Existentialism
Units: 4 Terms Offered: Irregular Close study of major writings of Husserl, Heidegger, and Sartre. Instruction Mode: Lecture Grading Option: Letter

PHIL 460 Metaphysics
Units: 4 Systematic introduction to basic concepts, including identity, difference, existence, individuals, substance, quality, and relation; emphasis on idealism, materialism, and the ontology of intentionality. Instruction Mode: Lecture Grading Option: Letter

PHIL 462 Philosophy of Mind
Units: 4 Examination of contemporary theories of mind and its place in the natural world. Instruction Mode: Lecture Grading Option: Letter

PHIL 463 Theories of Action
Units: 4 Systematic investigation of action, the mental states involved in action, the reasoning processes that lead to action, and related concepts including intentionality and free will. Instruction Mode: Lecture Grading Option: Letter

PHIL 465 Philosophy of Language
Units: 4 The nature of communication, meaning, reference, truth, necessity, speech acts, convention, and language. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-465

PHIL 467 Language, Linguistics and Mind
Units: 4 Terms Offered: FaSp Topics of current interest at the crossroads of philosophy of language, philosophy of mind and linguistics. Instruction Mode: Lecture Grading Option: Letter

PHIL 470 Theory of Knowledge
Units: 4 Examination of contemporary accounts of the nature, scope, sources — and value — of human knowledge and justified belief. Instruction Mode: Lecture Grading Option: Letter

PHIL 471 Metaphysics and Epistemology
Units: 4 Classic issues in epistemology and the philosophy of language, leading up to the application of context-sensitivity in language to the problem of skepticism. *Prerequisite:* PHIL 350 or PHIL 351 or PHIL 352 *Recommended Preparation:* at least one 400-level PHIL course. Registration Restriction: Open to Philosophy majors. Instruction Mode: Lecture Grading Option: Letter

PHIL 472 Moral Philosophy
Units: 4 In-depth study of some important work from the last few decades concerning the nature and status of moral reasons, moral obligations, and moral discourse. *Prerequisite:* PHIL 350 or PHIL 351 or PHIL 352 *Recommended Preparation:* at least one 400-level PHIL class. Registration Restriction: Open to Philosophy majors. Instruction Mode: Lecture Grading Option: Letter

PHIL 473 Wittgenstein
Units: 4 A detailed study of the philosophical works of Ludwig Wittgenstein. Instruction Mode: Lecture Grading Option: Letter

PHIL 475 Topics in Philosophy, Politics and Economics
Units: 4 The analysis of public policy debates combining the different tools and perspectives of philosophy, political science and economic theory. Registration Restriction: Open only to Philosophy, Politics and Economics majors Instruction Mode: Lecture Grading Option: Letter

PHIL 480 Philosophy of Mathematics
Units: 4 The nature of mathematical truth and the nature of mathematical entities. Instruction Mode: Lecture Grading Option: Letter

PHIL 484 Philosophy of Physics
Units: 4 Max Units: 12 A comprehensive introduction to two of the central areas of modern philosophy of physics: the philosophy of spacetime, and the philosophy of quantum mechanics. *Recommended Preparation:* PHYS 304, PHYS 408a, or PHYS 438a Instruction Mode: Lecture Grading Option: Letter

PHIL 485 Development of Physical Science
Units: 4 Concepts central in the advance of physical science such as the concepts of space, time, mass, force; philosophical problems concerning quantum mechanics. Instruction Mode: Lecture Grading Option: Letter

PHIL 486 Methodologies of the Sciences
Units: 4 Comparison of the methodologies of the natural, social, and/or behavioral sciences; consideration of such topics as the concept of scientific law, prediction, explanation, confirmation. Instruction Mode: Lecture Grading Option: Letter

PHIL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

PHIL 494 Senior Thesis
Units: 4 Independent studies for philosophy majors, and guidance in the preparation of the senior thesis for students who wish to graduate with honors in philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 495 Honors Capstone
Units: 4 Terms Offered: FaSp In-depth study synthesizing important recent developments in one or more central areas of philosophy pursued at a beginning graduate level. *Recommended Preparation:* Two 400-level courses in Philosophy Registration Restriction: Open only to senior philosophy majors Instruction Mode: Lecture Grading Option: Letter

PHIL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in various specialty areas within philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 500 Introduction to Contemporary Philosophical Literature
Units: 4 Terms Offered: Fa Analysis of selected philosophical problems and theses of current interest; explication of major contemporary papers and/or books is emphasized. Instruction Mode: Lecture Grading Option: Letter

PHIL 501 Seminar in Recent Philosophy
Units: 4 Max Units: 16.0 Terms Offered: Sp Contemporary philosophical issues and literature. Instruction Mode: Lecture Grading Option: Letter

PHIL 503 Introduction to Contemporary Philosophical Literature on Value
Units: 4 Terms Offered: Sp Analysis of selected philosophical problems and theses of current interest; explication of major contemporary papers and/or books is emphasized. Instruction Mode: Lecture Grading Option: Letter

PHIL 505 Pro-Seminar in Central Topics in Contemporary Philosophy
Units: 4 Terms Offered: Irregular Key developments in central areas of philosophy are used to provide training in philosophical analysis, criticism, and the writing of precise philosophical prose. Instruction Mode: Lecture Grading Option: Letter

PHIL 510 Philosophical Logic
Units: 4 Terms Offered: Sp Applications of logical theory to contemporary philosophical research. Elements of model theory, recursion theory; Goedel's Incompleteness results; modal logic and its interpretations. *Recommended Preparation:* PHIL 350. Instruction Mode: Lecture Grading Option: Letter

PHIL 515 Studies in Ancient and Medieval Philosophy
Units: 4 Max Units: 16.0 Problems in research in selected portions of ancient and medieval philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 520 Studies in Modern Philosophy
Units: 4 Max Units: 16.0 Problems in research in selected portions of modern philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 525 Seminar in Phenomenology
Units: 4 The origin, principles, and development of the phenomenological movement from Brentano to Merleau-Ponty. Instruction Mode: Lecture Grading Option: Letter

PHIL 530 Seminar in Philosophy of Law
Units: 4 Max Units: 12.0 Theories of the nature of law; emphasis on recent writing; legal concepts such as rights, powers, liability, legal responsibility, law, and morality. Instruction Mode: Lecture Grading Option: Letter

PHIL 537 Seminar in Social and Political Philosophy
Units: 4 Max Units: 16.0 Advanced literature on selected topics in social and political philosophy, including the nature of law, man, and society; ideals such as justice and freedom. Instruction Mode: Lecture Grading Option: Letter

PHIL 540 Seminar in Ethics
Units: 4 Max Units: 16.0 Advanced topics and literature in ethical theory. Instruction Mode: Lecture Grading Option: Letter

PHIL 545 Seminar in Aesthetics
Units: 4 Advanced topics in the philosophy of the arts. Contemporary views on such problems as the nature of art and the role of

criticism. Instruction Mode: Lecture Grading Option: Letter

PHIL 550 Advanced Topics in Formal Logic
Units: 4 Consistency and completeness of the predicate calculus; truth and validity; rudiments of model logic. *Prerequisite:* PHIL 450. Instruction Mode: Lecture Grading Option: Letter

PHIL 551 Seminar in the Philosophy of Logic
Units: 4 Advanced topics in logic and/or philosophy of logic. Instruction Mode: Lecture Grading Option: Letter

PHIL 560 Seminar in Metaphysics
Units: 4 Max Units: 16.0 Terms Offered: Fa Advanced topics in metaphysics. Instruction Mode: Lecture Grading Option: Letter

PHIL 562 Philosophy of Mind
Units: 4 Max Units: 12.0 Contemporary approaches to a variety of questions about the nature of mental states and our knowledge of them. Instruction Mode: Lecture Grading Option: Letter

PHIL 565 Philosophy of Language
Units: 4 Max Units: 12.0 Terms Offered: FaSp Philosophical issues in the empirical study of language concerning the relationship between linguistic meaning and the use of sentences to assert and convey information. Instruction Mode: Lecture Grading Option: Letter

PHIL 570 Seminar in Epistemology
Units: 4 Max Units: 16.0 Advanced topics in epistemology. Instruction Mode: Lecture Grading Option: Letter

PHIL 584 Seminar in the Philosophy of Physics
Units: 4 Max Units: 12 Selected topics in various specialty areas within the philosophy of physics. *Recommended Preparation:* PHYS 304, PHYS 408a, or PHYS 438a Instruction Mode: Lecture Grading Option: Letter

PHIL 585 Seminar in Philosophy of Science
Units: 4 Max Units: 16.0 Advanced topics in the philosophy of science. Instruction Mode: Lecture Grading Option: Letter

PHIL 589 Writing for Publication in Philosophy
Units: 4 Max Units: 8.0 Terms Offered: Sp Intensive writing seminar in which students read cutting-edge philosophy and take supervised steps towards crafting critical essays for publication. *Prerequisite:* PHIL 500, PHIL 505. Instruction Mode: Lecture Grading Option: Letter

PHIL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHIL 593x Teaching Philosophy
Units: 2 Terms Offered: Fa Basic principles of philosophical pedagogy, with emphasis on practical applications and the importance of career-long skill development. Required for first-semester teaching assistants in philosophy. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHIL 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Major trends of current thought; specific topics to be announced. Instruction Mode: Lecture Grading Option: Letter

PHIL 636 Seminar in Semantics
Units: 3 Max Units: max 12 (Enroll in LING 636)

PHIL 700x Dissertation Seminar
Units: 2 Max Units: 12.0 A focused environment in which to present and evaluate dissertation work-in-progress. Focus on peer and faculty feedback, developing professional presentation skills, improving critical communication skills. Registration Restriction: Open only to Philosophy doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHIL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHIL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Pharmacy

PHRD 501 Pharmaceutics I
Units: 3 Terms Offered: Fa Introduction to physicochemical principles of dosage forms; properties of molecules in dosage forms, stability of pharmaceuticals, absorption, and metabolism. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 502 Pharmaceutics II
Units: 2 Principles involved in molecules movement across biological barriers. Properties, characteristics, application of homogeneous and heterogeneous dosage forms, liquid, semi-solid and solid. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 503 Biological Systems I
Units: 4 Integration and application to pharmacy of anatomy, histology, physiology and pathophysiology using an organ-based approach. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 504 Biological Systems II
Units: 4 Integration and application to pharmacy of anatomy, histology, physiology and pathophysiology using an organ-based approach. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 507 Health Care Delivery Systems
Units: 2 Terms Offered: Fa Introduction to understanding the structure of the health care system. Includes health care financing and the role of pharmacy and the pharmacist in health systems. Instruction Mode: Lecture Grading Option: Letter

PHRD 508 Pharmacy Literature Analysis and Drug Information
Units: 3 Terms Offered: FaSp Literature evaluation and biostatistics of clinical and health services research, and drug information services. Emphasis on drug therapy, patient outcomes, and formulary development. Instruction Mode: Lecture Grading Option: Letter

PHRD 511 Pharmacy Practice and Professionalism 1
Units: 5 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students Duplicates Credit in former PHRD 519 Instruction Mode: Lecture Grading Option: Letter

PHRD 512 Pharmacy Practice and Professionalism 2
Units: 2 The second of a two-course series exploring the profession and practice of pharmacy. Includes didactic instruction and Introductory Pharmacy Practice Experiences (IPPEs) in the community and hospital settings. *Corequisite:* PHRD 514 and PHRD 516 and PHRD 520 Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 514 Calculations and Compounding
Units: 2 Knowledge and experience in pharmacy calculations, compounding, and sterile IV compounding. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 515 Metabolism and Cell Biology
Units: 2 Basic principles of drug action and receptor actions. Includes their application to the understanding and treatment of disease. Provides the scientific basis of pharmaceutical action. Registration Restriction: Open only to Doctor of

Pharmacy students Duplicates Credit in former PHRD 555 Instruction Mode: Lecture Grading Option: Letter

PHRD 516 Non-Prescription Therapies
Units: 3 Introduction to self-care health. Includes OTC products, dosages, pharmacology, efficacy, cost, side effects, adverse reactions, contraindications, and drug interactions. Duplicates Credit in the former PHRD 506. Instruction Mode: Lecture Grading Option: Letter

PHRD 517 Pharmacogenetics
Units: 2 Principles of gene expression and the influence of genetics on the effectiveness of drug therapy. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in the former PHRD 505. Instruction Mode: Lecture Grading Option: Letter

PHRD 520 Introduction to Therapeutics
Units: 2 Terms Offered: Sp Provide students with the foundational skills necessary to care for patients, both from a population health perspective as well as individualized patient care, using the Pharmacists' Patient Care Process (PPCP). *Prerequisite:* PHRD 511 *Recommended Preparation:* Students will be expected to use and apply knowledge previously learned in other P1 courses (fall and spring) during the pre-case conference cases *Corequisite:* PHRD 512 and PHRD 514 and PHRD 516 Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 521 Medicinal Chemistry
Units: 2 Principles of medicinal chemistry for common drugs. Mechanism of action, interactions with protein targets, structure-activity relationships, effects of chirality, and physicochemical properties. Credit Restriction: Open only to Doctor of Pharmacy students Duplicates Credit in former PHRD 557 Instruction Mode: Lecture Grading Option: Letter

PHRD 551 Immunology
Units: 3 Terms Offered: Fa Basic principles of immunology and their application to the understanding and treatment of immunologically-mediated diseases. Provides the scientific basis of immunotherapy and immunodiagnosis. Instruction Mode: Lecture Grading Option: Letter

PHRD 552 Pharmaceutics III
Units: 3 Terms Offered: Sp Principles and applications of controlled, targeted, and self-regulating drug delivery. Methods to deliver therapeutic peptides, proteins and genetic materials. Instruction Mode: Lecture Grading Option: Letter

PHRD 553 Management within Health Care Organizations
Units: 2 Terms Offered: Fa Management of the professional practice of pharmacy in organized health care systems. Introduction to formulary development and outcome analysis. Instruction Mode: Lecture Grading Option: Letter

PHRD 555 Pharmacy Education 1
Units: 2 Terms Offered: Fa Understanding and application of learning theory and teaching methodology, small group teaching, active learning, student motivation, basic assessment methods, and general online teaching tools. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 556 Pharmacy Education 2
Units: 1 Terms Offered: Sp Continuation of Pharmacy Education 1. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 559 Therapeutics: Pharmacokinetics
Units: 3 Integrated teaching of basic and clinical pharmacokinetic/pharmacodynamic concepts. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 560 Therapeutics III
Units: 6 Terms Offered: Sp Integrated teaching of biomedicinal chemistry, pharmacology, clinical pharmacokinetics, and therapeutics of drugs, with emphasis on pharmaceuticals treating diseases associated with the central nervous system. Instruction Mode: Lecture Grading Option: Letter

PHRD 561 Pharmacy Practice and Experience III
Units: 3 Terms Offered: FaSp Introductory Pharmacy Practice Experiences (IPPEs) in hospital and community settings. Includes; didactic instruction, laboratory practicums, IV training and practical experience hours. Registration Restriction: Open only to Pharmacy majors. Instruction Mode: Lecture, Lab Grading Option: Letter

PHRD 562 Therapeutics IV
Units: 4 Terms Offered: Sp Integrated teaching of biomedicinal chemistry, pharmacology, clinical pharmacokinetics, and therapeutics of drugs with an emphasis on treating diseases of the renal, GI and pulmonary systems. Instruction Mode: Lecture Grading Option: Letter

PHRD 563 Case Conference 1
Units: 2 Case conferences and seminars focusing on contemporary pharmacy practice. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 564 Case Conference 2
Units: 2 Case conferences and seminars focusing on contemporary pharmacy practice. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 565 Pharmacy Practice and Professionalism 3
Units: 2 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 566 Pharmacy Practice and Professionalism 4
Units: 2 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 567 Pharmacy Law
Units: 2 Provide an introduction to the legal and ethical issues in pharmacy practice. Includes state and federal statutes, regulations, and pharmacy-related cases. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 616. Instruction Mode: Lecture Grading Option: Letter

PHRD 568 Principles and Leadership in Community Health 1
Units: 2 Terms Offered: Fa Introduction to public health and the development of community health programs. Topics include health education, health communication, and behavioral determinants of health and disease. Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Letter

PHRD 569 Principles and Leadership in Community Health 2
Units: 1 Terms Offered: Sp Builds upon students' knowledge of the field of public health and community health programs to evaluate the efficacy of community-based interventions. *Prerequisite:* PHRD 568 Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Letter

PHRD 570 Therapeutics: Central Nervous System
Units: 5 Integration of biomedicinal chemistry, pharmacology, pharmacokinetics, and therapeutics with emphasis on the central nervous system. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 560. Instruction Mode: Lecture Grading Option: Letter

PHRD 572 Therapeutics: General Medicine
Units: 5 Integrated course that combines the pathophysiology, pharmacology, and clinical use of drugs in the management of common renal, liver, pulmonary, gastrointestinal, joint and integumentary system related disorders. Registration Restriction: Open only to Doctor of Pharmacy students Duplicates Credit in PHRD 562 Instruction Mode: Lecture Grading Option: Letter

PHRD 599 Special Topics
Units: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5.5, 6, 6.5, 7, 7.5, 8 Max Units: 8 Terms Offered: FaSp Comprehensive exploration of special and emerging topics in the practice of pharmacy. Registration Restriction: Open only to graduate students in the School of Pharmacy Instruction Mode: Lecture Grading Option: Letter

PHRD 601 Therapeutics V
Units: 6 Terms Offered: Fa Integrated teaching of biomedicinal chemistry, pharmacology, clinical pharmacokinetics, and therapeutics of drugs, with emphasis on pharmaceuticals affecting cardiovascular and circulatory diseases. CPR certification. Instruction Mode: Lecture Grading Option: Letter

PHRD 603 Therapeutics: Endocrine System
Units: 5 Integration of biomedicinal chemistry, pharmacology, pharmacokinetics, and therapeutics

with emphasis on the endocrine and reproductive system. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 605 Therapeutics VII
Units: 4 Terms Offered: Fa Integrated teaching of the biomedicinal chemistry, pharmacology, clinical pharmacokinetics, and therapeutics of drugs; with emphasis on chemotherapy of infectious disease: bacterial, microbial, viral, parasitic, and fungal. Instruction Mode: Lecture Grading Option: Letter

PHRD 606 Therapeutics VIII
Units: 2 Terms Offered: Sp Advanced topics and clinical therapeutics of drugs, with emphasis on the treatment of infectious disease: bacterial, microbial, viral, parasitic and fungal. Instruction Mode: Lecture Grading Option: Letter

PHRD 607 Nutrition
Units: 2 Terms Offered: Fa Biomedical knowledge is correlated with assessments of clinical case management problems to understand the interrelationship between nutrition and health in both hospitalized and healthy patients. Instruction Mode: Lecture Grading Option: Letter

PHRD 608 Therapeutics: Oncology and Immune Disorders
Units: 5 Terms Offered: Sp Integrated teaching of key cells and components that comprise the innate and adaptive immune systems with emphasis on pharmaceuticals for managing oncological diseases. Registration Restriction: Open only to Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 611 Therapeutics: Infectious Diseases
Units: 5 Integration of biomedicinal chemistry, pharmacology, pharmacokinetics, and therapeutics, with emphasis on the therapy of infectious diseases caused by bacterial, viral, parasitic, and fungal organisms. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 605 and PHRD 606. Instruction Mode: Lecture Grading Option: Letter

PHRD 612 Therapeutics XI
Units: 2 Terms Offered: Sp Updates students on recent advances in clinical areas, prepares students for advanced practice experiences and assessment of clinical readiness via a final examination. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 614 Pharmaceutical Economics and Outcome Studies
Units: 3 Terms Offered: Sp Economic analysis of the U.S. health care system, the pharmaceutical industry, and the profession; economic assessment of drug therapy costs and health care outcomes applying pharmacoeconomic research methodologies. Instruction Mode: Lecture Grading Option: Letter

PHRD 616 Pharmacy, Law and Ethics
Units: 3 Terms Offered: Sp To provide students with an understanding of ethical issues that arise in pharmacy practice along with state and federal statutes, regulations, and pharmacy-related cases. Instruction Mode: Lecture Grading Option: Letter

PHRD 619 Therapeutics: Cardiovascular System
Units: 5 Integration of biomedicinal chemistry, pharmacology, pharmacokinetics, and therapeutics with emphasis on pharmaceuticals affecting cardiovascular and circulatory diseases. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 601 . Instruction Mode: Lecture Grading Option: Letter

PHRD 620 Pharmacy Practice and Professionalism 5
Units: 2 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 621 Pharmacy Practice and Professionalism 6
Units: 1 Terms Offered: Sp A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 622 Case Conference 3
Units: 2 Case conferences and seminars focusing on contemporary pharmacy practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 623 Case Conference 4
Units: 1 Case conferences and seminars focusing on contemporary pharmacy practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 624 Community Pharmacy Practice
Units: 2 Exploration of the various roles pharmacist play in the community-based pharmacy practice setting. Includes emphasis on fundamentals and ongoing changes in community practice, advance pharmacy practices, and patient care services, including (but not limited to) international travel health. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 625 Hospital Pharmacy Practice
Units: 1 Exploration of the pharmacy profession and the practice of hospital/institutional pharmacy. Registration Restriction: Only open to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 626 Elective Pharmacy Practice
Units: 2 Exploration of the pharmacy profession and the practice of pharmacy. Includes an elective Introductory Pharmacy Practice Experience (IPPE) in Community, Hospital, or other pharmacy practice settings. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 627 Elective Pharmacy Practice Experience
Units: 2 Exploration of the pharmacy profession and the practice of pharmacy. Includes an elective Introductory Pharmacy Practice Experience (IPPE) in Community, Hospital, or other pharmacy practice settings. Duplicates Credit in PHRD 626 Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 627a Longitudinal Elective Pharmacy Practice
Units: 2 For Year 2 pharmacy (P2) and Year 3 pharmacy (P3) students who are assigned to an Elective Introductory Pharmacy Practice Experience (IPPE). The P2 and P3 Elective IPPE provides the student with 80 hours of experiential learning to develop skills related to various aspects of the pharmacy profession in a variety of settings. Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

PHRD 627b Longitudinal Elective Pharmacy Practice
Units: 0 For Year 2 pharmacy (P2) and Year 3 pharmacy (P3) students who are assigned to an Elective Introductory Pharmacy Practice Experience (IPPE) after registering for PHRD 627a. The P2 and P3 Elective IPPE provides the student with 80 hours of experiential learning to develop skills related to various aspects of the pharmacy profession in a variety of settings. *Prerequisite:* PHRD 627a Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

PHRD 628 Interprofessional Collaboration for Patient Care/ Population Health - Part I
Units: 1, 2, 3 Terms Offered: FaSp Provides future pharmacists with the specialized knowledge, skills, and experiences for individual patient and population health care through interprofessional collaboration (IPC). Fulfills requirements in the Health Systems and Comprehensive Medication Management and High-Risk Populations areas of concentration. Instruction Mode: Lecture Grading Option: Letter

PHRD 628a Longitudinal Interprofessional Collaboration Experience
Units: 0 The interprofessional collaboration (IPC) experience will provide student pharmacists with the specialized knowledge, skills and experiences to provide individual patient care and population health through IPC. As a member of an interprofessional team, the pharmacist lends expertise in the area of appropriate utilization of pharmaceuticals anchored in evidence-based medicine. The longitudinal IPC experience is designed to prepare students for optimizing patient care and population health through IPC. Instruction Mode: Lecture Grading Option: In Progress to Letter

PHRD 628b Longitudinal Interprofessional Collaboration Experience
Units: 0 The interprofessional collaboration (IPC) experience will provide student pharmacists with the specialized knowledge, skills and experiences to provide individual patient care and population health through IPC. As a member of an interprofessional team, the pharmacist lends expertise in the area of appropriate utilization of pharmaceuticals anchored in evidence-based medicine. The

longitudinal IPC experience is designed to prepare students for optimizing patient care and population health through IPC. *Prerequisite:* PHRD 628a Instruction Mode: Lecture Grading Option: In Progress to Letter

PHRD 628c Longitudinal Interprofessional Collaboration Experience
Units: 1, 2, 3 The IPC experience will provide student pharmacists with the specialized knowledge, skills, and experiences to provide individual patient care and population health through interprofessional collaboration (IPC). As a member of an interprofessional team, the pharmacist lends expertise in the area of appropriate utilization of pharmaceuticals anchored in evidence-based medicine. The longitudinal IPC experience is designed to prepare students for optimizing patient care and population health through IPC. *Prerequisite:* PHRD 628b Instruction Mode: Lecture Grading Option: In Progress to Letter

PHRD 629a Longitudinal Community Pharmacy Practice
Units: 2 For Year 2 pharmacy (P2) and Year 3 pharmacy (P3) students who are assigned to a Community Introductory Pharmacy Practice Experience (IPPE). The P2 and P3 Community IPPE provides the student with 80 hours of experiential learning to develop skills related to aspects of the pharmacy profession in the Community pharmacy setting. Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

PHRD 629b Longitudinal Community Pharmacy Practice
Units: 0 For Year 2 pharmacy (P2) and Year 3 pharmacy (P3) students who are assigned to a Community Introductory Pharmacy Practice Experience (IPPE) after registering for PHRD 629a. The P2 and P3 Community IPPE provides the student with 80 hours of experiential learning to develop skills related to aspects of the pharmacy profession in the Community pharmacy setting. *Prerequisite:* PHRD 629a Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

PHRD 631a Longitudinal Institutional Pharmacy Practice
Units: 1, 2, 3 Taken by Year 2 pharmacy (P2) and Year 3 pharmacy (P3) students who are assigned to an Institutional Introductory Pharmacy Practice Experience (IPPE). The P2 and P3 Institutional IPPE provides the student with 80 hours of experiential learning to develop skills related to aspects of the pharmacy profession in the institutional pharmacy setting. Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

PHRD 631b Longitudinal Institutional Pharmacy Practice
Units: 0 This course is for Year 2 pharmacy (P2) and Year 3 pharmacy (P3) students who are assigned to an Institutional Introductory Pharmacy Practice Experience (IPPE) after registering for PHRD 631a. The P2 and P3 Institutional IPPE provides the student with 80 hours of experiential learning to develop skills related to aspects of the pharmacy profession in the institutional pharmacy setting. *Prerequisite:* PHRD 631a Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

PHRD 633 Pharmacy Management and Economics
Units: 2 Management principles for pharmacy practice, understanding of health care systems and pharmacoecomincs. Introduction to formulary management and outcome analysis. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 634 Scholarly Project 1
Units: 1 Terms Offered: Fa Collection and analysis of results in the Pharm.D. Scholarly Project and oral presentation and discussion of these results. Registration Restriction: Open only to Pharmacy students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 635 Scholarly Project 2
Units: 1 Terms Offered: Sp Oral and poster presentation of the results of the Pharm.D. Scholarly Project. Registration Restriction: Open only to Pharmacy students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 636 Scholarly Project 3
Units: 1 Guides students through the completion of original research with instruction on data analysis, abstract preparation and poster presentation. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 639 Pharmacy Review
Units: 1,2,3 Max Units: 03 Terms Offered: Sm Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Registration Restriction: Open only to Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 650 APPE Gateway
Units: 2 Terms Offered: Sp Competency-based course to prepare and assess students for readiness to enter Advanced Pharmacy Practice Experience (APPE). Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 651 Community Pharmacy and Business Management I
Units: 3 Terms Offered: Fa Development of specialized knowledge and skills in community pharmacy practice involving location analysis, pharmacy management principles, and introduction to business law concepts. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 652 Community Pharmacy and Business Management II
Units: 3 Terms Offered: Sp A continuation of PHRD 651 highlighting the subspecialties available in independent pharmacy including but not limited to specialty pharmacy, 340B pharmacy, DME, compounding, LTC and infusion. *Prerequisite:* PHRD 651 Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 653 Principles of Managed Care
Units: 3 Terms Offered: Fa Understanding formal and informal organizations in institutions, managed care, disease management, health care policy and financing, patients' chart organization, and clinical monitoring parameters. Instruction Mode: Lecture Grading Option: Letter

PHRD 654 Acute Care II
Units: 3 Terms Offered: Sp Recognizing resources available for drug information, familiarity with institutional formularies, medication counseling, writing chart notes, and clinical activities at an off-campus health care institution. Instruction Mode: Lecture Grading Option: Letter

PHRD 655 Geriatric Pharmacy I
Units: 3 Terms Offered: Fa Specialized knowledge and skills in geriatric pharmacy, pharmacology of aging, and unique functions of health care team providing care to the elderly patient. Instruction Mode: Lecture Grading Option: Letter

PHRD 656 Geriatric Pharmacy II
Units: 3 Terms Offered: Sp Specialized knowledge and skills in gerontology and geriatric pharmacy including the pathophysiology of selected cardiovascular, endocrine, genitourinary gastrointestinal disorders, osteoarthritis, and osteoporosis. *Prerequisite:* PHRD 559. Instruction Mode: Lecture Grading Option: Letter

PHRD 657 Basic Research Design
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSp Laboratory, clinical, health economics or regulatory science research experience for pharmacy students. Projects performed working directly with faculty advisers. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 658 Sleep and the Pharmacologic Management of Its Disorders
Units: 3 Terms Offered: FaSp Overview of normal sleep manifestations, and treatment of common sleep disorders, and the pharmacist's role in assessment, treatment, and referral. Instruction Mode: Lecture Grading Option: Letter

PHRD 659 Molecular Therapeutics: Signal Transduction
Units: 3 Terms Offered: FaSp Principles of molecular therapeutics against signaling pathways; emphasis on biological mechanisms underlying hormone, growth factor, and neurotransmitter-mediated gene regulation, proliferation, and cell death. Instruction Mode: Lecture Grading Option: Letter

PHRD 660 Disease State Management I
Units: 3 Terms Offered: FaSp The processes required to develop disease state management protocols based on data drawn from the medical research literature. Instruction Mode: Lecture Grading Option: Letter

PHRD 661 Pharmacy Practice in Women's Health
Units: 3 Terms Offered: FaSp The pharmaceutical care of women patients is emphasized. Therapeutic, psychosocial factors and current research in women's health. Instruction Mode: Lecture Grading Option: Letter

PHRD 662 Psychiatric Pharmacy Practice
Units: 3 Terms Offered: Sp Specialized knowledge and skills in psychiatric pharmacy practice including child, adult, and geriatric psychopharmacology applied to inpatient and outpatient treatment. Instruction Mode: Lecture Grading Option: Letter

PHRD 663 Pharmaceutical Development
Units: 3 Terms Offered: FaSp Examination of pharmaceutical product development process including discovery, preclinical/clinical studies, regulatory-legal issues, and marketing. Instruction Mode: Lecture Grading Option: Letter

PHRD 665 Complementary/Alternative Therapeutics
Units: 3 Terms Offered: FaSp Examines the therapeutic use of complementary/alternative medicines, such as herbal medicines, homeopathic drugs, vitamins and other nutritional supplements. Instruction Mode: Lecture Grading Option: Letter

PHRD 666 Therapeutic Drug Monitoring
Units: 3 Terms Offered: FaSp Application of pharmacokinetic and pharmacodynamic principles to individualize patient drug regimens. Instruction Mode: Lecture Grading Option: Letter

PHRD 667 Drugs of Abuse
Units: 3 Terms Offered: FaSp Specialized knowledge and skills in specific substance abuse-related areas. Each area will include addiction, wellness, and prevention components. Instruction Mode: Lecture Grading Option: Letter

PHRD 668 Computing Application
Units: 3 Terms Offered: FaSp Specialized knowledge and skills using computers in professional practice: telecommunication protocols, typical patient databases in hospital and community pharmacies, drug interactions, insurance billing, inventory control. Instruction Mode: Lecture Grading Option: Letter

PHRD 669 Health Care Needs of Special Populations
Units: 3 Terms Offered: FaSp Health care needs of the poor will be examined through participation in a multidisciplinary community clinic setting focusing on medication counseling and compliance. Instruction Mode: Lecture Grading Option: Letter

PHRD 670 Marketing and Development in the Pharmaceutical Industry
Units: 3 Terms Offered: FaSp Basic and advanced strategies for marketing and development of new compounds or indication in the pharmaceutical industry. *Prerequisite:* PHRD 653 *Recommended Preparation:* PHRD 663 Instruction Mode: Lecture Grading Option: Letter

PHRD 671 Pharmacy Education Seminar
Units: 3 Terms Offered: FaSp A seminar course with a focus on educational methods and teaching skills providing career development for students interested in academia. Instruction Mode: Lecture Grading Option: Letter

PHRD 672 Introduction to Critical Care
Units: 3 Terms Offered: Sp Coupling evidence-based management with a case-based approach; reinforces the clinical thought processes to optimize pharmaceutical care in various critical care settings. Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Letter

PHRD 673 Spanish for Pharmacists
Units: 3 Practical Spanish for pharmacists, including basic conversation of commonly prescribed drugs. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 674 Acute Care I
Units: 3 Terms Offered: Fa Development of specialized knowledge and skills in evidence-based drug-therapy management in the acute care arena. Duplicates Credit in PHRD 653 Instruction Mode: Lecture Grading Option: Letter

PHRD 677 Risk Assessment and Management in Pharmacy Practice
Units: 3 Terms Offered: FaSp Specific risk management issues, legal and professional expectations of pharmacists, and assessing and avoiding risk. Instruction Mode: Lecture Grading Option: Letter

PHRD 678 Topics in Pharmacology: the Other Side of Drugs
Units: 2, 3 Terms Offered: Fa (Enroll in MPTX 510)

PHRD 679 Toxicology and the Media
Units: 2, 3 Terms Offered: Sp (Enroll in MPTX 520)

PHRD 680 Cannabis User Safety
Units: 2 Focus on cannabis user safety. Provide a holistic perspective of cannabis to help pharmacy and pharmaceutical science experts participate in both the wise use and study of cannabis. Instruction Mode: Lecture Grading Option: Letter

PHRD 688 Global Pharmacy
Units: 3 Opportunity to work with pharmacists, student pharmacists, and other healthcare professionals to experience pharmacy education and practice outside of the United States. Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Letter

PHRD 701 Acute Care Clinical APPE
Units: 6 Terms Offered: FaSpSm Application of pharmaceutical care principles to the adult patient population in an acute care environment. Pharmacology, pharmacokinetics, and disease state management will be emphasized. Registration Restriction: Open to Doctor of Pharmacy students only. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 704 Primary Care APPE
Units: 6 Disease state management and a primary care setting. Modification and design of drug therapy regimens and primary patient care using a team based approach. Registration Restriction: Open to Doctor of Pharmacy students only. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 705 Community Pharmacy APPE
Units: 6 Terms Offered: FaSpSm Pharmaceutical care principles applied to the community pharmacy environment. Participating in the development, implementation and outcome evaluation of patient care services in the community. Registration Restriction: Open to Doctor of Pharmacy students only. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 714 Nuclear Pharmacy APPE
Units: 6 Terms Offered: FaSpSm Provides practical and theoretical aspects of radiopharmacy services delivery. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 718 Hospital Pharmacy Practice APPE
Units: 6 Terms Offered: FaSpSm Practical experience in the practice of hospital pharmacy. Administrative, practice-based and therapeutic competencies emphasized. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 725 International Pharmacy Practice Experience
Units: 3, 6 Terms Offered: FaSpSm Practical experience in the practice of pharmacy in the international setting. Students will visit an international pharmacy practice setting and complete a project. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 731 Advanced Geriatrics APPE
Units: 6 Terms Offered: FaSpSm Directed projects/practical experience in geriatric drug therapy. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 738 Pharmaceutical Industry APPE
Units: 6 Max Units: 12 Terms Offered: FaSpSm Practical experience within a pharmaceutical company may include: clinical affairs, drug development, research and/or marketing process. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 750 Advanced Pharmacy Practice Elective (APPE)
Units: 6 Max Units: 12 Terms Offered: FaSpSm Pharmacy practice experience (internship) course in a health care setting. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 751 Non-traditional Advanced Pharmacy Elective (APPE)
Units: 6 Max Units: 12 Terms Offered: FaSpSm Pharmacy practice experience (internship) course in a non-traditional or emerging setting. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 752 Special Project APPE
Units: 6 The Special Projects advanced pharmacy practice experiences course

gives students the opportunity to demonstrate competency in a variety of pharmacy practice settings. Registration Restriction: Open only to doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 790 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Research leading to doctorate in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 794a Doctoral Dissertation
Units: 2 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 794b Doctoral Dissertation
Units: 2 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 794c Doctoral Dissertation
Units: 2 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 794d Doctoral Dissertation
Units: 2 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 794z Doctoral Dissertation
Units: 0 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 796a Doctor of Pharmacy Capstone
Units: 0 Terms Offered: FaSpSm Capstone course required for completion of Doctor of Pharmacy degree. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 796b Doctor of Pharmacy Capstone
Units: 0, 3 Terms Offered: Sp Capstone course required for completion of Doctor of Pharmacy degree. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

Pharmaceutical and Translational Sciences

PHTS 654 Computation in Drug Discovery and Development
Units: 2 Terms Offered: Fa Focuses on computational prediction of molecular association and ADME (absorption, distribution, metabolism, excretion) properties in drug discovery and development. *Recommended Preparation:* Review basic computer skills Instruction Mode: Lecture, Lab, Discussion Grading Option: Credit/No Credit

PHTS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to students enrolled in the PHTS umbrella PhD program during their first year Instruction Mode: Lecture Grading Option: Credit/No Credit

Physics

PHYS 051x Problem Solving in Mechanics and Thermodynamics
Units: 1 Intensive practice in solving elementary problems within a student-centered learning environment. *Concurrent Enrollment:* Concurrent enrollment: PHYS 151. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 100Lgx The Physical World
Units: 4 Terms Offered: FaSp The fundamentals of physics presented with emphasis on the structure and beauty of physical laws. Practical component will relate these laws to commonly encountered events. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 110Lgx The Physical World and the Universe
Units: 4 Fundamentals of physics and astronomy with emphasis on the tools and evidence leading to our current understanding of the physical Universe. Students who are interested in this course are encouraged to check out PHYS 111gx Representations of Physics and Astronomy in the Arts. Satisfies New General Education in Category E: Physical Sciences Credit Restriction: Not for major credit in Physics and Astronomy majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 111gx Representations of Physics and Astronomy in the Arts
Units: 4 Focus on how knowledge of the physical Universe is acquired and the expression of that knowledge through creative representation. Students who are interested in this course are encouraged to check out PHYS 110Lgx The Physical World and the Universe. Satisfies New General Education in Category A: The Arts Credit Restriction: Not for major credit in Physics and Astronomy majors Instruction Mode: Lecture, Discussion Grading Option: Letter

PHYS 125Lg Physics for Architects
Units: 4 Terms Offered: Sp Fundamental laws and principles of physics with emphasis on the application of physical principles to the problems of architecture. *Prerequisite:* MATH 108. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in PHYS 135a, PHYS 135b. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 135ag Physics for the Life Sciences
Units: 4 Terms Offered: FaSpSm Fundamental laws and principles of physics emphasizing areas related to life sciences; prerequisite for biological sciences, medicine, dentistry, and pharmacy. *Prerequisite:* Passing of Math Placement Exam or MATH 108 or MATH 125 or MATH 126 or MATH 226. Satisfies New General Education in Category E: Physical Sciences Duplicates Credit in PHYS 125. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 135bL Physics for the Life Sciences
Units: 4 Terms Offered: FaSpSm Fundamental laws and principles of physics emphasizing areas related to life sciences; prerequisite for biological sciences, medicine, dentistry, and pharmacy. *Prerequisite:* Passing of Math Placement Exam or MATH 108 or MATH 125 or MATH 126 or MATH 226. Duplicates Credit in PHYS 125. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 141L Special Laboratory I
Units: 1 Terms Offered: FaSpSm Laboratory component for PHYS 151 for transfer students with equivalent lecture credit from another institution. For transfer students immediately after matriculation. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

PHYS 142L Special Laboratory II
Units: 1 Terms Offered: FaSpSm Laboratory component for PHYS 152 for transfer students with equivalent lecture credit from another institution. For transfer students immediately after matriculation. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

PHYS 143L Special Laboratory III
Units: 1 Terms Offered: FaSpSm Laboratory component for PHYS 153 for transfer students with equivalent lecture credit from another institution. For transfer students immediately after matriculation. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics
Units: 4 Terms Offered: FaSpSm Gateway to the majors and minors in Physics and Astronomy. Statics and dynamics of particles and rigid bodies, conservation principles, gravitation, simple harmonic oscillators, thermodynamics, heat engines, entropy. *Prerequisite:* MATH 125g or MATH 126g or MATH 226 or MATH 129 or MATH 229 Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 152L Fundamentals of Physics II: Electricity and Magnetism
Units: 4 Terms Offered: FaSpSm Electrostatics, magnetostatics, electrical circuits, wave motion, sound waves, electromagnetic waves. *Prerequisite:* (PHYS 151Lg or PHYS 161Lg or PHYS 171Lg) and (MATH 126g or MATH 129) *Corequisite:* MATH 226g or MATH 229 Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 153L Fundamentals of Physics III: Optics and Modern Physics
Units: 4 Terms Offered: FaSpSm Geometrical optics, interference, diffraction, special relativity, quantum mechanics, atomic physics, solid state physics. *Prerequisite:* PHYS 152L or PHYS 162L or PHYS 172L Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 161Lg Advanced Principles of Physics I
Units: 4 Terms Offered: Sp Gateway to the majors and minors in Physics and Astronomy. Introductory treatment intended for well-qualified students. Dynamics of particles and rigid bodies, conservation laws, wave motion, thermodynamics, heat engines, entropy. *Prerequisite:* MATH 126g or MATH 129 *Corequisite:* MATH 226g or MATH 229 Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 162L Advanced Principles of Physics II
Units: 4 Terms Offered: Fa Electrostatics, magnetostatics, electrical circuits, electric and magnetic properties of matter, Maxwell's equations, electromagnetic waves, propagation of light. *Prerequisite:* MATH 226g or MATH 229 *Recommended Preparation:* PHYS 161Lg Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 163L Advanced Principles of Physics III
Units: 4 Terms Offered: Sp Interference and diffraction of waves, special relativity, quantum mechanics, atomic physics, nuclear physics, condensed matter physics, elementary particles. *Prerequisite:* PHYS 162 Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 171Lg Applied Physics I: Mechanics
Units: 4 Mechanics, mechanical vibrations and waves, special relativity. Emphasizes applications in the areas of applied physics and engineering. *Prerequisite:* MATH 125g or MATH 126g or MATH 129 or MATH 226g or MATH 229 Satisfies New General Education in Category E: Physical Sciences Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

PHYS 172L Applied Physics II: Electricity, Magnetism and Optics
Units: 4 Electric and magnetic fields; electromagnetic waves; optics. Emphasizes applications in the areas of applied physics and engineering. *Prerequisite:* (PHYS 151Lg or PHYS 161Lg or PHYS 171Lg) and (MATH 126g or MATH 129 or MATH 226g or MATH 229) Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

PHYS 173L Applied Physics III: Topics in Modern Physics
Units: 4 Quantum mechanics, statistical mechanics, solid-state physics. Emphasizes applications in the areas of applied physics and engineering. *Prerequisite:* PHYS 152L or PHYS 162L or PHYS 172L Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

PHYS 190 Physics Discovery Series
Units: 1 Terms Offered: Fa Introduction to current research activities of the faculty of the department; topics of current and popular interest among the wider community of physicists. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 200Lgx The Physics and Technology of Energy
Units: 4 Terms Offered: FaSp Investigation of energy technologies, including development and implementation issues. Topics include the industrial revolution, electromagnetic induction, power transmission, combustion engines, fission and fusion. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 304 Mechanics
Units: 4 Terms Offered: Fa Dynamics of particles, kinematics of rotations, rigid body motion, Lagrangian and Hamiltonian formalism, theory of small vibrations. *Prerequisite:* PHYS 151 or PHYS 161, MATH 245. Instruction Mode: Lecture Grading Option: Letter

PHYS 316 Thermodynamics and Statistical Mechanics
Units: 4 Terms Offered: Sp First, second, and third thermodynamic laws; thermodynamic potentials, applications; distribution laws, kinetic theory, transport phenomena, specific heats. *Prerequisite:* PHYS 152 or PHYS 161, MATH 226. Instruction Mode: Lecture Grading Option: Letter

PHYS 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PHYS 408a Electricity and Magnetism
Units: 4 Terms Offered: Fa Electrostatics; thermal, chemical, magnetic effects of steady currents; DC circuits. *Prerequisite:* PHYS 152 or PHYS 162; *Corequisite:* MATH 245. Instruction Mode: Lecture Grading Option: Letter

PHYS 408b Electricity and Magnetism
Units: 4 Terms Offered: Sp Electromagnetic induction; AC circuits; Maxwell's equations. *Prerequisite:* PHYS 152 or PHYS 162; *Corequisite:* MATH 445. Instruction Mode: Lecture Grading Option: Letter

PHYS 430 General Relativity and Gravitation
Units: 4 Terms Offered: Sp Geometry of the Universe, special relativity, curved metrics, black holes, equivalence principle, cosmology, Friedman-Robertson-Walker geometry, Einstein's equations. *Prerequisite:* PHYS 304; Instruction Mode: Lecture Grading Option: Letter

PHYS 438a Introduction to Quantum Mechanics and its Applications
Units: 4 Terms Offered: Sp Concepts and techniques of quantum mechanics; free and bound states, the hydrogen atom. *Prerequisite:* PHYS 304; *Corequisite:* MATH 445. Instruction Mode: Lecture Grading Option: Letter

PHYS 438b Introduction to Quantum Mechanics and its Applications
Units: 4 Terms Offered: Fa Relativity, atomic spectra, quantum statistics, nuclear models, nuclear reactions, elementary particles. *Prerequisite:* PHYS 304; *Corequisite:* MATH 445. Instruction Mode: Lecture Grading Option: Letter

PHYS 440 Introduction to Condensed Matter Physics
Units: 4 Terms Offered: Irregular, Sp Crystal structures, x-ray diffraction, thermal properties of solids, diamagnetism and paramagnetism, free-electron model of metals, semiconductors, ferromagnetism, super-conductivity, imperfections in crystals. *Corequisite:* PHYS 438a. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-436

PHYS 444 Physical Biology: From Molecules to Cells
Units: 4 Terms Offered: Fa Length, time, and energy scales of life; statistical mechanics of biomolecules and cellular processes; physics of cell shape; biological fluid dynamics; electron transfer and metabolism. *Prerequisite:* PHYS 152 or PHYS 162; *Recommended Preparation:* BISC 220. Instruction Mode: Lecture Grading Option: Letter

PHYS 472 Introduction to Lasers and Laser Systems
Units: 3 Terms Offered: Fa (Enroll in EE 472)

PHYS 473L Lasers and Optics Laboratory
Units: 3 Terms Offered: Sp (Enroll in EE 473)

PHYS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

PHYS 492L Senior Lab
Units: 4 Terms Offered: Fa Projects will include experiments in mechanics, thermodynamics, electricity and magnetism. Emphasis on laboratory work with discussion of theoretical background. *Prerequisite:* PHYS 152. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 493L Advanced Experimental Techniques
Units: 4 Terms Offered: Sp Development of modern experimental techniques, including computer interface with data acquisition hardware and data analysis by software, applied specifically to experiments in modern physics. Emphasis on laboratory work with discussion of theoretical background. *Prerequisite:* PHYS 492L Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 495 Senior Project
Units: 2 An original project will be constructed applying computer technology (in either hardware or software) to produce a result useful in the physics classroom or laboratory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-495

PHYS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Lectures and discussions on specialized topics in physics. Instruction Mode: Lecture Grading Option: Letter

PHYS 500 Graduate Colloquium
Units: 1 Max Units: 4.0 Terms Offered: FaSp Topics of current research interest in physics and astronomy. Lectures directed to physics graduate students by faculty of the department and by outside speakers. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 502 Advanced Optics
Units: 3 Terms Offered: Irregular Interaction

of light and matter; laser oscillation condition; optical resonators; spectroscopy; pumping mechanisms; characteristics of dielectric, semiconductor, gas, and liquid lasers; topics in nonlinear optics. Instruction Mode: Lecture Grading Option: Letter

PHYS 504 Advanced Mechanics
Units: 3 Terms Offered: Fa Newtonian formulation of dynamics; Hamilton's principle; Lagrangian formulation; rigid body motion; Hamiltonian formulation; Hamilton-Jacobi theory; vibrations. Instruction Mode: Lecture Grading Option: Letter

PHYS 508a Advanced Electricity and Magnetism
Units: 3 Terms Offered: Sp Electrostatics, boundary value problems, multipole expansions, microscopic models of matter, magnetostatics. Instruction Mode: Lecture Grading Option: Letter

PHYS 508b Advanced Electricity and Magnetism
Units: 3 Terms Offered: Fa Maxwell's equations, potentials and gauge transformations; electromagnetic waves; wave guides; electromagnetic radiation; special relativity. Instruction Mode: Lecture Grading Option: Letter

PHYS 510 Methods of Theoretical Physics
Units: 3 Terms Offered: Fa Vector analysis; infinite, asymptotic Fourier series; complete sets; Dirac delta function; Fourier, Laplace transforms; Legendre functions; spherical harmonics; Sturm-Liouville theory; orthogonal polynomials; gamma-factorial function; complex variables. Instruction Mode: Lecture, Lab Grading Option: Letter

PHYS 513 Applications of Quantum Computing
Units: 4 Terms Offered: Sp Training on available quantum computing hardware and the respective functional principles, available software, and algorithms; the opportunity to program quantum computers and run sample problems; hands-on tutorials. *Corequisite:* EE 520 Instruction Mode: Lecture Grading Option: Letter

PHYS 514 Methods of Experimental Physics
Units: 3 Terms Offered: Irregular Techniques of general utility in contemporary physics research, with emphasis on the use of commercially available instrumentation. Instruction Mode: Lecture Grading Option: Letter

PHYS 516 Methods of Computational Physics
Units: 3 Terms Offered: Sp Introduction to algorithm development. Integration of ordinary differential equations; chaotic systems; molecular dynamics; Monte Carlo integration and simulations; cellular automata and other complex systems. *Recommended Preparation:* ability to program in C or C++. Instruction Mode: Lecture Grading Option: Letter

PHYS 518 Thermodynamics and Statistical Mechanics
Units: 3 Terms Offered: Fa Principles of, and relations between, thermodynamics and statistical mechanics; ensembles, partition function formalism; quantum statistics of noninteracting particles; fluctuations. Instruction Mode: Lecture Grading Option: Letter

PHYS 520 Methods for Complex Systems
Units: 3 Terms Offered: Fa Probabilities, random walks, generalized central limit theorems, probabilities in thermodynamics, critical phenomena, self organized criticality, phenomenology of catastrophes, dynamical systems and examples from outside physics. Instruction Mode: Lecture Grading Option: Letter

PHYS 530 Relativity
Units: 3 Terms Offered: Irregular Fundamentals of the special theory and applications to classical and quantum physics; the principle of equivalence; tensor analysis and Einstein's theory of gravitation; relativistic cosmology. *Recommended Preparation:* PHYS 504, PHYS 508a. Instruction Mode: Lecture Grading Option: Letter

PHYS 540 Solid State Physics
Units: 3 Terms Offered: Fa Fundamental concepts and techniques in solid state physics; electron gas at metallic densities; semiclassical transport; crystallography; band structure; phonons; screening; superconductivity; magnetic ordering. *Recommended Preparation:* PHYS 518, PHYS 558a. Instruction Mode: Lecture Grading Option: Letter

PHYS 550 Theory of Open Quantum Systems
Units: 4 Terms Offered: Sp The theory of open quantum systems (i.e., systems coupled to an environment) with applications to chemistry, physics and quantum information processing. *Recommended Preparation:* Knowledge of basic linear algebra and undergraduate-level quantum mechanics in Chemistry or Physics; graduate-level quantum mechanics Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHEM 551

PHYS 558a Quantum Mechanics
Units: 3 Terms Offered: Sp General formulation of quantum mechanics with applications; theory of measurement; exactly solvable problems; angular momentum formalism. Instruction Mode: Lecture Grading Option: Letter

PHYS 558b Quantum Mechanics
Units: 3 Terms Offered: Fa Approximation schemes and applications to atomic and molecular physics and scattering theory; identical particles; electromagnetic properties of atoms. Instruction Mode: Lecture Grading Option: Letter

PHYS 559 Quantum Devices
Units: 4 Terms Offered: Fa Idealized and real-world descriptions of quantum hardware; design principles, methods of operation and possible improvements; applications, advantages and limitations of different technologies. *Recommended Preparation:* PHYS 438B or equivalent Instruction Mode: Lecture Grading Option: Letter

PHYS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

PHYS 593 Practicum in Teaching Physics and Astronomy
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within the physical sciences. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHYS 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to Physics graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 630 Science of Nanoscale Materials
Units: 3 Terms Offered: Fa Fundamental physics of low dimensional systems, with an emphasis on nanoscale materials (e.g. nanodot, nanowire, graphene) and state-of-the-art research topics, including characterization of nanostructure materials and device concepts that take the advantage of low dimensionality. Instruction Mode: Lecture Grading Option: Letter

PHYS 640 Advanced Condensed Matter Physics
Units: 3 Terms Offered: Sp Magnetism, magnons; superconductivity; transport phenomena; many-body effects; interacting electron gas; Hartree-Fock theory; neutron and X-ray scattering; and other selected topics. *Recommended Preparation:* PHYS 540, PHYS 558b. Instruction Mode: Lecture Grading Option: Letter

PHYS 650 Topics in Current Research
Units: 2 Terms Offered: Fa Course content will vary each year. It will include topics of current interest in research conducted in academia and industry. Instruction Mode: Lecture Grading Option: Letter

PHYS 660 Quantum Information Science and Many-Body Physics
Units: 3 Terms Offered: Sp Introduction to advanced techniques in theoretical many-body physics based on quantum information theory. *Prerequisite:* PHYS 510 and PHYS 558b Instruction Mode: Lecture Grading Option: Letter

PHYS 668 Advanced Quantum Mechanics
Units: 3 Terms Offered: Sp Relativistic wave equations; second quantization of Klein-Gordon, Dirac and Maxwell fields; applications in quantum electrodynamics

and condensed matter physics. *Recommended Preparation:* PHYS 558b. Instruction Mode: Lecture Grading Option: Letter

PHYS 669a Group Theory and Symmetries in Physics
Units: 3 Terms Offered: Irregular Abstract group theory; representation theory; point groups; selection rules; crystal tensors; molecular vibrations; rotation group; SU(2); Wigner-Eckart theorem; crystal-field splitting; time-reversal symmetry; gauge invariance; SU(3) and quarks. *Recommended Preparation:* PHYS 558b. Instruction Mode: Lecture Grading Option: Letter

PHYS 669b Group Theory and Symmetries in Physics
Units: 3 Terms Offered: Irregular Application of group theory in field theory and particle physics: Lie groups and representations, Young tableaux, Dynkin diagrams, Poincare group, classical groups and supergroups, gauge theories. *Recommended Preparation:* PHYS 558b. Instruction Mode: Lecture Grading Option: Letter

PHYS 670 High Energy Physics
Units: 3 Terms Offered: Irregular Elementary particles and the fundamental forces acting on them. Quarks, leptons, symmetries, gauge invariance, spontaneously broken symmetry, electroweak theory, quantum chromodynamics grand unified theory, strings. *Recommended Preparation:* PHYS 668. Instruction Mode: Lecture Grading Option: Letter

PHYS 678 Relativistic Quantum Field Theory
Units: 3 Terms Offered: Irregular Computational methods in relativistic quantum field theory: Feynman path integral, covariant perturbation theory, regularization, renormalization group, and non-perturbative techniques. *Recommended Preparation:* PHYS 668. Instruction Mode: Lecture Grading Option: Letter

PHYS 680 Advanced Quantum Field Theory
Units: 3 Terms Offered: Irregular Renormalization, quantization of gauge theories, non-Abelian gauge theories, quantum chromodynamics, spontaneous symmetry breaking, the standard model, anomalies. *Recommended Preparation:* PHYS 678. Instruction Mode: Lecture Grading Option: Letter

PHYS 682 Supersymmetric Field Theory
Units: 3 Terms Offered: Fa Supersymmetry algebra, Coleman-Mandula theorem, N=1 and N=2 Yang-Mills theory, Seiberg duality, holomorphy, introduction to Seiberg-Witten theory, electromagnetic duality, BPS states. *Recommended Preparation:* PHYS 678, PHYS 680. Instruction Mode: Lecture Grading Option: Letter

PHYS 684 Advanced String Theory
Units: 3 Terms Offered: Sp Advanced string theory. Strong coupling and nonperturbative techniques. D-branes, black holes, duality, AdS/CFT. Applications in particle, nuclear and condensed matter physics, and quantum gravity. *Recommended Preparation:* PHYS 530, PHYS 678, PHYS 680. Instruction Mode: Lecture Grading Option: Letter

PHYS 690 Introduction to Physical Biology
Units: 3 Terms Offered: Sp Introduces students to the role of physics in biology. Considers both experimental and more fundamental points of view. Explores a few current research directions. *Recommended Preparation:* good knowledge of basic statistical mechanics and thermodynamics. Instruction Mode: Lecture Grading Option: Letter

PHYS 692 Internship
Units: 3 or 6 Max Units: 6.0 Terms Offered: FaSpSm Field application of physics in a business or industry setting; part-time employment. Project to be jointly defined by student, employer and professor. Instruction Mode: Lecture Grading Option: Letter

PHYS 710 Selected Topics in Experimental Physics
Units: 3 Max Units: 6.0 Course content will vary yearly with current interest. Topics covered may include superconducting quantum interference devices, scanning tunneling microscopy, and laser cooling and trapping of single atoms. Instruction Mode: Lecture Grading Option: Letter

PHYS 720 Selected Topics in Theoretical Physics
Units: 3 Max Units: 6.0 Course content will vary yearly with current interest. Topics covered may include field theory, many body theory, Green's functions, dispersion theory, and group theory. Instruction Mode: Lecture Grading Option: Letter

PHYS 730 Selected Topics in Particle Physics
Units: 3 Max Units: 6.0 Various advanced phases of particle physics. Content will vary yearly; emphasis on superstring theories, advanced topics in quantum gravity, and field theory. *Recommended Preparation:* PHYS 678. Instruction Mode: Lecture Grading Option: Letter

PHYS 740 Selected Topics in Condensed Matter Physics
Units: 3 Max Units: 6.0 Course content will vary yearly with current interest. Topics covered may include theory of superconductivity, high temperature superconductivity, Green's functions in condensed matter physics, magnetism and transport in disordered metals. Instruction Mode: Lecture Grading Option: Letter

PHYS 750o Off Campus Studies
Units: 3 Max Units: 9.0 Course work taken on campus at Caltech as part of the Caltech- USC cross-registration program. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 760 Selected Topics in Computational Physics
Units: 3 Terms Offered: Sp Course content will vary yearly with current interest. Topics covered may include artificial intelligence techniques, Monte Carlo simulations, numerical renormalization group and tensor networks. *Recommended Preparation:* Basic linear algebra and familiarity with one programing language. Prior knowledge of machine learning is not necessary. Instruction Mode: Lecture Grading Option: Letter

PHYS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

PHYS 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Project Management

PJMT 500 Principles of Project Management
Units: 2 Terms Offered: FaSpSm Concepts including delivering project scope within cost, schedule, and resource constraints and the exploration of the traditional or waterfall project management methodology will be explored. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 505 Requirements Elicitation and Business Analysis
Units: 2 Terms Offered: FaSpSm Tasks, techniques, and perspectives on how to approach business analysis along with methods for developing requirement process tools and techniques and best practices. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 510 Schedule Management
Units: 2 Terms Offered: FaSpSm Structured approach to project schedule management, demonstrating how to be proactive and in control of projects by implementing effective schedule management. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 515 Cost Estimation and Forecasting
Units: 2 Terms Offered: FaSpSm Approaches to project cost estimation and the tools and methodologies best suited for estimates and forecasts that need to be prepared. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 520 Risk Management
Units: 2 Terms Offered: FaSpSm Coursework will enable students to prepare a comprehensive risk management plan

and discover different approaches to identify, assess, and quantify risks and their impacts. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 525 Agile Project Management Methodologies
Units: 2 Terms Offered: FaSpSm Agile project management concepts and a set of frameworks that covers the people, products, and techniques required to successfully implement projects. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 530 Quality and Process Improvement
Units: 2 Terms Offered: FaSpSm Quality and performance improvement projects and methodologies used to implement them with a focus on Six Sigma, Lean, and Total Quality Management. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 535 Specialized Project Management
Units: 2 Terms Offered: FaSpSm Explores several industries and entities and their developed project management methodologies to meet industry-specific needs through traditional approaches and partnerships in various sectors. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 540 Organizational Change Management and Business Relationships
Units: 2 Terms Offered: FaSpSm Students learn to cultivate the necessary components for stakeholder management on nearly any change within an organization through change management and business relationship management. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 545 Program Management
Units: 2 Terms Offered: FaSpSm Managing and coordinating multiple organizational projects with a focus on project alignment, organizational goals, performance maximization, risk minimization, and program success. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 550 Portfolio Management
Units: 2 Terms Offered: FaSpSm Structured approach to design, build, and manage a project portfolio, focusing on strategic implementation and operational initiatives to create sustainable value. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

PJMT 555 Project Management Capstone
Units: 2 Terms Offered: FaSpSm Utilize skills gained throughout the program to demonstrate the ability to plan and implement a project from conception to conclusion. Registration Restriction: Open only to Bovard College Project Management students Instruction Mode: Lecture Grading Option: Letter

Urban and Regional Planning

PLUS 600 Environmental Goods in Planning and Development
Units: 4 Terms Offered: Irregular Production, distribution, and valuation of environmental goods with attention to amenity concepts, externalities, public goods, consumer behavior; as characterized in economics, political science, sociology, psychology. Instruction Mode: Lecture Grading Option: Letter

PLUS 601 Advanced Planning Theory I
Units: 4 Terms Offered: Fa Value hierarchies, means-ends continuums, and the nature of social action; problems of prediction and choice under conditions of uncertainty; alternative planning strategies. Instruction Mode: Lecture Grading Option: Letter

PLUS 603 Planning and Development Paradigms
Units: 4 Terms Offered: Sp Introduction to historic, prevalent, and alternative paradigms of professional planning and development practice; seminar format and case studies. Instruction Mode: Lecture Grading Option: Letter

PLUS 612 Analysis of Quantitative Data for Planning and Development
Units: 4 Terms Offered: Fa Planning and development case study approach to identifying data needs, acquisition, evaluation, manipulation, analysis, and multimedia presentation. *Prerequisite:* PPD 525. Instruction Mode: Lecture Grading Option: Letter

PLUS 615 Behavioral Issues in Environmental Design
Units: 4 Terms Offered: Irregular Planning and design of the physical environment for human activities, e.g., user preferences, privacy, territoriality, stress and adaptation, cognitive mapping, lifestyles. Instruction Mode: Lecture Grading Option: Letter

PLUS 623 Politics of Planning and the Urban Environment
Units: 4 Terms Offered: Sp Historic roots of property rights and obligations related to public policy, focus on current issues and discourse. Instruction Mode: Lecture Grading Option: Letter

PLUS 626 Information Systems for Planning and Development
Units: 4, 2 years Terms Offered: Sp Structure, content, and applications of formal information systems in planning and policy making emphasizing social accounts and indicators, censuses, social reporting, and "futures" research. Instruction Mode: Lecture Grading Option: Letter

PLUS 631 Seminar in Physical Planning and Design in Developing Countries
Units: 4 Terms Offered: Irregular Issues in comparative urbanism; planning and design in developing countries: slums and squatters, housing and infrastructure, new towns, land policy, conservation and redevelopment, city design. Instruction Mode: Lecture Grading Option: Letter

PLUS 632 National Urban Policy in Developing Countries
Units: 4 Terms Offered: Irregular The problems of the primate city, the role of intermediate cities, and the implicit spatial impacts of macro and sectoral policies. Instruction Mode: Lecture Grading Option: Letter

PLUS 633 Seminar in Comparative Housing Policy and Urban Planning Programs
Units: 4 Terms Offered: Irregular Comparative examination of urbanization experience in selected areas and cities throughout the world; housing policies, urban planning approaches, financial, administrative, legal, and other techniques. Instruction Mode: Lecture Grading Option: Letter

PLUS 635 Urban Finance
Units: 4 Terms Offered: Irregular The theory of fiscal federalism and municipal finance, with examples from the USA and other countries, public/private partnerships in urban development, and government decentralization. Instruction Mode: Lecture Grading Option: Letter

PLUS 640 International Urban Development
Units: 4 Terms Offered: Irregular Study of urbanization in developing countries; special attention to urban growth, migration, city size, land use, and urban management. Comparative case studies. Instruction Mode: Lecture Grading Option: Letter

PLUS 650 Public Policy and Globalization
Units: 4 Terms Offered: Fa Challenges of public policymaking and administration; conceptual foundations of public policy as well as the practical and political constraints on government action; theories, models, and analytical frameworks both domestic and abroad.

PLUS 651 Applied Research Design and Inquiry
Units: 4 Provide foundation in applied research skills required for advanced practice in policy, management, planning and development; design and use of applied research; development of research designs; constraints on application of research; translation of findings. *Prerequisite:* PPD 502

PLUS 652 Place, Institutions, and Governance
Units: 4 Concept of place; investigation of the problems and issues confronting metropolitan communities; how the actions of public, private and nonprofit sectors can effect various areas including economics, health, civic life, and the environment; contemporary issues in policy, planning and development; theoretical frameworks for solutions.

PLUS 653 Leading Change and Innovation in Urban Communities
Units: 4 Terms Offered: Fa In-depth study of the role of public, private, and non-profit leaders in effecting change in public policy and planning practice, with special attention to the goals and processes of social innovation in urban communities.

PLUS 660 Economics of a Productive Development - A Public/Private Perspective
Units: 3 Terms Offered: Fa Introduction to the economic and financial aspects of real estate development; tools and methods of financial analysis; public and private

perspectives. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 661 Politics and Process of Urban Development
Units: 2 Terms Offered: Fa Introduction of concepts of formal and informal political institutions with a focus on planning and urban issues at the local, state and national levels; theories and methods to understand contemporary planning conflicts. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 662 Planning and Development Case Study
Units: 1 Terms Offered: Fa Case study project; students analyze a project and develop recommendations for financing and regulatory issues. Registration Restriction: Open only to online Master of Urban Planning (executive) degree students Instruction Mode: Lecture Grading Option: Credit/No Credit

PLUS 663 Designing Livable Environments I
Units: 1 Terms Offered: Fa Studio setting; students will go through a design charrette, site visit and develop an understanding of design principles. Registration Restriction: Open only to online master or urban planning (executive) degree students Instruction Mode: Lecture Grading Option: Credit/No Credit

PLUS 664 Urban Political Economy and Urban Development
Units: 2 Planning and development within a complex political landscape; budgetary and fiscal politics, metropolitan fragmentation and sub urbanization, immigration, and race, gender, and ethnicity in urban politics; implications for planning and development. *Prerequisite:* PLUS 661 Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 665 Economics for a Productive City
Units: 3 Terms Offered: Sp Basic concepts of urban and land economics with an emphasis on how planning and development are shaped by the metropolitan economic context; how key theoretical elements inform planning and development questions. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 667 Effective Engagement with Stakeholders
Units: 3 Approaches and challenges to community engagement; different conceptualizations of citizen; micro-scale forum and macro-scale methods; use of media for participation in communities. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 668 Big Data for Planning and Development
Units: 2 Introduction to data and visualization trends in relation to urban planning and development; train leaders to manage teams and leverage data and information technology resources. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 669 Designing Livable Environments II
Units: 1 Studio setting; students will go through a design charrette, site visit and develop an understanding of design principles. *Prerequisite:* PLUS 663 Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Credit/No Credit

PLUS 670 Communicating Data for Planning and Development
Units: 1 Methods and techniques for data visualization; application to planning and development contexts; critical assessment of data presentation approaches and methods. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Credit/No Credit

PLUS 671 Leading a Collaborative City
Units: 4 Leadership skills for planning and development; cross-sectoral collaboration, negotiation, and theories of organizational leadership; metrics for performance assessment, project management, and team building in organizations. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 672 Integrating Concepts for Action
Units: 1 Research a planning and development topic; capstone project. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 680 Advanced Urban and Regional Transportation Planning
Units: 4, 2 years Terms Offered: Fa Social and environmental impacts; incentive structures; alternate travel; investment guidelines; technological change. Instruction Mode: Lecture Grading Option: Letter

PLUS 692 Conspectus Preparation
Units: 4 Terms Offered: FaSpSm Preparation of a case study of a specific planning and/or development project that defines the student's field of study. Instruction Mode: Lecture Grading Option: Letter

PLUS 694a Planning, Design and Development Professional Dissertation
Units: 2 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PLUS 694b Planning, Design and Development Professional Dissertation
Units: 2 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PLUS 694c Planning, Design and Development Professional Dissertation
Units: 2 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PLUS 694d Planning, Design and Development Professional Dissertation
Units: 2 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress and Credit/No Credit

PLUS 694z Planning, Design and Development Professional Dissertation
Units: 0 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Preventive Medicine

PM 498 Summer Institute in Biostatistics
Units: 2 Terms Offered: Sm Provides undergraduate students in the mathematical or biological sciences with training in fundamental concepts in biostatistics and an introduction to various specialized topics in biostatistics, with a focus on research in heart and lung disease. Instruction Mode: Lecture Grading Option: Letter

PM 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Selected topics in Preventive Medicine. Instruction Mode: Lecture Grading Option: Letter

PM 500 Foundations of Health Behavior
Units: 4 Terms Offered: Fa Overview of behavioral theory and research in disease prevention and health promotion and in adaptation of chronic disease, including an introduction to measures of outcomes. *Prerequisite:* admission to PhD in Preventive Medicine. Instruction Mode: Lecture Grading Option: Letter

PM 501 Foundations in Health Education and Promotion
Units: 4 Terms Offered: FaSpSm Overview and application of behavioral theories to the field of health education and promotion. Examines the determinants of health behavior and strategies for change at the individual, group and community level. Instruction Mode: Lecture Grading Option: Letter

PM 502 Foundations of Public Health
Units: 4 Terms Offered: FaSp Overview of public health concepts and issues, including population health; ethics; health disparities, determinants, and systems of care; global health; policy; health promotion; environmental health. Instruction Mode: Lecture Grading Option: Letter

PM 503 Practice of Public Health
Units: 4 Terms Offered: FaSp Introduction to the application of strategies and tools for practice in public health, including policy advocacy, leadership and management, program planning and evaluation, health communication. *Recommended Preparation:* PM 502 Instruction Mode: Lecture Grading Option: Letter

PM 504 Quality in Health Care
Units: 4 Terms Offered: Sp Examines quality assessment at different levels of the

health care system including health plans, physicians, hospital and integrated system performance. *Recommended Preparation:* PM 502 or PM 508 Instruction Mode: Lecture Grading Option: Letter

PM 505 Training and Curriculum Design in Public Health
Units: 4 Terms Offered: Sm Curriculum writing and training skills applied to public health needs and settings. Covers adult learning theories, assessment of learning needs, curriculum design, training design, conduct and evaluation. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 506 Overcoming Real World Challenges in Global Health
Units: 4 Terms Offered: Fa Overview of program implementation challenges in global health contexts, including best practices for establishing effective cross-cultural collaborations, working with key leaders, and operationalizing complex interventions. Instruction Mode: Lecture Grading Option: Letter

PM 507 Public Health Services Research Methods
Units: 4 Terms Offered: FaSp A practical examination of methods and data sources used to evaluate public health services and conduct policy research and evaluation within health care delivery systems. *Prerequisite:* PM 510L and PM 512 *Recommended Preparation:* PM 502 or PM 508 Instruction Mode: Lecture Grading Option: Letter

PM 508 Health Service Delivery in the U.S.
Units: 4 Terms Offered: FaSpSm Historical development of the American health care system; determinants of health care utilization; role of health care providers; health policy; public health services; and health care finance. *Recommended Preparation:* PM 502 Instruction Mode: Lecture Grading Option: Letter

PM 509 Comparative Health Care Systems
Units: 4 Terms Offered: Sp Macro-level analysis of the structure and delivery of health care services around the world, including an examination and comparison of health system performance. Instruction Mode: Lecture Grading Option: Letter

PM 510L Principles of Biostatistics
Units: 4 Terms Offered: FaSpSm Concepts of biostatistics; appropriate uses and common misuses of health statistics; practice in the application of statistical procedures; introduction to statistical software including EXCEL, SPSS, nQuery. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PM 511aL Data Analysis
Units: 4 Terms Offered: SpSm Major parametric and nonparametric statistical tools used in biomedical research, computer packages including SAS. Includes laboratory. *Prerequisite:* PM 510. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MATH-511A

PM 511bL Data Analysis
Units: 4 Terms Offered: SpSm Statistical methods for analysis of categorical data including dichotomous, ordinal, multinomial and count data, using Stata package. Includes laboratory. *Prerequisite:* PM 511a Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MATH 511b

PM 511cL Data Analysis
Units: 4 Terms Offered: FaSpSm Methods and applications for modeling longitudinal, time-to event and multi-level data. Includes laboratory using R package. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PM 512 Principles of Epidemiology
Units: 4 Terms Offered: FaSpSm Terminology/uses of epidemiology and demography; sources/uses of population data; types of epidemiologic studies; risk assessment; common sources of bias in population studies; principles of screening. *Recommended Preparation:* algebra. Instruction Mode: Lecture Grading Option: Letter

PM 513 Experimental Designs
Units: 3 Terms Offered: Sp Statistical methods for analysis of various experimental designs. Parametric analysis of variance (ANOVA), repeated measures methods, crossover designs, non-parametric ANOVA. *Prerequisite:* PM 510L *Recommended Preparation:* PM 511aL Instruction Mode: Lecture Grading Option: Letter

PM 514 Sexually Transmitted Infections: a Systems Approach
Units: 4 Terms Offered: Sm Exploration of the interplay between systems, policy, advocacy, programs, and research with sexually transmitted infections. Issues such as health literacy, access to care, and evidence-based interventions designed to avert disparities in health, especially sexual health, will be evaluated. *Recommended Preparation:* PM 501 and PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 515 Multivariate Statistics in Health Behavior Research
Units: 4 Terms Offered: Sp Advanced training in multivariate statistical techniques involving general linear modeling, mixed modeling and basic latent variables analysis in health behavior research *Prerequisite:* PM 511aL and PM 511bL Instruction Mode: Lecture Grading Option: Letter

PM 516a Statistical Problem Solving
Units: 1 Terms Offered: FaSpSm An overview of the tools used by statisticians for solving statistical problems. *Prerequisite:* PM 510L. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

PM 516b Statistical Problem Solving
Units: 1 Terms Offered: FaSpSm An overview of the tools used by statisticians for solving statistical problems. *Prerequisite:* PM 510L. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

PM 517a Research Methods in Epidemiology
Units: 4 Terms Offered: FaSp Study design, ascertainment of study objects, questionnaire development, various methodological issues in study design and interpretation including bias, measurement error, confounding and effect modification. *Prerequisite:* PM 510L and PM 511aL and PM 512 *Recommended Preparation:* PM 518a Instruction Mode: Lecture Grading Option: Letter

PM 517b Research Methods in Epidemiology
Units: 3 Terms Offered: FaSp Overview of epidemiologic research in cancer. Selected cancer sites will be covered to highlight study design and conduct, exposure assessment, data analysis and interpretation. *Prerequisite:* PM 517a Instruction Mode: Lecture Grading Option: Letter

PM 518a Statistical Methods for Epidemiological Studies I, II
Units: 3 Terms Offered: Sp Principles and methods used in epidemiology for comparing disease frequencies between groups. Restricted to the analysis of binary outcome variables. *Recommended Preparation:* PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 518b Statistical Methods for Epidemiological Studies I, II
Units: 3 Terms Offered: Sp Statistical methods for binary outcomes by introducing techniques for cross classified risks and rates and regression models for individual data. *Prerequisite:* PM 518a. Instruction Mode: Lecture, Discussion Grading Option: Letter

PM 519 Moving Toward Health Equity in the United States
Units: 4 Terms Offered: FaSpSm A thoughtful perspective on U.S. health services delivery while introducing students to social inequalities in health. Instruction Mode: Lecture Grading Option: Letter

PM 520L Advanced Statistical Computing
Units: 3 Terms Offered: SpSm Techniques for the solution of statistical problems through intensive computing; iterative techniques, randomization tests, the bootstrap, Monte Carlo methods.. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PM 521 Pre-Departure Training to Optimize Global Health Experiences
Units: 1 Terms Offered: Fa A comprehensive pre-departure training course intended to enhance the learning experience for all KSOM learners participating in global health (STEGHs). Registration Restriction: Open only to Keck students School of Medicine students, although clearance can be provided to students from other USC schools upon request Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 522a Introduction to the Theory of Statistics
Units: 3 Terms Offered: FaSp Density distribution and hazard functions; normal, chi-square, student's t and F distributions; and sampling procedures for single factor and multiple factor designs, distributions. *Recommended Preparation:* working knowledge of multivariable calculus and familiarity with linear algebra. Instruction Mode: Lecture Grading Option: Letter

PM 522b Introduction to the Theory of Statistics
Units: 3 Terms Offered: FaSp Theory of estimation and testing, inference, analysis of variance, theory of regression. *Recommended Preparation:* college-level

calculus and linear algebra. Instruction Mode: Lecture Grading Option: Letter

PM 523 Design of Clinical Studies
Units: 3 Terms Offered: Sp Design, conduct, and interpretation of results of clinical trials; emphasis on principles affecting structure, size, duration of a trial, and the impact of ethical and practical considerations. *Recommended Preparation:* PM 511aL Instruction Mode: Lecture Grading Option: Letter

PM 524a Practicum in Health Behavior
Units: 2 Terms Offered: FaSpSm Practical experience in a variety of field settings to gain a certain type of skill such as curriculum development, media production, and patient education. Practicum in prevention. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 524b Practicum in Health Behavior
Units: 2 Terms Offered: FaSpSm Practical experience in a variety of field settings to gain a certain type of skill such as curriculum development, media production, and patient education. Practicum in compliance. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 524c Practicum in Health Behavior
Units: 2 Terms Offered: FaSpSm Practical experience in a variety of field settings to gain a certain type of skill such as curriculum development, media production, and patient education. Practicum in health behavior topics. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 525 Culture and Health: Global Perspectives
Units: 4 Terms Offered: Sp International variations in health status with a focus on the impact of socioeconomic status, politics, environment, education and gender in etiology of illness, access to health care, progression of disease, and recovery. Instruction Mode: Lecture Grading Option: Letter

PM 526 Communications in Public Health
Units: 4 Terms Offered: Sp Application of communication theories and methods to community health problems. Includes background assessment, program design, evaluation, social marketing, media advocacy, review of major health campaigns. *Recommended Preparation:* PM 501 Instruction Mode: Lecture Grading Option: Letter

PM 527 Epidemiology of Infectious Disease
Units: 4 Terms Offered: Sp Survey of natural history of infectious disease, methods of disease control and outbreak investigation, and an overview of the epidemiology of injury. *Prerequisite:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 528 Program Design and Evaluation
Units: 4 Terms Offered: Sm Core concepts, methods and values of public health program planning and evaluation, including community needs assessment, writing objectives, designing health promotion programs, process and outcome evaluation. *Recommended Preparation:* PM 501 Instruction Mode: Lecture Grading Option: Letter

PM 529 Environmental Health: An Epidemiological Approach
Units: 4 Terms Offered: Fa An overview of environmental health, identifying issues in assessing effects of exposure on health and potential interventions for reducing adverse health risks. *Prerequisite:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 530 Biological Basis of Disease
Units: 4, 2 years Terms Offered: Sp With a physiological overview, differentiates genetic and environmental disease; emphasis on the relationships between lifestyle, behavior, and health. *Prerequisite:* admission to PhD in Preventive Medicine, Health Behavior Research or basic biology. Instruction Mode: Lecture Grading Option: Letter

PM 532 Genetics in Public Health and Preventive Medicine
Units: 4 Terms Offered: Sm History and philosophy of public health genetics and mechanisms of genetic diseases. Epidemiologic methods used to identify genetic diseases in individuals, families, and populations. Emphasis on prevention and relevant ethical issues. *Recommended Preparation:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 533 Genetic and Molecular Epidemiology
Units: 3 Terms Offered: FaSpSm Genetic principles; design and analysis of family studies; introduction to likelihood estimation; segregation and linkage analysis; biomarkers of exposure, susceptibility, and disease; laboratory methods; susceptibility genes; association and linkage disequilibrium. *Recommended Preparation:* PM 510L, PM 511bL, PM 512, PM 518a, BIOC 543 Instruction Mode: Lecture Grading Option: Letter

PM 534 Statistical Genetics
Units: 3 Terms Offered: Sp Familial aggregation, segregation analysis, linkage analysis, association, regressive models, gene-environment interactions, genetic heterogeneity and linkage disequilibrium. *Recommended Preparation:* PM 518a, PM 522a Instruction Mode: Lecture Grading Option: Letter

PM 536 Program Evaluation and Research
Units: 4 Terms Offered: Fa Overview of concepts, tools, data collection, analysis methods and designs used to evaluate health promotion programs. Examples from substance abuse prevention, family planning and reproductive health programs. Instruction Mode: Lecture Grading Option: Letter

PM 537 Chronic Disease Epidemiology
Units: 4 Terms Offered: Sm Overview of causative factors and demographic distribution of major chronic diseases in the western world. Epidemiologic concepts, methods and research design as applied to chronic disease prevention will be emphasized. *Prerequisite:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 538 Introduction to Biomedical Informatics
Units: 3 Terms Offered: Sm Overview of current topics, enabling technologies, research initiatives, and practical considerations in biomedical informatics. Instruction Mode: Lecture Grading Option: Letter

PM 539 Nutrient-Drug Interactions
Units: 2 Terms Offered: Sm Examines the various ways foods, and the nutrients contained in them, interact with medications used to treat chronic health conditions. Instruction Mode: Lecture Grading Option: Letter

PM 540 Maternal and Child Nutrition: Practice and Policy
Units: 4 Physiological basis for good nutrition during pregnancy and childhood through adolescence. Design, implementation and evaluation of public health nutrition programs and policies serving women and children. *Recommended Preparation:* PM 530. Instruction Mode: Lecture Grading Option: Letter

PM 541 Obesity, Metabolism and Health
Units: 4 Terms Offered: Fa Overview of the epidemiology of obesity, related health conditions and mechanisms related to energy balance, food intake and genetics. Discussion of prevention and treatment strategies. *Recommended Preparation:* PM 530. Instruction Mode: Lecture Grading Option: Letter

PM 542 Social Network Analysis
Units: 4 Terms Offered: Sp Theory, methods and procedures of network analysis with emphasis on applications to public health programs. Instruction Mode: Lecture Grading Option: Letter

PM 543L Nonparametric Statistics
Units: 3 Terms Offered: Irregular (Enroll in MATH 543) Instruction Mode: Includes laboratory.

PM 544L Multivariate Analysis
Units: 3 Terms Offered: SpSm Exploratory and inferential techniques for multivariate data, Hotelling's T2, multivariate analysis of variance, classification analysis, principle components, cluster analysis, factor analysis. Involves computer use. *Recommended Preparation:* PM 510L, PM 522a Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MATH 544L

PM 545L Introduction to Time Series
Units: 3 Terms Offered: Fa (Enroll in MATH 545) Instruction Mode: Includes laboratory.

PM 546 Biological Threats and Terrorism
Units: 4 Terms Offered: Fa History of biowarfare and bioterrorism; proper surveillance techniques, capacity building for public health and medical communities, and the importance of effective communications. Methods of preparedness, prevention and response are examined. *Recommended Preparation:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 547 Public Health Policy and Politics
Units: 4 Terms Offered: Sm Examination of major policy issues in the U.S. health care delivery system to understand policy options in reforming health care and reducing health care disparities.

Recommended Preparation: PM 502 or PM 508 Instruction Mode: Lecture, Discussion Grading Option: Letter

PM 548 Prevention and Public Policy
Units: 2 Terms Offered: FaSp Introduction to prevention policy framework; examination of how the application of epidemiology and behavioral aspects of diseases shapes the development of public health policy. *Prerequisite:* PM 512 *Recommended Preparation:* PM 502 or PM 508 Instruction Mode: Lecture, Discussion Grading Option: Letter

PM 549 Human Molecular Genetics and Genomics
Units: 4 Terms Offered: FaSpSm Principles of genetics and genomics as they apply to the study of the molecular basis of human diseases. *Recommended Preparation:* Introductory (undergraduate) genetics class and INTD 561 (Molecular Genetics) Duplicates Credit in former BIOC 543 Instruction Mode: Lecture Grading Option: Letter

PM 550 Sample Surveys
Units: 3 (Enroll in MATH 550)

PM 551 Statistical Methods in Genome-Wide Association Studies
Units: 3 Terms Offered: FaSpSm Provides epidemiologists with an overview of current statistical problems and approaches in the design and analysis of genome-wide association studies. *Prerequisite:* PM 511a, PM 512; *Corequisite:* PM 522a. Instruction Mode: Lecture Grading Option: Letter

PM 552 Statistical Methods in Clinical Trials
Units: 3 Terms Offered: Sp Stochastic failure process; parametric models for survival data; sample size estimation procedures for clinical trials; multivariate regression models for binary outcome and censored survival data; computer programs; multiple failure modes and competing risks. *Recommended Preparation:* PM 518a, MATH 408 Instruction Mode: Lecture Grading Option: Letter

PM 553 Human Exposure Assessment for Public Health
Units: 4 Terms Offered: FaSpSm Examination of important routes of exposure to toxic materials; how to measure exposure; strengths and weaknesses of different measurement techniques; design of exposure assessment studies. *Recommended Preparation:* PM 510 or one semester of statistics and background in science or engineering for graduate students not in MPH. Instruction Mode: Lecture Grading Option: Letter

PM 554 Health Effects of Environmental Contaminants
Units: 4 Terms Offered: FaSp Examines the interrelationships among biology, the environment and health, including the fundamental principles of basic toxicology and biology underlying environmental health effects. *Recommended Preparation:* PM 529 Instruction Mode: Lecture Grading Option: Letter

PM 555 Environmental Health, Policy and Practice
Units: 4 Terms Offered: FaSp Examination of environmental public health policies/ regulations, the role of science in assessment and policy initiatives, barriers to change, and competing interests that influence policy adoption. *Recommended Preparation:* PM 529. Instruction Mode: Lecture Grading Option: Letter

PM 556 Environment and the Brain
Units: 4 Terms Offered: FaSpSm An examination of the effects of environmental exposures on the brain, addressing both human health and neurobiologic correlates throughout the lifespan. Instruction Mode: Lecture Grading Option: Letter

PM 557 Global Environmental Health
Units: 4 Terms Offered: Sp Examination of the health effects of global environmental changes, including climate change, globalization, food safety, air pollution, water pollution, and radiation. Instruction Mode: Lecture Grading Option: Letter

PM 558 Environmental Epidemiology: Concepts, Methods, and Practice
Units: 4 Terms Offered: FaSp Examine epidemiologic methods, concepts, and statistical approaches; case-study seminars with structured critiques of current literature on human-environment interactions affecting public health. *Recommended Preparation:* PM 510 and PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 559 Cancer Epidemiology
Units: 4 Terms Offered: FaSpSm Explores the fundamental concepts of cancer epidemiology, including the molecular basis, descriptive epidemiology, and historical and groundbreaking studies that have impacted the field. *Recommended Preparation:* PM 512 or equivalent Instruction Mode: Lecture Grading Option: Letter

PM 560 Statistical Programming With R
Units: 2 Terms Offered: Sm The contents include: R objects, control structure, data input and output, subsetting objects, data manipulation and aggregations, character manipulation, graphics, and writing user-defined functions. *Recommended Preparation:* Knowledge of one programming language other than R or a half-year experience programming in R. Instruction Mode: Lecture Grading Option: Letter

PM 561 Health and Sustainable Development in Costa Rica
Units: 4 Terms Offered: Sm Experiential learning in Costa Rica with daily site visits and lectures on migration, climate change, structural violence in indigenous communities and human rights. Instruction Mode: Lecture Grading Option: Letter

PM 562 Intervention Approaches for Health Promotion and Disease Prevention
Units: 4 Terms Offered: Sp Approaches for modifying health behavior in various settings and within diverse populations. Emphasis on practical considerations necessary to design and implement interventions with demonstrated effectiveness. Instruction Mode: Lecture Grading Option: Letter

PM 563 Organizing and Mobilizing Communities for Public Health
Units: 4 Terms Offered: Sm Survey of effective community organizing and mobilization efforts in the U.S. and abroad, using participatory, organizational, community empowerment and public-private partnership models. Instruction Mode: Lecture Grading Option: Letter

PM 564 Public Health Leadership and Management
Units: 4 Terms Offered: Fa Introduction to leadership and management concepts, tools, and practices in the context of domestic and global public health and healthcare delivery settings. Instruction Mode: Lecture Grading Option: Letter

PM 565 Introduction to Global Health
Units: 4 Terms Offered: FaSp Current public health issues and research topics relating to 21st century challenges and threats. Lessons learned and best practices to strengthen public health systems and enhance public health readiness and preparedness. Instruction Mode: Lecture Grading Option: Letter

PM 566 Introduction to Health Data Science
Units: 4 Terms Offered: Fa An introduction to the toolsets needed to create workable and reproducible datasets, conduct exploratory analysis and visualizations, learn from data, summarize and communicate analytic results. Instruction Mode: Lecture Grading Option: Letter

PM 567 Public Health Disaster Management and Response
Units: 4 Terms Offered: FaSpSm Definition and chronology of natural and man-made disasters and their effects on the global community. Structure and organization of disaster management systems and the role of humanitarian organizations. *Recommended Preparation:* PM 501, PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 568 Ethical Issues in Public Health
Units: 4 Terms Offered: Fa Ethical principles in the distribution of health resources, conduct of global public health research, and implementation of public health initiatives across different nations, cultures, religions. *Recommended Preparation:* PM 501 Instruction Mode: Lecture Grading Option: Letter

PM 569 Spatial Statistics
Units: 3 Terms Offered: FaSpSm An introduction to statistical methods for analyzing and interpreting spatially referenced data topics include: geostatistics, areal data, point pattern data and visualization. *Recommended Preparation:* PM 511aL and familiarity with R Instruction Mode: Lecture Grading Option: Letter

PM 570 Statistical Methods in Human Genetics
Units: 4 Terms Offered: Sp An introductory course in the statistical methods used in the analysis of human genetic data. *Recommended Preparation:* PM 533 Instruction Mode: Lecture Grading Option: Letter

PM 571 Applied Logistic Regression
Units: 3 Terms Offered: Sm An introduction to the logistic regression model, emphasizing practical data analysis techniques. *Prerequisite:* PM 510; PM 512; and PM 511a or PM 518a. Instruction Mode: Lecture Grading Option: Letter

PM 572 Medical Physiology I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

PM 573 Medical Physiology II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

PM 574 Programming In Modern Statistical Software
Units: 2 Terms Offered: FaSpSm Programming using SAS Software, including branching, sub-setting, PDV, looping, by-group processing, array, combining data functions, ODS, and macros. Instruction Mode: Lecture Grading Option: Letter

PM 575 Statistical Methods in Environmental Epidemiology
Units: 3 Terms Offered: FaSpSm Study designs, exposure time response, longitudinal, spatial, ecologic correlation and mechanistic models, measurement error interactions, measurement error, public policy implications. *Recommended Preparation:* PM 511aL and PM 511bL and PM 518a Instruction Mode: Lecture Grading Option: Letter

PM 576 Global Health Research and Programs
Units: 4 Terms Offered: Sm Introduction to the core concepts and methods of planning and implementing health-related programs and research in resource-constrained settings. Instruction Mode: Lecture Grading Option: Letter

PM 577 Global Health, Law and Human Rights: Concepts and Methods
Units: 1, 2, 3, 4 Terms Offered: Sm Highlights the complex interactions between global health, law and human rights, emphasizing the use of human rights in public health thinking and practice. *Recommended Preparation:* MPH core course work Duplicates Credit in LAW 707 Instruction Mode: Lecture Grading Option: Letter

PM 578 Global Health Governance and Diplomacy
Units: 4 Terms Offered: FaSp Investigates the way health is organized and administered at the global level, emphasizing the role of international diplomacy and law in governing health. Instruction Mode: Lecture Grading Option: Letter

PM 579 Statistical Analysis of High-Dimensional Data
Units: 4 Terms Offered: FaSpSm Overview of statistical issues and solutions to high dimensional data analysis. Use of Bioconductor and R, with applications in molecular biology. *Recommended Preparation:* PM 511a. Instruction Mode: Lecture Grading Option: Letter

PM 580 Foundations of Child Health
Units: 4 Terms Offered: Sp Overview of issues related to infant, child and adolescent health, including special health considerations at different points in the developmental cycle, health care systems and policies and health disparities. Instruction Mode: Lecture Grading Option: Letter

PM 581 Quality and Inequality in Health Care: Examination of Health Services
Units: 4 Terms Offered: Fa Social inequalities, including racial/ethnic disparities and income related inequalities are examined in the context of access and delivery of health care in the U.S. Instruction Mode: Lecture Grading Option: Letter

PM 582 Epidemiology and Prevention of Pediatric Injuries
Units: 4 Terms Offered: Fa Examines the incidence and causes of injuries to children from birth to adolescence, risk factor distributions and approaches to prevention. Instruction Mode: Lecture Grading Option: Letter

PM 583 Foundations of Early Childhood Mental Health
Units: 4 Terms Offered: Fa Overview of major infant and early childhood mental health issues, relating to the status of child mental health and the importance of comprehensive systems of care for children that support resilience and respond to biological and psychosocial mental health risks. Instruction Mode: Lecture Grading Option: Letter

PM 584 Systems of Care for Children with Special Needs
Units: 4 Terms Offered: Sm Examines and evaluates principles, policies, programs and practices (systems) that have evolved to identify, assess and meet the special needs of children and families. Includes both historical and current perspectives. Instruction Mode: Lecture Grading Option: Letter

PM 585 Child Health Policy
Units: 4 Terms Offered: Sp History of child health and social welfare programs during the past century. Issues examining health status and health service delivery, the role of health care financing and health policy. Instruction Mode: Lecture Grading Option: Letter

PM 586 Reproductive and Perinatal Epidemiology
Units: 4 Terms Offered: FaSpSm Introduction to reproductive health, from preconception to the neonatal and early period of human development. Heavy emphasis on the methods and public health implications. *Prerequisite:* PM 510L and PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 587 Qualitative Research Methods in Public Health
Units: 4 Introduction to common uses of qualitative research methods in public health research and application. Methods include ethnography, participant observation, open-ended interviewing, and focus groups. Instruction Mode: Lecture Grading Option: Letter

PM 588 The Practice of Epidemiology
Units: 4 Terms Offered: FaSpSm Provides students with hands on experience of the common methods used in conducting epidemiological studies, and designing and obtaining funding for research projects. *Prerequisite:* PM 512; *Recommended Preparation:* PM 527. Instruction Mode: Lecture, Lab Grading Option: Letter

PM 589 Global Health Policy in Action: Geneva Course
Units: 4 Terms Offered: Sm Investigates the way health is organized and administered at the global level by integrating students directly into the World Health Assembly (WHA), the decision-making body of the World Health Organization. *Recommended Preparation:* PM 577 Instruction Mode: Lecture Grading Option: Letter

PM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 591 Machine Learning for the Health Sciences
Units: 4 Terms Offered: FaSpSm Introduces Masters and Ph.D. students in the Health Sciences to Machine Learning methods and their Biomedical applications. *Recommended Preparation:* PM 511aL Instruction Mode: Lecture, Lab Grading Option: Letter

PM 592 Regression Analysis for Health Data Science
Units: 4 Terms Offered: FaSpSm Provides a rigorous introduction to statistical methods for analyzing data with a focus on regression modeling for continuous and binary outcomes. *Recommended Preparation:* Undergraduate course in statistics, or PM 510L in the summer prior to program admission Instruction Mode: Lecture Grading Option: Letter

PM 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 595 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 596 Practicum in Public Health
Units: 1 Terms Offered: FaSpSm Applied practical experience through field placement in federal, state, and/or local public health agencies/organizations, including community-based organizations; research and school-based settings. *Recommended Preparation:* PM 502, PM 503 and at least one MPH concentration core course Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 597 Capstone in Public Health
Units: 1 Terms Offered: FaSpSm Provides the culminating, integrative learning experience for students enrolled in the Master of Public Health program. *Recommended Preparation:* completion of all MPH course work Instruction Mode: Lecture Grading Option: Letter

PM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Special topics relevant to the study of selected issues and areas of health behavior research or other aspects of preventive medicine. Instruction Mode: Lecture Grading Option: Letter

PM 601 Basic Theory and Strategies in Prevention
Units: 4, 2 years Terms Offered: Fa Psychosocial basis of health hazardous lifestyle behaviors and preventive strategies. *Recommended Preparation:* PM 500, PM 515. Instruction Mode: Lecture Grading Option: Letter

PM 602 Basic Theory and Strategies for Compliance/Adaptation
Units: 4, 2 years Terms Offered: Fa Behavioral and psychosocial demands of acute and chronic diseases. Comparison of theoretical models of compliance and adaptation with intervention methods to improve compliance and adaptation. *Recommended Preparation:* PM 500, PM 515. Instruction Mode: Lecture Grading Option: Letter

PM 603 Structural Equation Modeling
Units: 4, 2 years Terms Offered: Fa Factor analytic and structural equation modeling approaches to health behavior research — conceptual, practical and mathematical. *Prerequisite:* PM 511b. Instruction Mode: Lecture Grading Option: Letter

PM 604 Health Behavior Research Methods
Units: 4 Terms Offered: Sp Health research/evaluation philosophies, approaches, and development of skills for development and critique of health behavior research projects/studies. *Recommended Preparation:* PM 511a, PM 511b, PM 511c. Instruction Mode: Lecture Grading Option: Letter

PM 605 Systematic Review and Meta-Analysis
Units: 4 Terms Offered: FaSpSm Theoretical basis and practical approaches for identifying, summarizing and interpreting current bodies of scholarly information addressing a defined research question. *Prerequisite:* PM 510 and PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 606 Health Data Science Practicum
Units: 3 Terms Offered: FaSpSm Analysis of an external medical research or healthcare industry dataset; project/presentation based. Instruction Mode: Lecture Grading Option: Letter

PM 607 Nutrition and Health: Myths, Controversies and Science
Units: 4 Terms Offered: Sp Introduces students to methods in Nutrition Epidemiology in order to develop skills needed to design, analyze and critically evaluate nutrition related health research. *Recommended Preparation:* PM 510L and PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 608 Environmental and Genetic/Epigenetic Epidemiology
Units: 2 Terms Offered: FaSpSm A forum in which students develop speaking and presentation skills while critically evaluating epidemiological methods in epidemiology research. *Recommended Preparation:* Graduate students take this course after their first year of coursework Instruction Mode: Lecture Grading Option: Letter

PM 610 Seminar in Biostatistics and Epidemiology
Units: 1 Max Units: 4.0 Terms Offered: FaSpSm Special topics of current interest to provide background for research in biostatistics and epidemiology. Based largely on student dissertation research. *Prerequisite:* PhD level. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 611 Advanced Topics in Epidemiology
Units: 3 Terms Offered: Irregular Review of current epidemiologic research contained in recent medical literature; emphasis on critique of studies and interpretation of findings. Instruction Mode: Discussion Grading Option: Letter

PM 612a Clinical Translational Research (CTR)
Units: 4 Terms Offered: Fa First of three courses in CTR, a discipline that fosters multidirectional integration of basic, patient-oriented and population-based research with the long-term goal of improving public health. *Recommended Preparation:* PM 510. Instruction Mode: Lecture Grading Option: Letter

PM 612b Clinical Translational Research (CTR)
Units: 4 Terms Offered: Sp Analysis and interpretation of data to test clinical translational hypotheses. *Recommended Preparation:* PM 510. Instruction Mode: Lecture Grading Option: Letter

PM 612c Clinical Translational Research (CTR)
Units: 4 Terms Offered: Sm Multidisciplinary approach to clinical and translational research. *Recommended Preparation:* PM 510. Instruction Mode: Lecture Grading Option: Letter

PM 615 Intervention Research Grant Proposal Development
Units: 4 Terms Offered: FaSp Process of applying for research grants in health behavior research, including dissertation grants. Covers the structure of NIH and other grantmaking agencies, the grant review process, tailoring ideas to the grantmaker's priorities, research design, development of training and mentoring plans, and budgeting. *Prerequisite:* PM 500 Instruction Mode: Lecture Grading Option: Letter

PM 690a Directed Research in Health Behavior
Units: 2 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 690b Directed Research in Health Behavior
Units: 2 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 690c Directed Research in Health Behavior
Units: 2 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 690d Directed Research in Health Behavior
Units: 2 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 690z Directed Research in Health Behavior
Units: 0 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 756 Research Seminar in Health Behavior
Units: 1 Max Units: 6.0 Terms Offered: FaSp Short seminar presentations and discussions on issues accompanying the development of the field of health behavior and implementation of research in this field. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research applicable to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Pharmaceutical Economics and Policy

PMEP 509 Research Design
Units: 4 Terms Offered: Fa Introduction to the concept of research design and examples of the variant research methods utilized in the field. Both the conceptual and practical issues of research including development of the research question, selection of appropriate methods, data sources and analytic approaches to address the research question will be

addressed. Instruction Mode: Lecture Grading Option: Letter

PMEP 525 Pharmacoeconomics I
Units: 4 Terms Offered: Sp Introduction to pharmacoeconomics with special emphasis on the role of pharmaceuticals and the pharmaceutical industry, insurance, managed care, regulation and pricing. *Recommended Preparation:* Excel for Windows or Mac Registration Restriction: Except through discussion with the instructor Duplicates Credit in former PMEP 538 Instruction Mode: Lecture Grading Option: Letter

PMEP 526 Pharmacoeconomics II
Units: 2 Terms Offered: Sm Continued development of the use of the economic evaluation model, and application of the methods and techniques of economic assessment of pharmaceuticals and other medical technology. *Prerequisite:* PMEP 525 Registration Restriction: Open only to graduate students in Pharmaceuticals Economics and Policy Instruction Mode: Lecture Grading Option: Letter

PMEP 527 Pharmacoeconomics III
Units: 4 Terms Offered: Fa Advanced methods in economic health intervention assessment and pharmacoeconomics with special emphasis on microeconomic modeling and methods for assessing patient and health state preferences. *Prerequisite:* PMEP 525 and PMEP 526 *Recommended Preparation:* Excel for Windows Registration Restriction: Open only to graduate students in Pharmacy and Pharmaceutical Economics and Policy Instruction Mode: Lecture Grading Option: Letter

PMEP 534 Health Economics I
Units: 4 Terms Offered: Fa (Enroll in ECON 636)

PMEP 535 Behavioral Science and Policy in Healthcare
Units: 4 Terms Offered: Sp Use of acquired skills to develop and assess uses of behavioral science to affect health policy. *Recommended Preparation:* PMEP 509 Registration Restriction: Open only to graduate students Duplicates Credit in former PMEP 519 and PMEP 529 Instruction Mode: Lecture Grading Option: Letter

PMEP 539 Economic Assessment of Medical Care
Units: 4 Terms Offered: Fa Principles of cost-benefit analysis and medical cost-effectiveness analysis with applications in medical care and the pharmaceutical field. *Prerequisite:* ECON 500 and ECON 581. Instruction Mode: Lecture Grading Option: Letter

PMEP 544 Health Economics II
Units: 4 Terms Offered: Sp Second of part series in techniques of microeconometric analysis to inform health policy. Topics include: patents and innovation, pharmaceutical regulation, hospital competition, physician practice. *Recommended Preparation:* ECON 601, ECON 611 and ECON 636. Instruction Mode: Lecture Grading Option: Letter

PMEP 547 Programming Methods for Empirical Analysis of Health Data
Units: 4 Terms Offered: Fa Introduction to methods for analysis of large health data sets, including data selection, SAS/Stata programming under Linux, and review of claims and survey data. Instruction Mode: Lecture Grading Option: Letter

PMEP 551 Introduction to Health Econometrics
Units: 4 Terms Offered: Sp Introduction to statistical analysis and regression modeling for health economics and policy research. Topics include: statistical inference, principles of probability and statistics, regression models, and causal inference. Registration Restriction: Open only to PMEP students or instructor permission Instruction Mode: Lecture, Discussion Grading Option: Letter

PMEP 552 Advanced Health Econometrics I
Units: 4 Terms Offered: Fa The expansion of students' knowledge of econometric methods emphasizing, but not limited to, applications to health economics. Serves as a prelude to the advanced study of microeconomics. *Prerequisite:* PMEP 551 or PPD 558 Registration Restriction: Open only to graduate students in Pharmaceutical Economics and Policy; Economics Instruction Mode: Lecture Grading Option: Letter

PMEP 553 Advanced Health Econometrics II
Units: 4 Terms Offered: Sp Covers the transition to independent producers of high-quality empirical research on health and health care. Peer-reviewed research will serve as case studies for class discussion and may address empirical methods. *Prerequisite:* PMEP 552 Registration Restriction: Open only to graduate students in Pharmaceutical Economics and Policy Duplicates Credit in PMEP 549 Instruction Mode: Lecture Grading Option: Letter

PMEP 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PMEP 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

PMEP 698 Seminar in Pharmaceutical Economics and Policy
Units: 1 Max Units: 4.0 Terms Offered: FaSp Current research in pharmaceutical economics and policy presented by outside scholars, faculty and students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PMEP 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PMEP 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PMEP 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PMEP 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PMEP 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PMEP 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Political Science and International Relations

POIR 507 Gender and International Relations
Units: 4 An examination of gender and culture in world society. Feminist perspectives on and critiques of various approaches to international relations theories. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 507 Instruction Mode: Lecture Grading Option: Letter

POIR 509 Culture, Gender and Global Society
Units: 4 Cultural and gendered responses to economic globalization; topics include culture and security, identity politics, clashes of and accommodations among civilizations, modernity, post-modernity and world society. MA and other students outside of POIR must obtain faculty permission to register in the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 509 Instruction Mode: Lecture Grading Option: Letter

POIR 510 Gender, War and Peace
Units: 2 Examination of the extent to which conflict and its resolution have depended on stereotypically gendered associations of men with war and women with peace. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IR 510 Instruction Mode: Lecture Grading Option: Letter

POIR 516 Advanced Research Methods: Text, Talk and Context
Units: 4 Text and discourse analysis methods and strategies. Themes include the roles of ideas, identities, policies and interests in various institutional contexts. MA and other students outside of POIR must obtain faculty permission to register

for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 516 Instruction Mode: Lecture Grading Option: Letter

POIR 517 International Policy Analysis
Units: 4 Game theory and other methodologies applied to the study of international relations. Topics include global and regional public goods, collective action, externalities, treaty information, market failures. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 517 Instruction Mode: Lecture Grading Option: Letter

POIR 518 Historical Memory and Public Diplomacy
Units: 4 Analyzes national identity formation and justification of foreign policy goals, particularly its impact on international relations. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 518 Instruction Mode: Lecture Grading Option: Letter

POIR 519 Field Research Methods in Political Science and International Relations
Units: 4 Methods of social science field research in political science and international relations. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 519 Instruction Mode: Lecture Grading Option: Letter

POIR 520 Formulating US Foreign Policy: How Washington Works
Units: 4 Analyzes U.S. foreign policy, with emphasis on numerous inputs to the decision-making process, from media to conceptions of the national interest to organizational processes. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 520 Instruction Mode: Lecture Grading Option: Letter

POIR 521 Foreign Policy Analysis
Units: 4 Survey of principal theoretical and empirical approaches to foreign policy analysis; such as bureaucratic politics, game theory, formal theory, rational choice theory, and other topics. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 521 Instruction Mode: Lecture Grading Option: Letter

POIR 525 State and Society in International Relations
Units: 4 Assesses the challenges to nation-states and world order presented by trans-border cultural flows, new technologies, and changing patterns of political participation. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 525 Instruction Mode: Lecture Grading Option: Letter

POIR 526 Migration and Diaspora in International Politics
Units: 4 Examines issues of migration, the relationship between citizen and state, economic factors triggering emigration/immigration, transnationalism, and explores the phenomenon of diasporas. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 526 Instruction Mode: Lecture Grading Option: Letter

POIR 531 Strategy and Arms Control
Units: 4 Impact of nuclear weapons on U.S. and U.S.S.R. postwar military policies and strategies; evolution of postwar deterrence postures; development of superpower arms control since 1945. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 531 Instruction Mode: Lecture Grading Option: Letter

POIR 534 East Asian Security Issues
Units: 4 Security politics of China, Japan, ASEAN states, and Southwest Pacific nations; their strategic relations with the superpowers; regional security initiatives: nuclear-free zone politics, ZOPFAN, and indigenous military capacities. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 534 Instruction Mode: Lecture Grading Option: Letter

POIR 535 North African and Middle Eastern Politics
Units: 4 The politics of the Middle East and North Africa (MENA) including nation-building; mobilization of human and natural resources; political recruitment, integration, socialization, and conflict. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 535 Instruction Mode: Lecture Grading Option: Letter

POIR 539 Conflict Processes
Units: 4 Seminar in international conflict, crisis and war. General perspectives on factors that bring about war or peace. Focus on ethnopolitics and conflict processes. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 539 Instruction Mode: Lecture Grading Option: Letter

POIR 540 Law and Public Policy
Units: 4 The study of law in political science; law and politics in organized societies; law as a policy science; legal and political institutions; administration of justice; political forces influencing legal change. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 540 Instruction Mode: Lecture Grading Option: Letter

POIR 541 Politics of the World Economy
Units: 4 Survey of approaches to international political economy. Intellectual roots; the management of collective goods; North-South relations are examined. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 541 Instruction Mode: Lecture Grading Option: Letter

POIR 542 Foreign Economic Policies of Industrial Capitalist States
Units: 4 Seminar comparing the political economy and economic policies of countries; evaluation of alternative research methods and theories. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 542 Instruction Mode: Lecture Grading Option: Letter

POIR 543 Politics of International Monetary and Trade Relations
Units: 4 Political analysis of international monetary and trade relations; emphasis on interactions among industrialized nations. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 543 Instruction Mode: Lecture Grading Option: Letter

POIR 544 Religion, Politics, and Conflict
Units: 4 How religion has emerged as a powerful force in politics. Conflict resolution, fundamentalism, terrorism, war, American foreign policy and global civil society. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 540 Instruction Mode: Lecture Grading Option: Letter

POIR 545 Critical Issues in Politics and Policy
Units: 4 Selected topics in political science and policy; focus on current issues shaping the U.S. and the world. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 545 Instruction Mode: Lecture Grading Option: Letter

POIR 546 Environmental Policy
Units: 4 Issues and theories involved in the formulation, implementation, and effectiveness of different environmental policies. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 546 Instruction Mode: Lecture Grading Option: Letter

POIR 547 Political Economy of Global Space and Environment
Units: 4 Regimes in an anarchic world will be examined, particularly global spaces and resources in political economy. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 547 Instruction Mode: Lecture Grading Option: Letter

POIR 548 The International Political Economy of Development
Units: 4 The political aspects of economic growth, efficiency and distribution are explored for underdeveloped nations in a political science and international relations context. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 545 Instruction Mode: Lecture Grading Option: Letter

POIR 550 Economic Bargaining Theory and Practice
Units: 4 Development of analytical skills and strategies for negotiations over economic and political problems, through study of recent cases, bilateral bargaining, and multilateral bargaining. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 550 Instruction Mode: Lecture Grading Option: Letter

POIR 551 International Political Economy of the Pacific Rim
Units: 4 Terms Offered: Sp Political economy of the Pacific Rim; trade, investment and development strategies. The role of Japan's increasing economic power and that of the changing U.S.–Japan relations and their implications to the rest of the Pacific Rim region. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 551 Instruction Mode: Lecture Grading Option: Letter

POIR 554 Women in Global Perspective
Units: 4 (Enroll in SWMS 554)

POIR 555 Democracy and Democratization in Comparative Perspective
Units: 4 Seminar generates and tests theories of democratization. Readings will focus on Europe, Latin America, Soviet Eurasia emphasizing core theoretical and methodological aspects. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 555 Instruction Mode: Lecture Grading Option: Letter

POIR 556 Latin America and U.S. Foreign Policy
Units: 4 Latin American challenges to U.S. policymakers; U.S. success in achieving its goals; alternative explanations of U.S. behavior. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 556 Instruction Mode: Lecture Grading Option: Letter

POIR 557 Africa and U.S. Foreign Policy
Units: 4 Research problems on international issues arising from the emergence of Africa. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 557 Instruction Mode: Lecture Grading Option: Letter

POIR 560 Feminist Theory
Units: 4 Terms Offered: FaSpSm (Enroll in SWMS 560)

POIR 561 Japanese Foreign Policy and International Relations of East and Southeast Asia
Units: 4 Research problems in political, economic, and security issues in East and Southeast Asia, with special emphasis on the role of Japan. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 561 Instruction Mode: Lecture Grading Option: Letter

POIR 563 Chinese Foreign Policy
Units: 4 Research problems in political, economic, military, and ideological issues. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 563 Instruction Mode: Lecture Grading Option: Letter

POIR 581 International Relations of the Middle East
Units: 4 Examination of salient issues in regional politics such as colonialism, nationalism, identity, religion, development and war. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former IR 581 Instruction Mode: Lecture Grading Option: Letter

POIR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

POIR 593 Practicum in Teaching Politics and International Relations
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within political science and international relations disciplines. Intended for teaching assistants in Dornsife College. Registration Restriction: Open only to doctoral students. Grading Option: Graded CR/NC.

POIR 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Registration Restriction: Open only to doctoral students in POIR Instruction Mode: Lecture Grading Option: Credit/No Credit

POIR 599 Special Topics
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: max 8 Subjects in one or more fields in political science.

POIR 600 Political Theory
Units: 4 Survey of literature; examination of approaches, concepts, and issues in the field of political theory. Registration Restriction: Open only to doctoral students. Duplicates Credit in former POSC 530.

POIR 610 Research Design
Units: 4 The course will cover the design of experimental and observational research. We will examine both quantitative and qualitative approaches to social science research. Registration Restriction: Open only to doctoral students.

POIR 611 Introduction to Regression Analysis
Units: 4 The course will introduce students to regression analysis and its application to social science research. Registration Restriction: Open only to doctoral students.

POIR 612 Qualitative Research Design
Units: 4 Terms Offered: FaSp
Design multiple research approaches using qualitative evidence to evaluate the observable implications of theory. Learn deductive, construct, internal, external, and conclusion validity. *Recommended Preparation:* POIR 610 and POIR 611 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

POIR 613 Topics in Quantitative Analysis
Units: 4 Introduces statistical models beyond the standard linear regression model. Topics include maximum likelihood estimation, generalized linear models, and advanced methods. Registration Restriction: Open only to doctoral students.

POIR 614 Experimental Political Science
Units: 4 Terms Offered: FaSpSm
Introduction to experimental techniques and applications of experiments in political science. Addresses both the advantages and disadvantages of experiments in political science research. Registration Restriction: Open only to doctoral students.

POIR 615 Formal Models of Politics
Units: 4 Terms Offered: FaSp Introduces basics of game theory and surveys foundational models of American, comparative, and international politics. *Recommended Preparation:* POIR 610 and POIR 611 Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

POIR 616 Advanced Quantitative Methods
Units: 4 Terms Offered: FaSp Bayesian inference in the social sciences and causal inference literature, including experiments, matching, difference-in-difference and regression discontinuity. *Prerequisite:* POIR 617 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

POIR 617 Maximum Likelihood Estimation
Units: 4 Maximum likelihood estimation of binary choice models, duration models, count models, and other models in political science, international relations, and social sciences. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 600 Instruction Mode: Lecture Grading Option: Letter

POIR 618 Problems of American Politics
Units: 4 Theoretical and methodological

problems in American politics with emphasis on emerging research paradigms. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 618 Instruction Mode: Lecture Grading Option: Letter

POIR 619 Supreme Court Politics
Units: 4 Role of the Supreme Court in American political institutions. Influences on judicial decision making; appointment and decision making processes; scope of judicial power. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 619 Instruction Mode: Lecture Grading Option: Letter

POIR 620 American Politics and Policy Processes
Units: 4 Survey of literature; examination of approaches, concepts, and issues in the field of American politics and policy processes. Registration Restriction: Open only to doctoral students. Duplicates Credit in former POSC 510.

POIR 621 American Politics Field Seminar Part II
Units: 4 Terms Offered: FaSp A theoretical and empirical overview of the American politics field. Theoretical topics include behavioralism, rational choice, political psychology; empirical topics include causality. Registration Restriction: Open only to doctoral students.

POIR 622 Political Attitudes and Behavior
Units: 4 Determinants, nature, and consequences of political attitudes and behavior exploring psychological-sociological models, political socialization and learning, and factors affecting trends in attitudes and behavior. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 622 Instruction Mode: Lecture Grading Option: Letter

POIR 623 Public Law
Units: 4 Problems and research in American constitutional and administrative law and in modern jurisprudence. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 621 Instruction Mode: Lecture Grading Option: Letter

POIR 624 American Constitutional Law and Theory
Units: 4 Contemporary debates and research on the nature of constitutional interpretation, separation of powers, federalism, civil and political rights and liberties. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 624 Instruction Mode: Lecture Grading Option: Letter

POIR 625 Political Parties
Units: 4 Parties and organizations in the political system; formal and informal organization and roles; party systems; partisanship; and electoral rules. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 610 Instruction Mode: Lecture Grading Option: Letter

POIR 626 Executive and Legislative Institutions
Units: 4 Theory and empirical analysis as it relates to the study of political institutions. Legislative politics, executive branch politics, and legislative-executive relations and bargaining. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 611 Instruction Mode: Lecture Grading Option: Letter

POIR 627 Urban Politics
Units: 4 Problems of government and politics in urban, county, and metropolitan areas. Local and community politics. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 612 Instruction Mode: Lecture Grading Option: Letter

POIR 630 European Politics
Units: 4 Selected research topics in comparative European politics; political behavior, parties, legislative and executive institutions and processes. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 630 Instruction Mode: Lecture Grading Option: Letter

POIR 632 Latin American Politics
Units: 4 Comparative analysis of the political structure and institutions of Latin America; participation and alienation; democracies and dictatorships; political science and comparative politics. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 632 Instruction Mode: Lecture Grading Option: Letter

POIR 633 East Asian Politics
Units: 4 Comparative politics of East Asia; modernization; the roots of political thought and behavior; peripheral area relationships; modern political processes and institutions. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 633 Instruction Mode: Lecture Grading Option: Letter

POIR 636 Seminar in African Politics
Units: 4 Comparative and international politics of Africa. Analysis of ideologies, political behavior, and institutions in African nations. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 636 Instruction Mode: Lecture Grading Option: Letter

POIR 637 Chinese Politics
Units: 4 Governmental process in the People's Republic of China including leadership, ideology, political institutions, behavior, and participation. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 637 Instruction Mode: Lecture Grading Option: Letter

POIR 640 Comparative Politics
Units: 4 Survey of literature; examination of approaches, concepts, and issues in the field of comparative politics. Registration Restriction: Open only to doctoral students. Duplicates Credit in former POSC 520.

POIR 641 Comparative Politics II
Units: 4 Terms Offered: Sp Seminar covering literature and methods in the study of political economy, authoritarianism, redistribution, and political conflict. Builds directly on POIR 640. *Prerequisite:* POIR 640 Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 641 Instruction Mode: Lecture Grading Option: Letter

POIR 642 Institutions in Comparative and International Politics
Units: 4 Terms Offered: Fa Explores major strands of institutional theory and assesses scholars' views on design of institutions, institutional change, and effects of institutions on behavior and outcomes. Registration Restriction: Open only to doctoral students in POIR.

POIR 644 Political Economy of Development
Units: 4 Terms Offered: FaSp Development of global state of affairs including foundations of political order and economic growth, formation of states in global perspective, survival of non-democracies and adopting inclusive institutions. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

POIR 648 International Human Rights Law and Policy
Units: 4 Historical and contemporary consideration of human rights issues in world politics. Examination of philosophical foundations of human rights and institutions that enforce international standards. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 648 Instruction Mode: Lecture Grading Option: Letter

POIR 649 International Law
Units: 4 Topics and cases illustrating general principles and problems in international law. MA and other students outside of POIR must obtain faculty permission to register for the course. Registration Restriction: Open only to doctoral students Duplicates Credit in former POSC 670 Instruction Mode: Lecture Grading Option: Letter

POIR 650 Comparative Politics of East and Southeast Asia
Units: 4 Terms Offered: FaSp Comparison of significant political phenomena between the countries in the East and Southeast Asia region and the long-term consequences of such comparisons.

Registration Restriction: Open only to doctoral students.

POIR 660 Introduction to International Relations Theory
Units: 4 The primary objective of this course is to introduce PhD students to theoretical and empirical issues related to the study of international relations. Registration Restriction: Open only to doctoral students.

POIR 661 International Relations Theory: Advanced
Units: 4 Examines the specialized nomenclature of international relations and the varied interpretations of basic concepts of international theory; conceptual analysis and criticism. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IR 501.

POIR 662 Governance in International Relations
Units: 4 Rules and rule structures in international relations; major theoretical perspectives and empirical research. Registration Restriction: Open only to doctoral students.

POIR 670 International Political Economy
Units: 4 Survey of approaches to international political economy. Intellectual roots; the management of collective goods; North-South relations are examined. Registration Restriction: Open only to doctoral students.

POIR 671 Political Psychology
Units: 4 Terms Offered: FaSp Integrates findings of psychology into the study of international relations and political science. Covers foreign policy decision-making, public opinion, ideology, emotion and common heuristics and biases among other topics. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

POIR 680 International Security and Foreign Policy
Units: 4 Examination of the interconnected fields of international security and foreign policy, including decision making and patterns of interaction regarding international conflict. Registration Restriction: Open only to doctoral students.

POIR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

POIR 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

POIR 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

POIR 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

POIR 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

POIR 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

Portuguese

PORT 120 Portuguese I
Units: 4 Terms Offered: FaSp For students with no proficiency in Portuguese. Practice in listening comprehension, oral communication, elementary reading and writing. Instruction Mode: Lecture Grading Option: Letter

PORT 150 Portuguese II
Units: 4 Terms Offered: FaSp For students with some language proficiency in Portuguese; increased emphasis on listening, comprehension, oral communication, reading, and writing. Students will be required to take a Portuguese placement exam in the Spanish and Portuguese Department. *Prerequisite:* PORT 120. Instruction Mode: Lecture Grading Option: Letter

PORT 175 Accelerated Portuguese I
Units: 4 Terms Offered: FaSp Encourages rapid acquisition through intensive exposure to Portuguese while following a proficiency-oriented approach. Recommended for students with a background in Spanish or another Romance language. *Recommended Preparation:* at least two years or equivalent of formal study of either Spanish or another Romance language, and/or fluent or native speakers of Spanish or a Romance language, including heritage speakers of Portuguese Instruction Mode: Lecture Grading Option: Letter

PORT 220 Portuguese III
Units: 4 Terms Offered: FaSp Intensive work in listening comprehension, oral communication, reading and writing, with emphasis on free expression; readings related to Portuguese culture and civilization. *Prerequisite:* PORT 150. Instruction Mode: Lecture Grading Option: Letter

PORT 225 Accelerated Portuguese II
Units: 4 Terms Offered: FaSp Continuation of rapid acquisition of Portuguese language. Course follows a proficiency-oriented approach. Recommended for students with a background in Spanish or another Romance language. *Recommended Preparation:* PORT 175 or equivalent. Recommended for students with at least two years or equivalent of formal study of either Spanish or another Romance language. Recommended for fluent or native speakers of Spanish or a Romance language, including heritage speakers of Portuguese. Instruction Mode: Lecture Grading Option: Letter

PORT 240 Portuguese IV
Units: 4 Four-skills course with review of grammar. Writing and reading intensive. Authentic materials related to Lusobrazilian culture and civilization. *Prerequisite:* PORT 220. Instruction Mode: Lecture Grading Option: Letter

PORT 250g Visions of Brazil
Units: 4 Terms Offered: FaSp Comparative study of Brazil in the context of the Lusophone (Portuguese-speaking) world, especially Portugal's former colonies in Africa. Materials drawn from literature, visual culture, music and cultural theory. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

PORT 300 Introduction to Social and Literary Studies
Units: 4 Terms Offered: FaSp A third year Portuguese course aimed at advanced-level students in Portuguese. Examines and reviews the more complex Portuguese grammatical points, usage, and provide the students further opportunity to perfect their reading, writing and speaking abilities. *Prerequisite:* PORT 120 and PORT 150 and PORT 220 and PORT 240 Instruction Mode: Lecture Grading Option: Letter

PORT 302 Introduction to Brazilian Literature
Units: 4 Terms Offered: FaSp An introduction to Brazilian literature and culture exploring how Brazil has been understood and represented through spatial categories that have become, as it were, "common places" in Brazilian literary studies: the rural Brazil of the backlands, the tropical Brazil of the Amazon, the urban and cosmopolitan Brazil of the large cities, and how they relate to questions of identity and difference in the context of Brazilian society. *Prerequisite:* PORT 120 and PORT 150 and PORT 220 and PORT 240 *Recommended Preparation:* PORT 300 Instruction Mode: Lecture Grading Option: Letter

PORT 316 Portuguese for Business and the Professions
Units: 4 Terms Offered: FaSp Aimed at advanced-level students in Portuguese who wish to develop a working knowledge of Portuguese for business and/or for the professions. *Prerequisite:* PORT 240 *Recommended Preparation:* PORT 300 Instruction Mode: Lecture Grading Option: Letter

PORT 342 Brazilian Cinema
Units: 4 Terms Offered: FaSp Survey of Brazilian cinema, designed to introduce students to major themes and issues within Brazilian studies through the examination of important Brazilian films within their historical, social and political contexts. *Prerequisite:* PORT 120 and PORT 150 and PORT 220 and PORT 240 *Recommended Preparation:* PORT 300 Instruction Mode: Lecture Grading Option: Letter

PORT 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PORT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Political Science

POSC 100g Theory and Practice of American Democracy
Units: 4 Terms Offered: FaSpSm Theoretical, institutional, and functional aspects of American national, state, and local government and politics; contemporary issues. Recommended

for freshmen and sophomores. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 110g Ideology and Political Conflict
Units: 4 Modern political ideologies; their assumptions, perceptions, and prescriptions regarding political stability and social injustice: anarchism, communism, socialism, liberalism, conservatism, and fascism. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 120 Comparative Politics
Units: 4 Gateway to the major in political science. Comparative analysis of political institutions and processes in selected industrial, developing and socialist countries, in terms of contrasting ideologies, parties, elites, and economies. Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 130g Law, Politics and Public Policy
Units: 4 Interaction between law and politics; overview of the American legal system; value conflicts and public policy questions which arise within it. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 165g Modern Times
Units: 4 Explores the current major social and political issues that confront scholars, leaders, and citizens in today's modern world. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 190a Politics and Society
Units: 4 Honors seminar for freshmen and sophomores. Instruction Mode: Lecture Grading Option: Letter

POSC 190b Politics and Society
Units: 4 Continuation of work begun in first semester. Instruction Mode: Lecture Grading Option: Letter

POSC 201x Law and Politics
Units: 4 (Enroll in LAW 201)

POSC 210gmw Social Analysis of Gender
Units: 4 Terms Offered: FaSp (Enroll in SWMS 210) Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World

POSC 220g Critical Issues in American Politics: Presidential Election in Real Time
Units: 4 Terms Offered: FaSpSm Examination of enduring political issues, as well as the political processes and institutions. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 248gw Human Rights
Units: 4 Terms Offered: FaSpSm Overview of human rights controversies across the globe. Introduction to techniques of analysis for social issues, interdisciplinary research methods, and interpretation of complex political problems. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 250 Critical Issues in Comparative Politics
Units: 4 Critical analysis of major issues in comparative politics such as dependency, crises in political legitimacy, political violence and terrorism, political corruption, genocide, and comparative revolutions. Instruction Mode: Lecture Grading Option: Letter

POSC 255g Cultures, Civilizations and Ethnicities in World Politics
Units: 4 Theories and case studies of conflict and coexistence between cultures, civilizations and ethnic groups in the context of the countervailing force of Western socio-economic globalization. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

POSC 260 Global Ethnic Politics
Units: 4 A comparative analysis of multi-ethnic societies through case studies of inter-ethnic conflict and coexistence, conflict resolution, prevention of genocide and defense of human rights. Instruction Mode: Lecture Grading Option: Letter

POSC 265gw Environmental Challenges
Units: 4 Terms Offered: Fa Examination of the challenges of environmental problem-solving at the personal, local, national and global scales, focused on the issue of climate change. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 270 Introduction to Environmental Law and Politics
Units: 4 Terms Offered: Sp Overview of environmental policy, law and politics at the international, domestic and local levels. Social science gateway to the environmental studies major. *Prerequisite:* ENST 100. Duplicates Credit in POSC 347. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-270

POSC 300 Principles, Institutions, and Great Issues of American Democracy
Units: 4 Underlying principles of American democracy; major issues of contemporary public policy in national and state institutions. Instruction Mode: Lecture Grading Option: Letter

POSC 311 Political Analysis
Units: 4 Methodological and theoretical problems of micro-analytic studies in political science. Techniques of data collection and assimilation. Instruction Mode: Lecture Grading Option: Letter

POSC 315 Regulation of Elections and Political Finance
Units: 4 The role money plays in elections and public decisions: disclosure requirements, limits on campaign contributions and expenditures, regulation of radio/television time, tax incentives, public funding. Instruction Mode: Lecture Grading Option: Letter

POSC 320 Urban Politics
Units: 4 Evolution of contemporary institutions; differing views of community power; major policies; state and federal relations to local governments; metropolitan community problems. Instruction Mode: Lecture Grading Option: Letter

POSC 321 Urban Political Problems
Units: 4 Social problems and governmental policy in the urban environment, emphasizing such problem areas as education, environment, race, police and the system of criminal justice, and poverty. Instruction Mode: Lecture Grading Option: Letter

POSC 322 Social Construction of Race and Citizenship
Units: 4 Terms Offered: FaSp (Enroll in AMST 320)

POSC 323 Applied Politics
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Provides students with the knowledge and skills necessary to become active in politics based on understanding the history, theory, and practices of public participation. Instruction Mode: Lecture Grading Option: Letter

POSC 325 State Politics
Units: 4 American state politics from a comparative perspective. Examines political processes, differing policy outcomes and the impact of social change on system performance. Instruction Mode: Lecture Grading Option: Letter

POSC 326 Case Studies in Modern Leadership
Units: 4 Terms Offered: FaSp (Enroll in MDA 325)

POSC 328 Asian American Politics
Units: 4 Terms Offered: FaSp Examines political attitudes, behavior and participation of Asian Americans in diverse U.S. society. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-328

POSC 333 Stigma and Society: Physical Disability in America
Units: 4 Political activity involving disabled persons; development of public policy regarding disabled citizens. Duplicates Credit in former POSC 233. Instruction Mode: Lecture Grading Option: Letter

POSC 334 Interest Groups and Elite Behavior
Units: 4 Introduction to interest group and elite views of the American system, including recent interest group theory and findings and the general critiques of power distribution in American society. Instruction Mode: Lecture Grading Option: Letter

POSC 335 Political Parties, Campaigns, and Elections
Units: 4 Organization and function of political parties, nominations and elections, strategy and tactics of campaigning, professional candidate management finance, political machines, voting behavior. Instruction Mode: Lecture Grading Option: Letter

POSC 340 Constitutional Law
Units: 4 Development of constitutional law by the courts; leading cases bearing on major constitutional issues; the federal system; powers of government;

civil liberties. Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 345 International Law
Units: 4 Nature, origin, and development of international law; basic principles analyzed and illustrated with cases. Instruction Mode: Lecture Grading Option: Letter

POSC 347 Environmental Law
Units: 4 Introduces students to central concepts and theories in environmental law and regulation; analyzes present environmental laws and regulations. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-347

POSC 349 Women and the Law
Units: 4 Terms Offered: Fa (Enroll in SWMS 349)

POSC 350 Politics of Latin America
Units: 4 Theories of development and nation-building; revolutionary and evolutionary modernization; role of history, culture, socioeconomic conditions in affecting political structures and functions. Instruction Mode: Lecture Grading Option: Letter

POSC 351 Middle East Politics
Units: 4 Political development in the Middle East, emphasizing historical, cultural, and socioeconomic conditions affecting political structures and functions; modernization and countervailing social, economic, and religious forces. Instruction Mode: Lecture Grading Option: Letter

POSC 352 Politics of Southeast Asia
Units: 4 Theories of development and nation-building; revolutionary and evolutionary modernization; role of history, culture, socioeconomic conditions in affecting political structures and functions. Instruction Mode: Lecture Grading Option: Letter

POSC 354 Japanese Politics
Units: 4 Contemporary Japanese politics, political economy, and political processes. How political systems are organized; roles of bureaucrats, politicians, interest groups, and social activists in policymaking. *Recommended Preparation:* POSC 120. Instruction Mode: Lecture Grading Option: Letter

POSC 355 Politics of East Asia
Units: 4 Institutions and processes of advanced societies; political culture, interest articulation and aggregation, the governmental process. Instruction Mode: Lecture Grading Option: Letter

POSC 356 Politics in the People's Republic of China
Units: 4 The Chinese revolution; social, political, and economic developments in post-1949 China; China after Mao Zedong (Mao Tse-tung). Instruction Mode: Lecture Grading Option: Letter

POSC 358 Politics of Sub-Sahara Africa
Units: 4 Theories of development and nation-building; revolutionary and evolutionary modernization; role of history, culture, socioeconomic conditions in affecting political structures and functions. Instruction Mode: Lecture Grading Option: Letter

POSC 360 Comparative Political Institutions
Units: 4 Terms Offered: FaSpSm Institutions and processes of advanced industrial societies; political culture, interest articulation and aggregation, the governmental process. Instruction Mode: Lecture Grading Option: Letter

POSC 363 Cities and Regions in World Politics
Units: 4 Cities and the rise of states; globalization and localization; federalism and decentralization; comparative politics of urban regions in developed and developing countries. *Recommended Preparation:* comparative or urban politics. Instruction Mode: Lecture Grading Option: Letter

POSC 365 World Political Leadership
Units: 4 Comparative analysis of theories of power and leadership; application to leaders from western democracies, Third World, and socialist countries. Societal consequences of their policies. Instruction Mode: Lecture Grading Option: Letter

POSC 366 Terrorism and Genocide
Units: 4 Comparative analysis of the determinants of political violence, terrorism, and genocide and their social and moral consequences; application of theories to contemporary case studies. Instruction Mode: Lecture Grading Option: Letter

POSC 370 European Political Thought I
Units: 4 Basic concepts of Western political thought from Plato through the contract theorists. Instruction Mode: Lecture Grading Option: Letter

POSC 371 European Political Thought II
Units: 4 Western political thought since the French Revolution. Rise of Marxist socialism, communism, anarchism, fascism, National Socialism, other doctrines; the democratic tradition; new theories of the state. Instruction Mode: Lecture Grading Option: Letter

POSC 374 The American Founders: Visions, Values and Legacy
Units: 4 Analysis of the political thought of the American Founders; consideration of alternative visions of patriarchalism, republicanism, and liberal democracy; exploration of Founders' core values and their impact on issues of race, class, and gender. Instruction Mode: Lecture Grading Option: Letter

POSC 375 American Political Thought
Units: 4 Historical and topical review of American political philosophy from the Puritans to the present. Special emphasis on such recurrent themes as equality, democracy, and racism. Instruction Mode: Lecture Grading Option: Letter

POSC 377 Asian Political Thought
Units: 4 Major systems of political thought in Chinese, Japanese, and other Asian cultural traditions. Confucianism, Buddhism, Islam, and other classical systems and their present-day adaptations under the impact of communism and democracy. Instruction Mode: Lecture Grading Option: Letter

POSC 380 Political Theories and Social Reform
Units: 2, 4 Political theories and philosophies in modern times and their relation to public policy and social reform. Instruction Mode: Lecture Grading Option: Letter

POSC 381 Sex, Power, and Politics
Units: 4 An evaluation of the ways in which different ideologies, institutions, and policies contribute to differences in political power between men and women. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-381

POSC 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

POSC 391 Honors I: Undergraduate Seminar
Units: 4 Terms Offered: Fa Selected topics in designated area of political science. Discussion of readings and presentation of papers. Instruction Mode: Lecture Grading Option: Letter

POSC 392 Honors II: Undergraduate Thesis
Units: 4 Terms Offered: Sp Thesis written under supervision, based on research begun in Honors I. Instruction Mode: Lecture Grading Option: Letter

POSC 395 Directed Governmental and Political Leadership Internship
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Intensive experience in governmental and political offices. Minimum time requirement; evaluation by office and intern report required. Permission of the Director of the Institute of Politics and Government required. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-396

POSC 398L Trial Advocacy: Theory and Practice
Units: 1, 2, 4 Max Units: 8.0 Terms Offered: FaSp Course covering substantive law, evidence, public speaking and use of societal mores in courtroom advocacy. Registration Restriction: Open only to Mock Trial team members. Instruction Mode: Lecture Grading Option: Letter

POSC 410x Political Fellows Seminars
Units: 2, 4, 6, 8 Max Units: 08 Terms Offered: FaSp Political practitioners will teach on topics such as political strategy, campaigns and speechwriting. Credit Restriction: Not available for Political Science major credit Instruction Mode: Lecture Grading Option: Credit/No Credit

POSC 418 Environmental Sustainability and Public Participation
Units: 4 Examines civic participation in international, national, and local environmental politics and sustainability efforts. Instruction Mode: Lecture Grading Option: Letter

POSC 420 Practicum in the American Political Process
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Fieldwork in governmental institutions and processes. Instruction Mode: Lecture Grading Option: Letter

POSC 421 Ethnic Politics
Units: 4 Analysis of the political behavior and roles of ethnic and racial groups in the American political system; public policy issues and patterns of political action are examined. Instruction Mode: Lecture Grading Option: Letter

POSC 422 Political Attitudes and Behavior
Units: 4 The citizen's political world; political socialization, opinion formation and dissemination; development of political cultures and subcultures; political mobilization; personality and politics.

Instruction Mode: Lecture Grading Option: Letter

POSC 423 Presidents and the Presidency
Units: 4 Presidential coalition; sources of presidential power; recent leadership styles; decision-making within the presidency. Instruction Mode: Lecture Grading Option: Letter

POSC 424m Political Participation and American Diversity
Units: 4 Terms Offered: Fa Examines how diverse groups in the U.S. interact with the American political system. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-424

POSC 425 Legislative Process
Units: 4 Individual behavior and decision-making within legislatures; changing executive-legislative functions; legislative functions; relationships to political systems in comparative perspective. Instruction Mode: Lecture Grading Option: Letter

POSC 426 The United States Supreme Court
Units: 4 Role of the court in American politics; overview of major decisions; the politics of appointment; the process of decision-making; impact of judicial decisions. *Recommended Preparation:* POSC 130. Instruction Mode: Lecture Grading Option: Letter

POSC 427 Black Politics in the American Political System
Units: 4 The effects of the organization of the American political system and its operations on blacks and other minorities. Instruction Mode: Lecture Grading Option: Letter

POSC 428 Latino Politics
Units: 4 Terms Offered: Fa Analysis of the historic and contemporary roles of Latinos in the American political system; patterns of political participation and representation are examined. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-428

POSC 430 Political Economy of Mexico
Units: 4 Examination of contemporary Mexico: the role of the state in the Mexican economy; development of the government party and opposition groups. Instruction Mode: Lecture Grading Option: Letter

POSC 431 Political Economy of Central America
Units: 4 Focus on economic, social, and political structures and processes in the region and in specific countries, especially Guatemala, El Salvador, and Nicaragua. Instruction Mode: Lecture Grading Option: Letter

POSC 432 Politics of Local Criminal Justice
Units: 4 Roles and behavior of major legal and political participants in the criminal justice system including the police, the legal profession, judges, and the public. Instruction Mode: Lecture Grading Option: Letter

POSC 435 Politics and the Economy
Units: 4 Major techniques, politics, and values involved in the allocation of social and economic resources. Includes such topics as determination of priorities in budgetary processes, economic regulation, control of environmental change, and policies for science. Instruction Mode: Lecture Grading Option: Letter

POSC 436 Environmental Politics
Units: 4 The political realities of selected environmental issues; resolving and implementing social priorities; interests, attitudes, strategies, and tactics of pressure groups; institutional biases and opportunities. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-436

POSC 437 Mass Media and Politics
Units: 4 Analysis of political content of mass media. Audience response to alternative sources of political information. Consideration of the institutional and economic as well as political aspects of the mass media. Instruction Mode: Lecture Grading Option: Letter

POSC 439 Critical Issues in American Politics
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive examination of critical issues of particular interest in the field of American politics. Instruction Mode: Lecture Grading Option: Letter

POSC 440 Comparative Law and the Judicial Process
Units: 4 Analysis of courts in comparative perspective; judicial decision-making and development of public policy through the judicial process; theories of law and jurisprudence. *Recommended Preparation:* POSC 340. Instruction Mode: Lecture Grading Option: Letter

POSC 441m Cultural Diversity and the Law
Units: 4 Jurisprudential approach to the study of cultural differences. Consideration of circumstances under which law should accommodate cultural diversity in the United States and abroad. Instruction Mode: Lecture Grading Option: Letter

POSC 442m The Politics of Human Differences: Diversity and Discrimination
Units: 4 A comparative perspective on social and cultural forces that affect American laws and policies concerning discrimination on the basis of race or ethnicity, gender, sexual orientation, age, and disability. Instruction Mode: Lecture Grading Option: Letter

POSC 443 Law in Film
Units: 4 Analysis of the depiction of law in film; use of film to explore topics in jurisprudence and the politics of law and courts. *Recommended Preparation:* POSC 130. Instruction Mode: Lecture Grading Option: Letter

POSC 444 Civil and Political Rights and Liberties
Units: 4 An examination of debates and controversies surrounding the nature and scope of civil rights and civil liberties. *Recommended Preparation:* POSC 340 or POSC 440. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LAW-444

POSC 446 Global Bioethics and Human Rights
Units: 4 Terms Offered: FaSp Overview of historical and contemporary issues in global bioethics law and policy. Instruction Mode: Lecture Grading Option: Letter

POSC 447 Global Justice: Interdisciplinary Perspectives
Units: 4 Terms Offered: FaSp Classical and contemporary theories of justice, from an interdisciplinary perspective. Instruction Mode: Lecture Grading Option: Letter

POSC 448a The Politics of Peace
Units: 4 Issues of social justice, large-scale social change, high technology, impacts on human survival, and uses of national and international institutions. Human rights. Instruction Mode: Lecture Grading Option: Letter

POSC 448b The Politics of Peace
Units: 4 Issues of social justice, large-scale social change, high technology, impacts on human survival, and uses of national and international institutions. Arms limitation, control, and disarmament. Instruction Mode: Lecture Grading Option: Letter

POSC 449 Political Psychology
Units: 4 Psychological forces shaping politics and persons, processes and interactions; emphasis on political socialization and cognitive and affective orientations to politics. Instruction Mode: Lecture Grading Option: Letter

POSC 450 Political Development
Units: 4 Choice of models in nation-building; party and other means of mass mobilization; elite recruitment and differentiation; peculiarities of cultures and subcultures; integration of ethnic and other minorities; political socialization and secularization; legitimization. Instruction Mode: Lecture Grading Option: Letter

POSC 451 Politics of Resources and Development
Units: 4 Comparison of relationships between rich and poor countries involving political and economic resources and prospects for development; impact on industrialized states; interdependence; new international economic order. Instruction Mode: Lecture Grading Option: Letter

POSC 452 Critical Issues in Law and Public Policy
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive examination of special topics in the field of law and public policy. Instruction Mode: Lecture Grading Option: Letter

POSC 453 Political Change in Asia
Units: 4 Modernization and political development in China and Japan; Asia's economic "miracles" (Taiwan, Japan, Korea, etc.); nationalism and communist movements in East and Southeast Asia. Instruction Mode: Lecture Grading Option: Letter

POSC 456 Women in International Development
Units: 4 How various developmental theories analyze the role of women as producers and how Third World women are increasing their role in development. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-456

POSC 463 European Politics
Units: 4 Institutions, cultures and politics of western Europe, eastern Europe and Russia; internationalization; historical and contemporary political, economic, and social change. Instruction Mode: Lecture Grading Option: Letter

POSC 464 Politics of Russia and Eastern Europe
Units: 4 Culture, society, and politics in Russia and in Eastern Europe. Contemporary political institutions and processes. Instruction Mode: Lecture Grading Option: Letter

POSC 469 Critical Issues in Comparative Politics
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive examination of critical issues of particular interest in the field of comparative politics. Instruction Mode: Lecture Grading Option: Letter

POSC 475 The Future of California
Units: 4 (Enroll in MDA 475)

POSC 476 Contemporary Political Thought
Units: 4 20th century political philosophy dealing with major movements in psychological, existential, socialist, and nationalist thought as they bear upon the crisis of political authority in our time. Instruction Mode: Lecture Grading Option: Letter

POSC 479 Critical Issues in Political Thought
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive examination of critical issues of particular interest in the field of political thought. Instruction Mode: Lecture Grading Option: Letter

POSC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

POSC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

Policy, Planning, and Development

PPD 100m Los Angeles, The Enduring Pueblo
Units: 4 Terms Offered: FaSp Gateway to the minor in Planning and Development. Ethnic history of Los Angeles, emphasis placed on architecture, planning, and development. Multiplicity of cross-connections shaped by race, ethnicity, religion, gender, and sexual orientation. Duplicates Credit in former PLDV 100. Instruction Mode: Lecture Grading Option: Letter

PPD 203 Economic Analysis for Public Policy
Units: 4 Economic foundations for public policy analysis; concepts of efficiency and equity, analysis of market failure and policy interventions; challenges in policy-making. *Corequisite:* MATH 117 Instruction Mode: Lecture Grading Option: Letter

PPD 225 Public Policy and Management
Units: 4 Terms Offered: FaSp Institutions, legal context, and processes of public policy and management. Contemporary theories of public policy formulation, implementation, and evaluation. Public managerial challenges and reforms. Instruction Mode: Lecture Grading Option: Letter

PPD 227 Urban Planning and Development
Units: 4 Terms Offered: FaSp Gateway to BS, Public Policy, Management and Planning and minor in Planning and Development. City building and development process; who plans, politics of planning and development; major topics include land use, fiscal policy, transportation, sustainability, and economic development. Instruction Mode: Lecture Grading Option: Letter

PPD 240g Citizenship and Public Ethics
Units: 4 Terms Offered: Fa, Sp Review of legal and ethical traditions of citizenship with emphasis on the latter; consideration of implications for current practice of public policy-making and management. Satisfies New General Education in Category C: Social Analysis Duplicates Credit in former PPMT 240. Instruction Mode: Lecture Grading Option: Letter

PPD 245g The Urban Context
Units: 4 Terms Offered: Fa The urban context for planning and policy decisions. Socioeconomic, physical and spatial structure of cities; and the underlying demographic, economic and social processes that drive their ongoing transformation. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

PPD 250m Cities in the Developing World
Units: 4 Terms Offered: FaSp The transition from traditional to modern cities in the developing world. Primacy and dualism; comparative urbanism as an expression of cultural variation; contrast in Western cities. Instruction Mode: Lecture Grading Option: Letter

PPD 300 Social Justice Issues in Public Policy and Urban Planning
Units: 4 Terms Offered: FaSp Social justice issues through the lens of public policy and urban planning with main focus on Los Angeles; critical thinking skills about the fields and their relevance to social justice Registration Restriction: Open only to BS, Public Policy and BS, Urban Studies and Planning students Instruction Mode: Lecture Grading Option: Letter

PPD 301 PPD Practices: Internship Seminar
Units: 2 Terms Offered: FaSpSm Policy, planning, and development skills for practice; internship seminar; leadership, group dynamics and presentation skills; application of management; organizational diversity; reflection on experiences. Duplicates Credit in RED 201 and RED 301 Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 303 Statistics for Policy, Planning, and Development
Units: 4 Terms Offered: FaSpSm Statistical applications applied to the real world; techniques including probability, sampling; hypothesis formation and testing; correlation, and linear regression. *Prerequisite:* MATH 117g Duplicates Credit in PPD 404 Instruction Mode: Lecture Grading Option: Letter

PPD 306 Visual Methods in Policy, Management, Planning and Development
Units: 4 Terms Offered: FaSp Introduction to graphic design, photodocumentation, and geographic information systems as employed in planning, policy, and development. Visual explanations. Computer and by-hand applications. Duplicates Credit in former PLDV 410. Instruction Mode: Lecture Grading Option: Letter

PPD 313 Finance of the Public Sector
Units: 4 Terms Offered: FaSp Justifications for and effects of government policies; tax and spending sides of government budgets; public goods; externalities; social insurance; redistribution and welfare; tax policy. *Prerequisite:* ECON 203. Duplicates Credit in former PPMT 313. Instruction Mode: Lecture Grading Option: Letter

PPD 314 Public Policy and Law
Units: 4 Terms Offered: Fa Institutional foundations and analysis of public policy issues; policy formulation and implementation; application of theories; case analyses. Instruction Mode: Lecture Grading Option: Letter

PPD 315 Analytic Foundations for Public Policy
Units: 4 Terms Offered: Sp Qualitative methods of analysis; ethical and political implications of policy choices; issue diagnosis and policy design skills; critical reasoning and ethics; policy leadership. Instruction Mode: Lecture Grading Option: Letter

PPD 316 Human Resource Management for Public Organizations
Units: 4 Terms Offered: FaSp Human resource development and management; values and processes in civil service career systems; training practices; human relations in supervision; personnel theory. Duplicates Credit in former PPMT 316. Instruction Mode: Lecture Grading Option: Letter

PPD 318 Financial Accounting in Public and Nonprofit Organizations
Units: 4 Terms Offered: FaSp Basic accounting principles and concepts necessary for the preparation and understanding of financial statements; accounting for service organizations in the public/nonprofit sector; fund accounting. Duplicates Credit in former PPMT 351. Instruction Mode: Lecture Grading Option: Letter

PPD 320 Organizational Behavior in Public Administration
Units: 4 Terms Offered: FaSp Understanding human behavior in public organization: motivation, roles, communication; group behavior and decision-making in public context; managing conflict; leadership and change in public complex organizational systems. Duplicates Credit in former PPMT 485. Instruction Mode: Lecture Grading Option: Letter

PPD 325 Fundamentals of Health Policy and Management
Units: 4 Terms Offered: FaSp Learning the institutions of health care delivery and financing; evaluating key health policy issues; understanding and using economic, statistical and mathematical tools as ways to inform health policy issues. Duplicates Credit in former PPD 230 Instruction Mode: Lecture Grading Option: Letter

PPD 330 Introduction to Health Care Systems
Units: 4 Terms Offered: Sp Concepts and determinants of health and illness; health care delivery organizations and programs; the role of the administrator; issues in health care financing and access; quality

evaluation; future trends. Duplicates Credit in former PPMT 330. Instruction Mode: Lecture Grading Option: Letter

PPD 340 The American System of Justice
Units: 4 Terms Offered: Irregular Introduction to the system of justice administration: components — police services, judiciary, corrections; interrelationships and issues; management strategies for change. Duplicates Credit in former PPMT 340. Instruction Mode: Lecture Grading Option: Letter

PPD 342 Crime and Public Policy
Units: 4 Terms Offered: Fa Public policy agenda-setting, alternatives formulation, and implementation for crime and criminal justice; analysis of specific issues including crime control, death penalty and gun control. Duplicates Credit in former PPMT 342. Instruction Mode: Lecture Grading Option: Letter

PPD 343 Terrorism, Homeland Security, and Public Policy
Units: 4 Terms Offered: Fa Overview of terrorism, government policies and practices, issues of civil liberties, challenges to public sector management. Instruction Mode: Lecture Grading Option: Letter

PPD 344 Environmental Policy and Sustainable Development
Units: 4 Introduction to critical issues of environmental policy in looking toward a more sustainable future; the science and policy of climate change; equity and justice; the greening of industry, governing for sustainable development; policy tools in addressing issues of environmental protection and sustainability. Instruction Mode: Lecture Grading Option: Letter

PPD 353 Philanthropy and Social Change
Units: 4 Terms Offered: Fa History, theories, philosophies, and practices of philanthropy; relationship between philanthropy and nonprofit world; grant-making procedures and relation to social innovation. Instruction Mode: Lecture Grading Option: Letter

PPD 357 Government and Business
Units: 4 Terms Offered: FaSp Interrelated roles of business and public institutions; effects of public policies and laws on business sector; incorporates public and business perspectives. *Prerequisite:* ECON 203. Duplicates Credit in former PPMT 357. Instruction Mode: Lecture Grading Option: Letter

PPD 358 Urban and Regional Economics
Units: 4 Terms Offered: Fa Basic concepts of urban and regional economies; how planners intervene in the urban market; housing, transportation, public goods; land use politics; fiscal issues; cost-benefit analysis. Duplicates Credit in former PLDV 402. Instruction Mode: Lecture Grading Option: Letter

PPD 360 Urban Transportation Planning and Policy
Units: 4 Terms Offered: Sp Current transportation planning and policy critiques. Transportation planning; the relationship to urban structure; conventional and para-transit modes; analysis of local plans. Duplicates Credit in former PLDV 480. Instruction Mode: Lecture Grading Option: Letter

PPD 361 Sustainable Communities, Policy and Planning
Units: 4 Terms Offered: FaSp Policy and planning as shaped by sustainability theories; sustainability indicators; topics include water resources, air quality, land use regulations, environmental design, carrying capacity, ecological footprint analysis. Duplicates Credit in former PPD 461 Instruction Mode: Lecture Grading Option: Letter

PPD 364 Technology and the City
Units: 4 Terms Offered: Sp Smart cities; connectivity and technological innovation; effects of technology on infrastructure management and efficiency; how public policy has responded to technological change and identify best practices; case studies on the impact of technology on cities. Instruction Mode: Lecture Grading Option: Letter

PPD 371 The Nonprofit Sector and the Public Interest
Units: 4 Terms Offered: Fa Theories of the voluntary nonprofit sector in society and its relationship to government and business; public policies toward the sector. Duplicates Credit in former PPMT 371. Instruction Mode: Lecture Grading Option: Letter

PPD 372m Public Service in an Urban Setting
Units: 4 Terms Offered: Sp Voluntary service in an urban, multicultural context: diverse meanings and practices, history, motivations, relationship to charity and change, dilemmas, public policies; service learning project required. Duplicates Credit in former PPMT 372. Instruction Mode: Lecture Grading Option: Letter

PPD 373 Public Policy and Planning Analysis
Units: 4 Terms Offered: FaSp Applied analytic modeling and data manipulation; visual presentation; interpretation of data; needs assessment and market failure analysis; indexing; extrapolation and simple forecasting; simple risk analysis; benefit-cost analysis. *Prerequisite:* ECON 203, PPD 225, PPD 303. Duplicates Credit in the former PPD 473. Instruction Mode: Lecture Grading Option: Letter

PPD 380a International Perspectives on Urban Problem Solving
Units: 4 Terms Offered: Irregular Research on comparative urban public policy and administration utilizing case study approach; field research includes study in various foreign cities. Duplicates Credit in former PPMT 412ab. Instruction Mode: Lecture Grading Option: Letter

PPD 380b International Perspectives on Urban Problem Solving
Units: 4 Terms Offered: Irregular Research on comparative urban public policy and administration utilizing case study approach; field research includes study in various foreign cities. Duplicates Credit in former PPMT 412ab. Instruction Mode: Lecture Grading Option: Letter

PPD 382 International Development
Units: 4 Terms Offered: FaSp Definitions and measurements of development; impact of globalization; concept and practice of international and development administration and planning at local, national, and global governance levels. Duplicates Credit in former PLDV 405. Instruction Mode: Lecture Grading Option: Letter

PPD 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former PLDV 390 and PPMT 390. Instruction Mode: Lecture Grading Option: Letter

PPD 400 Topics in Public Policy and Urban Studies
Units: 4 Terms Offered: FaSp Seminar in cross cutting topics in public policy and urban studies that engages students with faculty and scholars in interdisciplinary research and analysis of key problems and issues in the fields Registration Restriction: Open only to BS, Public Policy and BS, Urban Studies and Planning majors Instruction Mode: Lecture Grading Option: Letter

PPD 402 Management of Public and Nonprofit Organizations
Units: 4 Terms Offered: Fa Contemporary management theory; the nature of complex organizations; organizational and intergovernmental arrangements; roles and responsibilities of managers; managerial and organizational effectiveness; organizational structure and dynamics. Instruction Mode: Lecture Grading Option: Letter

PPD 403 Management Analysis I
Units: 4 Terms Offered: Sp Introduction to organizational and systems analysis; historical perspective; systems theory; information systems, procedure analysis; management planning; introduction to models. Duplicates Credit in former PPMT 403. Instruction Mode: Lecture Grading Option: Letter

PPD 404 Empirical Methods for Public Policy
Units: 4 Terms Offered: FaSp Introduction to multivariate regression analysis for policy analysis; course begins with Ordinary Least Squares (OLS) estimation and covers some advanced topics such as panel data and experimental methods; application of these tools in a variety of policy contexts such as education, labor, and health. *Prerequisite:* PPD 303 Instruction Mode: Lecture Grading Option: Letter

PPD 405 Fundraising for Policy and Planning
Units: 2 Terms Offered: Sp Fundraising in the nonprofit sector; role and structure of philanthropy; strategic issues in the solicitation of private funds for the public good; effect of fundraising on behavior of institutions. Instruction Mode: Lecture Grading Option: Letter

PPD 407 Financial Management of Public and Nonprofit Organizations
Units: 4 Terms Offered: Sp Time value of money, risk, government bonds and tax-exempt financing, cost of capital, budgeting, financial statement analysis, and working capital management. Instruction Mode: Lecture Grading Option: Letter

PPD 410 Comparative Urban Development
Units: 4 Terms Offered: Sp Urbanization and urban development and growth through an international scope; globalizing cities. Instruction Mode: Lecture Grading Option: Letter

PPD 411a Sacramento Semester
Units: 4 Terms Offered: Irregular Exploration of political, economic, and administrative climate of the state government; basic processes and functions considered through seminars, research projects, visitations, group discussions, and internships. Duplicates Credit in former PPMT 411abcd. Instruction Mode: Lecture Grading Option: Letter

PPD 411b Sacramento Semester
Units: 4 Terms Offered: Irregular Exploration of political, economic, and administrative climate of the state government; basic processes and functions considered through seminars, research projects, visitations, group discussions, and internships. Duplicates Credit in former PPMT 411abcd. Instruction Mode: Lecture Grading Option: Letter

PPD 411c Sacramento Semester
Units: 4 Terms Offered: Irregular Exploration of political, economic, and administrative climate of the state government; basic processes and functions considered through seminars, research projects, visitations, group discussions, and internships. Duplicates Credit in former PPMT 411abcd. Instruction Mode: Lecture Grading Option: Letter

PPD 411d Sacramento Semester
Units: 4 Terms Offered: Irregular Exploration of political, economic, and administrative climate of the state government; basic processes and functions considered through seminars, research projects, visitations, group discussions, and internships. Duplicates Credit in former PPMT 411abcd. Instruction Mode: Lecture Grading Option: Letter

PPD 412L GeoDesign Practicum
Units: 4 Terms Offered: FaSp (Enroll in SSCI 412)

PPD 413 Administration of Health Care Organizations
Units: 4 Terms Offered: Sp Theory and practice; role of governing bodies, medical staffs and quality review committees; current trends; community responsibility; regulatory and oversight agencies. Duplicates Credit in former PPMT 439. Instruction Mode: Lecture Grading Option: Letter

PPD 414 Community Health Policy and Planning
Units: 4 Terms Offered: Sp Historical perspectives on and the contemporary practice of community health planning; impact of culture, socioeconomics, and environment; policy dimensions; urban planning's role in enhancing and sustaining health. Instruction Mode: Lecture Grading Option: Letter

PPD 415 Health Policy
Units: 4 Terms Offered: Sp Health policy analysis and challenges; price of health; structure of major sectors in health care; role of insurance in policy debates; trade-offs with policy decisions. *Prerequisite:* PPD 325. Instruction Mode: Lecture Grading Option: Letter

PPD 416 Food Policy and Planning
Units: 2 Terms Offered: Sp Key issues related to the practice of food system planning; practice of creating and implementing food policies; understanding of food systems; issues around community food governance. Instruction Mode: Lecture Grading Option: Letter

PPD 420 Environmental Impact Assessment
Units: 4 Terms Offered: Sp Exploration of the role of the National Environmental Policy Act and the California Environmental Policy Act; study of environmental impact assessments including the regulatory aspects, stakeholder and participatory processes, and legal framework. Instruction Mode: Lecture Grading Option: Letter

PPD 421 Land Use, Environment, and Housing in Developing Countries
Units: 4 Comparative analysis of issues in the built environment in the US and abroad; development, land use, and the supply of housing; housing affordability; land tenure. Instruction Mode: Lecture Grading Option: Letter

PPD 422 Transportation and Technology and the Future of Mobility
Units: 4 Introduction of the role that technology will play in facilitating shared mobility, disrupting transportation markets, and reshaping multi-modal urban transportation systems; analyses of governance issues; the interaction between private markets and regulators; changes in the nature of infrastructure and urban planning that will be required to accommodate the wired future of transportation. Instruction Mode: Lecture Grading Option: Letter

PPD 427L Geographic Information Systems and Planning Applications
Units: 4 Terms Offered: Fa Basic GIS concepts, ArcView and other GIS software, planning applications and databases, basic cartography; students select, research and prepare a planning GIS analysis project. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PPD 429 Urban Design Practicum
Units: 4 Terms Offered: Irregular Application of design concepts and graphic skills to a local design problem sponsored by a local public or private client in a studio setting; site visits, community contact, presentations. *Prerequisite:* PPD 306, PPD 425 . Duplicates Credit in former PLDV 414. Instruction Mode: Lecture Grading Option: Letter

PPD 430 Urban Informatics
Units: 4 Terms Offered: Sp Introduction to urban informatics including the fundamentals of coding, urban data analysis and statistics, visualization, mapping, smart cities/technology and telling stories with data. Instruction Mode: Lecture Grading Option: Letter

PPD 431 Undergraduate Policy, Planning, and Development Studio
Units: 4 Terms Offered: FaSp Application of methods in the exploration of a specific project, policy, or organization from the multiple perspectives of the five tracks in the undergraduate program. Registration Restriction: Open only to Price School of Public Policy juniors and seniors Instruction Mode: Lecture Grading Option: Letter

PPD 438 Local Economic Development
Units: 4 Terms Offered: Fa Economic development in a capitalist system, historic review, sectoral review, funding, strategizing, partnerships, evaluation; class project. Duplicates Credit in former PLDV 447. Instruction Mode: Lecture Grading Option: Letter

PPD 439 Housing and Community Development
Units: 4 Terms Offered: Fa Evolution of government housing and community development programs; present practices, e.g., housing elements, economic development, neighborhood rehabilitation; housing needs and market analysis; housing and health. Duplicates Credit in former PLDV 440. Instruction Mode: Lecture Grading Option: Letter

PPD 466 Urban Government and Management
Units: 4 Terms Offered: Irregular Preparation and discussion of cases dealing with selected policy areas including transportation, housing, poverty, and environmental quality. Duplicates Credit in former PPMT 427. Instruction Mode: Lecture Grading Option: Letter

PPD 468 Cross-Cultural Negotiations: Communication and Strategy
Units: 4 (Enroll in COMM 468)

PPD 475 The Future of California
Units: 4 (Enroll in MDA 475)

PPD 476 Politics and Administration
Units: 4 Terms Offered: Sp Administrative relationships to the policy processes; influence of political and economic pressures on administrative policy determination; political behavior by administrators; case analysis. Duplicates Credit in former PPMT 486. Instruction Mode: Lecture Grading Option: Letter

PPD 478 Social Innovation
Units: 4 Terms Offered: Fa Strategies and processes of social innovation and change; examination of social change in the market, government, and within the nonprofit sector; dynamics; civic action and activism. Instruction Mode: Lecture Grading Option: Letter

PPD 482 Comparative Public Administration
Units: 4 Terms Offered: Sp Methodology, theories, and models of comparison; functional processes of administration in developing and developed nations compared; role of bureaucracy in development and nation-building; ecology of administration. Duplicates Credit in former PPMT 482. Instruction Mode: Lecture Grading Option: Letter

PPD 485m U.S. Immigration Policy
Units: 4 Terms Offered: Fa Examination of the historical and contemporary components of U.S. immigration policy with emphasis on policies addressing legal permanent immigrants, refugees, asylees, the undocumented. Instruction Mode: Lecture Grading Option: Letter

PPD 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Duplicates Credit in former PLDV 490x and PPMT 490x. Instruction Mode: Lecture Grading Option: Letter

PPD 497a Senior Thesis
Units: 2 Terms Offered: FaSp Writing of the honors capstone project in an area of interest related to the track of study; research and writing skills. Instruction Mode: Lecture Grading Option: Letter

PPD 497b Senior Thesis
Units: 2 Terms Offered: FaSp Writing of the honors capstone project in an area of interest related to the track of study; research and writing skills. Instruction Mode: Lecture Grading Option: Letter

PPD 498 Senior Honors Seminar
Units: 4 Terms Offered: FaSpSm Concepts, theories, and methods of analysis of a selected topic within the fields of public policy, management and planning. Students must have a 3.5 GPA in PPD courses; 3.0 GPA overall. Instruction Mode: Lecture Grading Option: Letter

PPD 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in Policy, Management and Planning. Duplicates Credit in former PLDV 499 and PPMT 499. Instruction Mode: Lecture Grading Option: Letter

PPD 500 Intersectoral Leadership
Units: 2 Roles of public, private, nonprofit, and civil society sectors in policy, planning, and development. Leadership skills in negotiation, conflict resolution, institutional design, problem solving. Instruction Mode: Lecture Grading Option: Letter

PPD 501a Economics for Policy, Planning and Development
Units: 2 Microeconomic theory as applied to policy, planning, and development; concepts of efficiency; macroeconomic issues. Instruction Mode: Lecture Grading Option: Letter

PPD 501b Economics for Policy, Planning and Development
Units: 2 Microeconomic analysis and modeling to incorporate Market failure and issues of uncertainty and information failure; organization models; policy instruments; policy and planning applications. Instruction Mode: Lecture Grading Option: Letter

PPD 502x Statistical Foundations for Public Management and Policy
Units: 2 Terms Offered: FaSp Statistical analysis concepts and reasoning; sampling and data sources; focus on basic statistical applications in public management and policy analysis. Credit Restriction: Not for graduate credit for MHA, MPA, MPP and affiliated degrees. Instruction Mode: Lecture Grading Option: Letter

PPD 503 Economics for Public Policy
Units: 4 Terms Offered: Sp Economic theory as applied to public policy. Concepts of efficiency and equity, analysis of market failure and policy interventions. Duplicates Credit in PPD 501a, PPD 501b Instruction Mode: Lecture Grading Option: Letter

PPD 504 Essential Statistics for Public Management
Units: 2 Terms Offered: FaSpSm Essential statistics for public managers and administrators; application of statistical methods in addressing public policy and management questions. Instruction Mode: Lecture Grading Option: Letter

PPD 505 Modeling for Health Policy and Medical Decision Making
Units: 3 Terms Offered: Fa (Enroll in ISE 505)

PPD 506 Introduction to Microeconomics: Applications in Health
Units: 2 Terms Offered: Fa Key microeconomic concepts and economic fundamentals for health policy and management professionals. Ties economic principles to real-world applications in health and healthcare. Instruction Mode: Lecture Grading Option: Letter

PPD 507 Six-Sigma Methods and Applications
Units: 3 Terms Offered: FaSpSm (Enroll in ISE 507)

PPD 508 Health Care Operations Improvement
Units: 3 Terms Offered: Sp (Enroll in ISE 508)

PPD 509 Problems and Issues in the Health Field
Units: 4 Terms Offered: FaSp Introduction to concepts and facts regarding the healthcare system, healthcare policy, epidemiology and disease trends, prevention, healthcare organizations, personnel, diversity, evidence, delivery systems, population health, financing and reimbursement. Registration Restriction: Open only to graduate students Duplicates Credit in former PUAD 530 Instruction Mode: Lecture Grading Option: Letter

PPD 510a Financial Management of Health Services
Units: 4 Terms Offered: FaSp Accounting principles, financial reports, managerial finance, financial planning, capital investments, working capital analysis; elements of budgeting and reimbursement; performance standards; reporting; developing a management system. *Prerequisite:* PPD 516 *Recommended Preparation:* PPD 504 or competence in statistics Instruction Mode: Lecture Grading Option: Letter

PPD 510b Financial Management of Health Services
Units: 2 Terms Offered: FaSp Changing practices, emerging issues, strategies and innovations in financial planning, management, and regulation; federal and state policies and requirements. *Prerequisite:* PPD 510a and PPD 516 *Recommended Preparation:* PPD 504 or competence in statistics Instruction Mode: Lecture Grading Option: Letter

PPD 511 Health Information Systems
Units: 2 Terms Offered: FaSm Conceptual framework for data base development; relational data management; use of health statistics; health indicators; confidentiality, security, privacy. *Recommended Preparation:* PPD 504 or competence in statistics and PPD 516 or competence in accounting Instruction Mode: Lecture Grading Option: Letter

PPD 512 Health Administration Residency Seminar
Units: 2 Supervised study of health care administration, governance, professional staff relations, internal operations and controls, legal and regulatory requirements, management policy and strategy. *Prerequisite:* PPD 509 Instruction Mode: Lecture Grading Option: Letter

PPD 513 Legal Issues in Health Care Delivery
Units: 2 Terms Offered: FaSp Rights of consumers; health-related powers of governments; rights and responsibilities of health care providers; interrelationships of rights, powers, and responsibilities. *Recommended Preparation:* PPD 509 or substantial prior work experience in health care organizations. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

PPD 514 Economic Concepts Applied to Health
Units: 4 Terms Offered: FaSpSm Relationships between economic characteristics and health status; impact of economy on health services industry; demand and resources for health services; utilization, prices, costs, health insurance. *Prerequisite:* PPD 506 Instruction Mode: Lecture Grading Option: Letter

PPD 515 Strategic Management of Health Organizations
Units: 4 Terms Offered: FaSpSm Application of principles of health administration in several practice settings. Decision-making; strategic management; organizational performance; communication; provider comparisons. *Prerequisite:* (PPD 506 or HMGT 565) and (PPD 545 or HMGT 520) *Recommended Preparation:* PPD 509, PPD 511, PPD 513, PPD 514, PPD 558 Instruction Mode: Lecture Grading Option: Letter

PPD 516 Financial Accounting for Health Care Organizations
Units: 4 Accounting as a management tool; accounting systems; basic accounting concepts and procedures; budgets; financial statements. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

PPD 517 Concepts and Practices in Managing Health Care Organizations
Units: 2 Terms Offered: FaSm Application of principles of health administration. Role of managers; managing people and programs; human resource management concepts and applications; working with professionals; governance; public relations. Instruction Mode: Lecture Grading Option: Letter

PPD 518 Quality of Care Concepts
Units: 2 Terms Offered: Sp Quality issues and complexities affecting health care; fundamentals of quality improvement programs; examination of quality issues and improvement programs in various health care venues; strategies. Instruction Mode: Lecture Grading Option: Letter

PPD 519 Methods and Applications of Health Services Research
Units: 2 Terms Offered: Fa Examination of policy and management issues for empirical research; indicators and measurement of outcomes; impact on policy and management decisions; methodology; analysis of quantitative and qualitative data. *Prerequisite:* PPD 514. Instruction Mode: Lecture Grading Option: Letter

PPD 520 Economic Approaches to Health Policy Analysis
Units: 2 Terms Offered: Sp Evaluation of current major health policy challenges and issues; economic analysis of behavioral responses to change in health care policy; new legislation; policy trade-offs. *Prerequisite:* PPD 514. Instruction Mode: Lecture Grading Option: Letter

PPD 521a Information Technology Management Systems in Health Care
Units: 2 Terms Offered: Sm Principles and methods of systems analysis; assessment; strategic planning, design consideration; e-health and e-commerce system trends; health care information systems application areas; regulatory requirements. *Prerequisite:* PPD 511. Instruction Mode: Lecture Grading Option: Letter

PPD 521b Information Technology Management Systems in Health Care
Units: 2 Terms Offered: Sm Principles and methods of systems analysis; assessment; strategic planning, design consideration; e-health and e-commerce system trends; health care information systems application areas; regulatory requirements. Analytic methods used to develop data-driven solutions; specific problems in health care organizations; integrating data; communicating data; interpretation; exploration of new approaches for improvement. *Prerequisite:* PPD 511. Instruction Mode: Lecture Grading Option: Letter

PPD 522 Planning Theory and History for a Just Society
Units: 4 Terms Offered: Fa Explores the history and theories underlying professional planning practice; evolving theoretical frameworks that will shape the planning field. Focuses on theoretical/historical perspectives on social justice, inclusion, and diversity. Instruction Mode: Lecture Grading Option: Letter

PPD 523 Urban and International Development
Units: 4 Terms Offered: Fa Fundamentals of urban development including role of land markets, externalities, economic analysis of market failures; regulations and stakeholders. Applications to U.S. and international contexts. Instruction Mode: Lecture Grading Option: Letter

PPD 524 Planning Theory
Units: 2 Terms Offered: Fa Development of a critical perspective by becoming more aware of the intellectual roots of the planning profession, with a focus on practical outcomes of actions. Duplicates Credit in former PLUS 501. Instruction Mode: Lecture Grading Option: Letter

PPD 525 Statistics and Arguing from Data
Units: 2 Terms Offered: FaSp Fundamentals of probability and statistics, planning analysis techniques, computing standards, and understanding of the rhetoric related to statistical analysis. Duplicates Credit in former PLUS 502. Instruction Mode: Lecture Grading Option: Letter

PPD 526 Comparative International Development
Units: 2 Terms Offered: Fa Introduction to comparative international development with a focus on regional growth and urban development. Duplicates Credit in former PLUS 505. Instruction Mode: Lecture Grading Option: Letter

PPD 527 The Social Context of Planning
Units: 2 Terms Offered: Sp Examination of the formation of the modern urban environment with its consumer culture, social classes, and racial and ethnic diversity. Duplicates Credit in former PLUS 506. Instruction Mode: Lecture Grading Option: Letter

PPD 528 Physical Planning: Urban and Community Design
Units: 2 Terms Offered: Sp Exploration of the theories and concepts of livable communities and good city form. Introductory basics of design and city form. Case studies of historical and current best practices. Instruction Mode: Lecture Grading Option: Letter

PPD 529 Planning Law and Legal Frameworks of Planning
Units: 2 Terms Offered: Sp Understanding of the legal system and its processes and laws applicable to land use and development and the legal nature of powers of public and private entities. Instruction Mode: Lecture Grading Option: Letter

PPD 530 Historical Analysis of Urban Form and Planning Practice
Units: 2 Terms Offered: Sp Awareness, analysis, understanding, and influencing the city building process locally and regionally; isolate and exercise tools and methods of visual literacy. Duplicates Credit in former PLUS 510. Instruction Mode: Lecture Grading Option: Letter

PPD 531L Planning Studio
Units: 4, 8, 12 Max Units: 12.0 Terms Offered: FaSp Application of methods in planning, programming, research, and evaluation in a professional context; data collection and analysis; case studies; practical applications. Duplicates Credit in former PLUS 576L and PLUS 676L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PPD 532L International Planning and Development Laboratory Workshop
Units: 4, 5, 6, 7, 8 Terms Offered: Sm Application of planning principles and methods to specific urban planning problems abroad; involves preparation in the spring semester and an overseas field visit and a collaborative practicum. Duplicates Credit in former PLUS 575L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PPD 533 Planning History and Urban Form
Units: 2 History of urban planning with an emphasis on the evolution of how planning shaped the physical environment in response to political, economic, and social issues. Instruction Mode: Lecture Grading Option: Letter

PPD 534 Data, Evidence, and Communication of the Public Good
Units: 4 Terms Offered: Sp Introduction to data analysis for planning practice. Includes quantitative and qualitative methods. Traditional methods such as regression and emerging methods including social media, visual/spatial analysis, programming. Instruction Mode: Lecture Grading Option: Letter

PPD 540 Fundamentals of Public Administration
Units: 4 Terms Offered: FaSpSm Administrative concepts, institutions, legal systems, and practices; values; facilitation of responsibilities and rights; professional applications for personal, private sector and public achievement. Registration Restriction: Open only to graduate students Duplicates Credit in former PUAD 500 Instruction Mode: Lecture Grading Option: Letter

PPD 541 Public Financial Management and Budgeting
Units: 4 Terms Offered: Fa Financial management applied to public and nonprofit organizations; financial valuation, financial markets, budgeting, tax administration, debt financing, cost-benefit analysis and financial analysis. Duplicates Credit in PPDE 645. Instruction Mode: Lecture Grading Option: Letter

PPD 542 Policy and Program Evaluation
Units: 4 Terms Offered: Sm Methods and models for policy and program evaluation; methods of collecting and analyzing evaluation data; processes for linking evaluation to policy formulation and program management. *Prerequisite:* PPD 502. Duplicates Credit in former PUAD 525 and former PUAD 529. Instruction Mode: Lecture Grading Option: Letter

PPD 543 Internship Seminar
Units: 1 Terms Offered: FaSp Supervised study of management, analytical, or other professional activities in government; integration of theory, practice and relevant literature. Duplicates Credit in former PUAD 544. Instruction Mode: Lecture Grading Option: Letter

PPD 545 Public and Nonprofit Organizational Behavior
Units: 4 Terms Offered: FaSpSm Behavior in organizations; focus on personal, interpersonal, and group level factors that influence such behavior. Registration Restriction: Open only to graduate students Duplicates Credit in former PUAD 585 Instruction Mode: Lecture Grading Option: Letter

PPD 546 Capstone in Public Administration
Units: 4 Constitutionally accountable and ethical practice, individually and organizationally; applications of core competencies; practical inquiry, analysis, systems; comparative frameworks; citizenship and public service. *Prerequisite:* PPD 540 and PPD 545 and PPD 542 or PPD 557. Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter

PPD 552 Managing and Financing Public Engineering Works
Units: 3 Terms Offered: FaSpSm (Enroll in CE 552)

PPD 554 Foundations of Policy Analysis
Units: 4 Terms Offered: Fa Introduction to public policy analysis; issue diagnosis and policy design; analytic reasoning and argumentation; the role of the public policy professional; ethical issues in policy analysis. Instruction Mode: Lecture Grading Option: Letter

PPD 555 Public Policy Formulation and Implementation
Units: 4 Terms Offered: FaSpSm Political and organizational perspectives on policy making process; agenda setting, policy design, adoption, implementation, evaluation, modification or termination. Policy leadership skills: negotiation and strategic mapping. *Prerequisite:* PPD 554 Instruction Mode: Lecture Grading Option: Letter

PPD 557 Modeling and Operations Research
Units: 4 Terms Offered: FaSpSm Management science methods that support decision making in policy, management, and planning settings. Includes linear programming, queuing theory, decision analysis, and forecasting. *Prerequisite:* PPD 502 or PPD 525. Instruction Mode: Lecture Grading Option: Letter

PPD 558 Multivariate Statistical Analysis
Units: 4 Terms Offered: FaSp Applied multivariate statistics in support of policy, management, and planning problem solving. Includes regression analysis, logit models, and an introduction to time-series models and multi-equation estimation. *Prerequisite:* PPD 504 or PPD 570 Instruction Mode: Lecture Grading Option: Letter

PPD 559 Policy Implementation and Evaluation
Units: 4 Terms Offered: FaSp Theoretical approaches, critical issues, and research methods in public policy implementation. Field-based research project. Duplicates Credit in former PUAD 570. Instruction Mode: Lecture Grading Option: Letter

PPD 560 Methods for Policy Analysis
Units: 4 Terms Offered: Sp Examination of methods used in the analysis of policy methods, including cost benefit analysis, decision and risk analysis, and applied social science methods. *Prerequisite:* PPD 503 and PPD 504 and PPD 554 Instruction Mode: Lecture Grading Option: Letter

PPD 561a Policy Analysis Practicum
Units: 1 Terms Offered: FaSp Application and integration of the knowledge and techniques of analytic, quantitative, managerial, political and ethical analyses to specific public policy problems. *Prerequisite:* PPD 503 and PPD 554 and PPD 555 and PPD 560 and PPD 558 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PPD 561b Policy Analysis Practicum
Units: 3 Terms Offered: FaSp Application and integration of the knowledge and techniques of analytic, quantitative, managerial, political and ethical analyses to specific public policy problems. Duplicates Credit in former PUAD 589. Instruction Mode: Lecture Grading Option: Letter

PPD 568 Environmental Governance and Sustainability
Units: 2 Terms Offered: Fa Introduction to leading issues of environmental governance and policy in looking toward a more sustainable future; normatively important concerns and the social, cultural, and political dimensions; thematic look from values to action. Instruction Mode: Lecture Grading Option: Letter

PPD 569 Applied International Policy Analysis and Management Project
Units: 4 Terms Offered: Sp Enables students to integrate theory, research and practice into an applied project of their own choosing. The output of this course is a professional report in a selected public policy or management area. Duplicates Credit in former PUAD 507. Instruction Mode: Lecture Grading Option: Letter

PPD 570 Applied Statistics for Planning, Policy and Management
Units: 4 Terms Offered: Sm Use of statistical reasoning to answer questions related to public policy and management. Students will review and understand selected statistical techniques for analyzing data and for addressing public policy and management questions of interest using applied data analysis. Duplicates Credit in former PUAD 523. Instruction Mode: Lecture Grading Option: Letter

PPD 571 International Public Policy and Management Seminar
Units: 4 Terms Offered: Fa An introduction to the concepts and methods of public policy analysis and management. Highlights some of the constraints of the policy process. Includes examples from the United States but also presents comparative views of the contours of public policy in both developed and developing nations. The course applies public policy and management frameworks to selected areas of social policy. Duplicates Credit in former PUAD 524. Instruction Mode: Lecture Grading Option: Letter

PPD 572 Special Issues in International Public Policy
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSpSm Current international public policy on issues such as governmental reform, regulation, social welfare, poverty alleviation and international aid. Policy framework and in-depth analysis of specific topics of relevance to governmental agencies and international organizations. Instruction Mode: Lecture Grading Option: Letter

PPD 582 Transportation System Security and Emergency Management
Units: 4 Terms Offered: FaSp (Enroll in CE 582)

PPD 587 Risk Analysis
Units: 4 Concepts of risk analysis, risk in engineered systems, environmental risk, security risks; fault trees, event trees, risk simulations; risks and decision-making. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 587

PPD 588 Introduction to Transportation Planning Law
Units: 2 Terms Offered: FaSm (Enroll in CE 579)

PPD 589 Port Engineering: Planning and Operational Analysis
Units: 4 Terms Offered: SpSm (Enroll in CE 589)

PPD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students in the Sol Price School of Public Policy Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in public policy, management and planning. Instruction Mode: Lecture Grading Option: Letter

PPD 600 Management of Managed Care Organizations
Units: 2 Terms Offered: FaSpSm Managed care arrangements, interorganizational relations, management practices and controls, medical staff relations, strategic planning, marketing, utilization review, quality assurance, outcomes measures. *Prerequisite:* PPD 545 or HMGT 520; *Recommended Preparation:* PPD 516, PPD 510a or HMGT 565. Instruction Mode: Lecture Grading Option: Letter

PPD 601 Management of Long-Term Care Organizations
Units: 4 Terms Offered: Fa History, development, trends; major policy issues; organization of systems; principles and techniques of administration; management of institutional and community based programs. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

PPD 602 Strategic and Operational Planning for Health Services
Units: 4, 2 years Terms Offered: Fa Strategic, institutional, and program planning theory and methods; governmental and legal requirements, certificate of need processes, reimbursement controls; financing and marketing considerations, practices, and methods. Duplicates Credit in former PUAD 535. Instruction Mode: Lecture Grading Option: Letter

PPD 603 Marketing of Health Services
Units: 4 Terms Offered: Sm Assessing community needs and organizational service capabilities; evaluating competition; qualitative and quantitative market research methods; market communications and advertising; developing marketing plans. *Recommended Preparation:* PPD 502 or competence in statistics. Instruction Mode: Lecture Grading Option: Letter

PPD 604 Seminar in Hospital Administration
Units: 4 Terms Offered: Sm Hospital systems and functions; managerial processes, theory, and practice; governance structures; legal, regulatory, administrative, and professional requirements; medical and professional

staff; multi-institutional arrangements; controls. *Prerequisite:* PPD 545 or HMGT 520; *Recommended Preparation:* PPD 516. Instruction Mode: Lecture Grading Option: Letter

PPD 605 Frontline Issues in Health Services Administration and Policy
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Emphasis on current or emergent issues in the health care industry. Focus on impact of recent health legislation and/or health care system responsiveness. Instruction Mode: Lecture Grading Option: Letter

PPD 606 Urban Health Policy
Units: 4 Terms Offered: Fa Addresses current U.S. health policy issues and the critical processes that shape them, with an emphasis on urban populations; institutional, economic, social, ethical, and political factors. Instruction Mode: Lecture Grading Option: Letter

PPD 607 Introduction to Public Health Policy
Units: 4 Terms Offered: Sp Public health policy and analysis methods; evaluation of the public health system and safety net programs. Instruction Mode: Lecture Grading Option: Letter

PPD 608 Leadership Symposium in Health Management and Policy
Units: 1 Max Units: 3.0 Terms Offered: FaSpSm A forum for leading executives and policymakers to address ways they or their organizations improve healthcare financing, delivery and management, in the U.S. and internationally. Instruction Mode: Lecture Grading Option: Letter

PPD 609 Physician Practice Management
Units: 2 Terms Offered: Sp Overview of medical practice management issues, structures, systems and strategies for effective clinical and financial performance of physician organizations. *Recommended Preparation:* PPD 509. Instruction Mode: Lecture Grading Option: Letter

PPD 610 Managed Care Contracting
Units: 2 Terms Offered: Fa Provides practical and strategic decision-making skills in managed care contracting, including contract types, terms and conditions; financial assessment; proposal development and analysis; and negotiation. *Prerequisite:* PPD 600; *Recommended Preparation:* PPD 510a or HMGT 565, PPD 514. Instruction Mode: Lecture Grading Option: Letter

PPD 611 Policy Issues in Planning and Development
Units: 4 Terms Offered: Fa Overview of policy issues in planning and development professions in the U.S. and abroad. Special attention to collective decision making, role of institutions, and ethics. Duplicates Credit in former PLUS 503. Instruction Mode: Lecture Grading Option: Letter

PPD 612 Research and Analytical Techniques
Units: 4 Terms Offered: Sp Professional practice-oriented analytic skill; fundamentals of data manipulation; spreadsheet applications and forecasting; and communication of results. Duplicates Credit in former PLUS 504. Instruction Mode: Lecture Grading Option: Letter

PPD 613a Policy, Planning, and Development International Laboratory
Units: 1 Max Units: 0.0 Terms Offered: SpSm Research methods for intensive practical field research and evaluation; policy, management and planning practice in intercultural contexts; preparation for professional-level consulting abroad. Instruction Mode: Lecture Grading Option: Letter

PPD 613b Policy, Planning, and Development International Laboratory
Units: 3 Max Units: 6.0 Terms Offered: SpSm Research methods for intensive practical field research and evaluation; policy, management and planning practice in intercultural contexts; preparation for professional-level consulting abroad. Instruction Mode: Lecture Grading Option: Letter

PPD 614 Management in Planning Practice
Units: 2 or 4, 2 years Terms Offered: Sp Administrative, management, political, and other problems faced by the practicing professional planner. Duplicates Credit in former PLUS 521. Instruction Mode: Lecture Grading Option: Letter

PPD 615 Comparative Urbanization, Development, and Inequality
Units: 4 Terms Offered: Irregular Theories of inequality, dependency and dualism in relation to urbanization, growth, and poverty in developing countries; development and underdevelopment; core-periphery linkages. Duplicates Credit in former PLUS 534. Instruction Mode: Lecture Grading Option: Letter

PPD 616 Participatory Methods in Planning and Policy
Units: 4 Approaches to community participation, introducing students to the theories behind participatory methods as well as to the skills to implement them. Instruction Mode: Lecture Grading Option: Letter

PPD 617 Urban Demography and Growth
Units: 4 Terms Offered: Fa Theory and policy regarding population change in urban areas; housing; cohort analysis; immigration; ethnicity; employment; education. Methods of graphic representation; census data manipulation, interpretation, forecasting. Duplicates Credit in former PLUS 539. Instruction Mode: Lecture Grading Option: Letter

PPD 618 Housing Facilities and Community Development
Units: 4 Terms Offered: Irregular Structure of the building industry and technology. Housing markets and programs; environmental standards. Community development and redevelopment. Planning, program development, finance, and coordination of public facilities and services. Duplicates Credit in former PLUS 540. Instruction Mode: Lecture Grading Option: Letter

PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions
Units: 4 Terms Offered: Irregular Determinants and analytical models of land use; interaction of land uses with environmental quality and natural resources, land use policy instruments; regulation, taxation, public services. Duplicates Credit in former PLUS 562. Instruction Mode: Lecture Grading Option: Letter

PPD 620 General Plans
Units: 4 Terms Offered: Fa Assessment of a recently adopted general plan, analysis of the general plan process, and detailed review of each major element and issue. Duplicates Credit in former PLUS 563. Instruction Mode: Lecture Grading Option: Letter

PPD 621 Environmental Impacts
Units: 4 Terms Offered: Sp Legal, political/institutional, and technical aspects of environmental impact reports for urban planning. Duplicates Credit in former PLUS 561. Instruction Mode: Lecture Grading Option: Letter

PPD 622 Seminar in Urban Development
Units: 4 Terms Offered: Irregular Central city housing and renewal problems and policies. Site selection, organization; land valuation, acquisition, disposition; relocation and management; reuse; site planning and development; politics; financing. Duplicates Credit in former PLUS 541. Instruction Mode: Lecture Grading Option: Letter

PPD 623 Community Development and Site Planning
Units: 4 Terms Offered: Sp Urban form and emerging community design practices; design project development; evaluation and assessment of site planning in cities and local communities. Instruction Mode: Lecture Grading Option: Letter

PPD 624 Local Economic Development: Theory and Finance
Units: 4 Terms Offered: Sp Socioeconomic change, economic development theory, assessment techniques, and economic indicators in the context of planning and development policies and programs. Duplicates Credit in former PLUS 547. Instruction Mode: Lecture Grading Option: Letter

PPD 625 Planning and Economic Development Finance
Units: 4 Terms Offered: Fa Fundamentals for economic development professionals and policy makers including feasibility analysis and the financing of facilities, social services, and community-based enterprises. Duplicates Credit in former PLUS 546. Instruction Mode: Lecture Grading Option: Letter

PPD 626 Public/Private and Mixed Enterprises Planning
Units: 2, 4 Terms Offered: SpFa Case studies of planning and public/private and mixed enterprises; public production of private goods; privatization of public services; public/private partnerships; mixed enterprises. Instruction Mode: Lecture Grading Option: Letter

PPD 627 Design Skills for Urban Planners
Units: 4 Terms Offered: Fa Develop observation, description, analysis, and conceptualization skills related to urban spatial conditions; advance professional communication proficiencies. Duplicates Credit in former PLUS 573. Instruction Mode: Lecture Grading Option: Letter

PPD 628 Urban Planning and Social Policy
Units: 4 Terms Offered: Irregular Urban

planning and social work: theory, values, techniques of inquiry, and problem-solving methods appropriate to urban planning and social work. Duplicates Credit in former PLUS 552. Instruction Mode: Lecture Grading Option: Letter

PPD 629 Capstone in Urban Planning
Units: 4 Terms Offered: Sp Successful completion of a comprehensive written and oral project-oriented assessment; analysis, interpretation, and solution of a real-world planning problem. Instruction Mode: Lecture Grading Option: Letter

PPD 630 Urban Economic Analysis
Units: 4 Terms Offered: Sp Economic models of cities and city development and structure; housing and land markets; transportation systems; problems of congestion and pollution; evaluation of urban policies. Duplicates Credit in former PLUS 566. Instruction Mode: Lecture Grading Option: Letter

PPD 631 Geographic Information Systems for Policy, Planning, and Development
Units: 2 Introduction to GIS systems and usage in the public sector; spatial data; understanding software and the application of technology; analysis of data using GIS. Instruction Mode: Lecture Grading Option: Letter

PPD 632 Planning Analysis and Evaluation
Units: 4 Terms Offered: Sp Methods of policy, program, and plan evaluation: economic principles and theoretical concepts introduced, followed by case studies. Duplicates Credit in former PLUS 574. Instruction Mode: Lecture Grading Option: Letter

PPD 633 Methods and Modeling Tools for Transportation Planning
Units: 4 Terms Offered: Fa Background applications of established urban travel forecasting procedures; land use; trip-generation, trip-distribution, modal-choice, trip-assignment; evaluation; criticisms. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE 633

PPD 634 Institutional and Policy Issues in Transportation
Units: 4 Terms Offered: Sp Analysis of policies relating to transportation alternatives; institutional environment and background; federal, state, regional, and local agency responsibilities and interactions. Duplicates Credit in former PLUS 581. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-634

PPD 635 Principles of Transportation Systems Analysis
Units: 4 Terms Offered: Fa Planning, design, modeling, and operation of inter- and intra-urban transportation networks. Analysis of contemporary engineering-economic issues relevant to transport, especially questions pertaining to infrastructure. Duplicates Credit in former PLUS 582. Instruction Mode: Lecture Grading Option: Letter

PPD 636 Infrastructure and Modern Society
Units: 2 Terms Offered: Sp Survey of infrastructure issues that relates principles from multiple disciplines to the provision of vital services and encourages critical thinking within a systems context. Instruction Mode: Lecture Grading Option: Letter

PPD 637 Forecasting and Urban Planning: A Survey of Theory and Methods
Units: 4 Terms Offered: Sp Overview of forecasting methods and applications in urban planning processes used to determine urban futures; includes theoretical and institutional factors as well as quantitative methods. Instruction Mode: Lecture Grading Option: Letter

PPD 638 Integrative Seminar
Units: 4 Terms Offered: FaSpSm Individual research and preparation of an integrated comprehensive study coordinated with a sponsor such as a government agency or development firm. *Prerequisite:* PPD 611, PPD 612. Duplicates Credit in former PLUS 591. Instruction Mode: Lecture Grading Option: Letter

PPD 639 Introduction to Community and Economic Development
Units: 4 Terms Offered: FaSp Theories of community and economic development and a contextual understanding of the forces that change the development and community life of urban areas. Instruction Mode: Lecture Grading Option: Letter

PPD 640 Leadership Foundations: Competencies and Core Values
Units: 4 Terms Offered: Sm An intensive introduction to leading through core values. Focuses on developing leadership skills at the personal level to build a foundation for leadership at all levels. Registration Restriction: Open only to Executive Master in Leadership students. Instruction Mode: Lecture Grading Option: Letter

PPD 641 Leading Individuals, Groups and Teams
Units: 4 Terms Offered: Fa Leadership styles in various settings; team demographics, and dynamics; problem-solving; decision-making; diversity and critical thinking skills; effect of culture on small group communication; managing conflict. *Prerequisite:* PPD 640. Registration Restriction: Open only to Executive Master in Leadership students. Instruction Mode: Lecture Grading Option: Letter

PPD 642 Strategic Leadership of Organizations
Units: 4 Terms Offered: Sp Strategic analysis; strategic planning; leadership; performance measurement and management; control systems; organizational structure and networks; organizational culture; organizational learning and change. *Prerequisite:* PPD 641. Registration Restriction: Open only to Executive Master in Leadership students. Instruction Mode: Lecture Grading Option: Letter

PPD 643 Leading Transformations Across Sectors: Integrative Seminar
Units: 4 Terms Offered: Sm Application and practice of leadership skills working across the public, private and nonprofit sectors. Skills include negotiation, collaboration, communication, political management and ethical responsibilities. *Prerequisite:* PPD 642. Registration Restriction: Open only to Executive Master in Leadership students. Instruction Mode: Lecture Grading Option: Letter

PPD 644 Shaping the Built Environment
Units: 4 Introduction to the theories and concepts and good city form. Explores the options for designing more livable and sustainable urban communities. Instruction Mode: Lecture Grading Option: Letter

PPD 645 Professional Development
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Selected topics in the practical application of administrative concepts. Duplicates Credit in former PUAD 502. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 646 Fieldwork
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: Sp Supervised study of management activities in governmental agencies. Duplicates Credit in former PUAD 503. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 647 Finance of the Public Sector
Units: 4 Terms Offered: Sp Sources of government revenue, intergovernmental financial relations, budgeting, public goods theory. Theoretical and applied skills in analysis of equity and efficiency issues. *Prerequisite:* PPD 501b. Duplicates Credit in former PUAD 513. Instruction Mode: Lecture Grading Option: Letter

PPD 648 Concepts and Practices of Public Budgeting
Units: 4 Terms Offered: Irregular Budget planning, budget formulation, tools for budget analysis and budget implementation. Duplicates Credit in former PUAD 515. Instruction Mode: Lecture Grading Option: Letter

PPD 649 Concepts and Practices in Public Personnel Administration
Units: 4 Terms Offered: FaSm Concepts of man and of work; workforce; government personnel systems, including merit concepts, classification, and compensation; collective bargaining; organizational justice; training and development. Duplicates Credit in former PUAD 516. Instruction Mode: Lecture Grading Option: Letter

PPD 650 Organization Development in Public Administration
Units: 4 Terms Offered: FaSp Overview of concepts and methodologies of organization development; diagnosing organizational needs; developing change strategies; selecting appropriate interventions. Duplicates Credit in former PUAD 517. Instruction Mode: Lecture Grading Option: Letter

PPD 651 Seminar in the Administration of Local Government
Units: 4 Terms Offered: Irregular Intensive consideration of the functions of the municipal executive and his environment. Research preparation and discussion of cases. Duplicates Credit in former PUAD 520. Instruction Mode: Lecture Grading Option: Letter

PPD 652 Financial Administration in Local Government
Units: 4 Terms Offered: Irregular Revenue sources, fees and charges, benefit assessments; financing economic development and redevelopment, issuing and managing debt, current asset management, and state-local relations.

Duplicates Credit in former PUAD 521. Instruction Mode: Lecture Grading Option: Letter

PPD 653 Training in the Public Sector
Units: 4 Terms Offered: Fa Emergence of public service training; learning theories; program development process — assessing needs, design, delivery, and evaluation; role of media; individual, group, organization development; managing training. Duplicates Credit in former PUAD 522. Instruction Mode: Lecture Grading Option: Letter

PPD 654 Information Technology Management in the Public Sector
Units: 4 Terms Offered: FaSpSm Application of computer and information technology in government; e-government; information technology architecture; systems project management. Duplicates Credit in former PPD 518. Instruction Mode: Lecture Grading Option: Letter

PPD 655 Administrative Law and Public Management
Units: 4 Terms Offered: FaSpSm Administrative perspectives on legal principles of agency rule-making and adjudication; distinctions between the two; informal administrative actions; decision-making; judicial review; public control of administrative decisions. Instruction Mode: Lecture Grading Option: Letter

PPD 656 Political Management: Theory and Applied Techniques
Units: 4 Terms Offered: Sm Political management theories; strategy formation; research and data collection approaches; computer applications; electronic databases; issue management; problem-solving techniques; ethical considerations. Duplicates Credit in former PUAD 545. Instruction Mode: Lecture Grading Option: Letter

PPD 657 Political Leadership in Public Organizations
Units: 4 Terms Offered: Sp Concepts and skills for public executives and senior managers; understanding the dynamics of governmental institutions and policy processes; organizational and personal assessment skills. Duplicates Credit in former PUAD 546. Instruction Mode: Lecture Grading Option: Letter

PPD 658 Advocacy in Public Administration
Units: 4 Terms Offered: Fa Perspectives on advocacy in the policy process; practice of advocacy; accessing the policy process; simulation of the advocacy process; ethical considerations. Duplicates Credit in former PUAD 547. Instruction Mode: Lecture Grading Option: Letter

PPD 659 National Security Administration and the Domestic and International Environment
Units: 4 Terms Offered: Irregular Interplay of domestic and international environments; resultant constraints upon national security program administration; administrative and organizational implications for future scenarios. Duplicates Credit in former PUAD 549. Instruction Mode: Lecture Grading Option: Letter

PPD 660 Local Agency Debt and Cash Administration
Units: 4 Terms Offered: Irregular Overview of methods of debt and cash administration including official statement analysis; mechanics of different types of issues; and cash management principles. Duplicates Credit in former PUAD 550. Instruction Mode: Lecture Grading Option: Letter

PPD 661 Intergovernmental Management: Local Perspective
Units: 4 Terms Offered: Fa Role of city, special district, and metropolitan governments in intergovernmental relations; intergovernmental impacts on local policy process and service delivery; management problems and alternatives. Duplicates Credit in former PUAD 552. Instruction Mode: Lecture Grading Option: Letter

PPD 662 Intergovernmental Management: State Perspective
Units: 4 Terms Offered: FaSp Role of state government in intergovernmental relations, emphasis on California experience; financial aspects of intergovernmental system. Duplicates Credit in former PUAD 553. Instruction Mode: Lecture Grading Option: Letter

PPD 663 Intergovernmental Management: Federal Perspective
Units: 4 Terms Offered: Irregular Role of national government in intergovernmental process; impact of federal legislative, executive, and judicial actions on state and local government; intergovernmental policy-making process. Duplicates Credit in former PUAD 554. Instruction Mode: Lecture Grading Option: Letter

PPD 664 Contract Management
Units: 2 Terms Offered: Sp Contract management techniques in the public and private sectors; micro and macro management; compliance and negotiation; conflicts of interest and ethical issues. Instruction Mode: Lecture Grading Option: Letter

PPD 665 Contemporary Issues in Philanthropy
Units: 4 Motivations and strategies of philanthropists; philanthropic foundations and emerging institutions for philanthropy; issues of philanthropic stewardship, public policy and public accountability. Instruction Mode: Lecture Grading Option: Letter

PPD 666 Administrative Research and Analysis
Units: 4 Terms Offered: Irregular Theory and methods for study of administrative effectiveness: problem solving, performance measurement, administrative and organizational research, quality improvement, and change implementation. *Prerequisite:* PPD 502. Duplicates Credit in former PUAD 506. Instruction Mode: Lecture Grading Option: Letter

PPD 667 Public Ethics
Units: 4 Terms Offered: Sp Following an introduction to the study of ethics, relationships among administrative, political and policy ethics are examined, emphasizing the ethics of the administrative role. Duplicates Credit in former PUAD 560. Instruction Mode: Lecture Grading Option: Letter

PPD 668 Entrepreneurship in the Public Sector
Units: 4 Terms Offered: Irregular Providing public services through the private and nonprofit sectors; public-private partnerships; political and organizational skills required for public entrepreneurship. Duplicates Credit in former PUAD 561. Instruction Mode: Lecture Grading Option: Letter

PPD 669 Federal Management Systems
Units: 4 Terms Offered: FaSp Principal institutions and processes in federal government for overhead leadership and control; examines Office of Management and Budget, Office of Personnel Management, Merit Systems Protection Board, General Services Administration, and General Accounting Office. Duplicates Credit in former PUAD 564. Instruction Mode: Lecture Grading Option: Letter

PPD 670 Management of Intergovernmental Programs
Units: 4 Terms Offered: Sp Analysis of relationships among governmental units in delivery of governmental programs; historical development of intergovernmental relations; present status and future implications. Duplicates Credit in former PUAD 566. Instruction Mode: Lecture Grading Option: Letter

PPD 671 Decision-Making in Regulatory Agencies
Units: 4 Terms Offered: Irregular Risk assessment, management, and communication concepts and practices; comparisons of regulatory decision making in regulatory agencies; emerging benefit assessment, cost-effectiveness, and communication issues. Duplicates Credit in former PUAD 567. Instruction Mode: Lecture Grading Option: Letter

PPD 672 Collaborative Governance
Units: 4 Terms Offered: SpSm Theory and practice of collaborative policy and planning processes involving stakeholders from public, private, and nonprofit sectors. Leadership skills in the design and facilitation of multi-party negotiations and consensus-building. Instruction Mode: Lecture Grading Option: Letter

PPD 673 Strategic Planning in the Public Sector
Units: 4 Terms Offered: Sp Analysis/field application of action research models for strategic planning in public agencies; design of effective public systems; citizens/administrators' roles in strategic decision-making. Duplicates Credit in former PUAD 574. Instruction Mode: Lecture Grading Option: Letter

PPD 674 Science, Technology, and Government
Units: 4 Terms Offered: Irregular Impact of science/technology on governmental policy, processes, institutions; critical policy areas in science/technology; machinery for formulating science policy; governmental impact on science/technology. Duplicates Credit in former PUAD 575. Instruction Mode: Lecture Grading Option: Letter

PPD 675 Nonprofit Management and Leadership
Units: 4 Terms Offered: FaSpSm Issues in nonprofit management and leadership including: the role of boards; strategic planning; marketing and fund-raising; financial management; and volunteer and human resource management. *Recommended Preparation:* PPD 689. Instruction Mode: Lecture Grading Option: Letter

PPD 676 Comparative Public Administration
Units: 4 Terms Offered: Irregular

Methodologies, theories and models of comparison; administrative systems; role and functions of the public sector; administrative cultures. Duplicates Credit in former PUAD 579. Instruction Mode: Lecture Grading Option: Letter

PPD 677 International Development Administration
Units: 4 Terms Offered: Sp Development of theories; role of international institutions in resource exchanges; foreign investment and trade policies; national planning and allocation systems; development and modernization strategies and implementation. Duplicates Credit in former PUAD 581. Instruction Mode: Lecture Grading Option: Letter

PPD 678 Processes of Change in Developing Societies
Units: 4 Terms Offered: Irregular Nature of traditional and transitional societies; theories and practice of developmental change; role of bureaucracy in development; institution building; public enterprise; technology assessment and transfer. Duplicates Credit in former PUAD 582. Instruction Mode: Lecture Grading Option: Letter

PPD 679 Financial Administration in Developing Countries
Units: 4 Terms Offered: Sm Public sector finance; tax policy and administration; budgeting and auditing; debt management; public enterprise and development banks; planning; techniques; project assessment. Duplicates Credit in former PUAD 583. Instruction Mode: Lecture Grading Option: Letter

PPD 680 Development of Effective Groups and Organizations
Units: 4 Terms Offered: Fa Theories and techniques of assessing and improving interpersonal relationships and group dynamics in an organizational context; action research-based approaches to implementing organizational change. Duplicates Credit in former PUAD 586. Instruction Mode: Lecture Grading Option: Letter

PPD 681 Public Organization and Management Theory
Units: 4 Terms Offered: FaSp Nature and management of public organizations; examination of organizational characteristics, forms, and processes, including the relationship with the broader environment. Duplicates Credit in former PUAD 595. Instruction Mode: Lecture Grading Option: Letter

PPD 682 Justice Administration: A Management Perspective
Units: 4, 2 years Terms Offered: Fa Justice administration as an interactive system: law, etiology of crime, police, the judiciary and corrections. Interface of offenders with community and political force fields. Duplicates Credit in former PUAD 540. Instruction Mode: Lecture Grading Option: Letter

PPD 683 Homeland Security and Public Policy
Units: 4 Terms Offered: FaSp Definition and history of terrorism, counterterrorism, domestic policy and public sector management; intelligence/information sharing and analysis; emergency preparedness planning, response and recovery. Instruction Mode: Lecture Grading Option: Letter

PPD 684 Leadership Development in the Public and Nonprofit Sectors
Units: 2 Terms Offered: Fa An overview of leadership concepts, frameworks and skills; application of leadership in complex or inter-sectoral settings. Instruction Mode: Lecture Grading Option: Letter

PPD 685 Human Resources Management in Public and Non-Profit Sectors
Units: 2 Terms Offered: Fa Merit principles, position classification, recruitment and selection, compensation, organizational development, labor relations; challenges and strategies for managing a diverse workforce. Instruction Mode: Lecture Grading Option: Letter

PPD 686 U.S. Immigration Policy
Units: 4 Terms Offered: Sp Overall understanding of contemporary U.S. immigration policy. Instruction Mode: Lecture Grading Option: Letter

PPD 687 Strategic Management in the Nonprofit Sector
Units: 4 Terms Offered: Sp Strategic management of nonprofit organizations, social entrepreneurship, and management practice. *Prerequisite:* PPD 675 and PPD 689. Instruction Mode: Lecture Grading Option: Letter

PPD 688 Business and Public Policy
Units: 4 Terms Offered: Irregular The business-government relationship; effects of selected public policies (antitrust, economic, and social regulation, industrial policies, legal policy) on firm and industry behavior. *Prerequisite:* PPD 503 Instruction Mode: Lecture Grading Option: Letter

PPD 689 The Nonprofit Sector and Philanthropy
Units: 4 Terms Offered: FaSp Nonprofit organizations and their relation to government and business; the role of philanthropy, social enterprise and public support; and implications for policy, strategy and management. Instruction Mode: Lecture Grading Option: Letter

PPD 690 Alternative Dispute Resolution
Units: 4 Terms Offered: Fa Theory and methods of conflict analysis, negotiation, facilitation and mediation in the public sector. Duplicates Credit in former PUAD 519. Instruction Mode: Lecture Grading Option: Letter

PPD 692 Transportation and the Environment
Units: 4 Terms Offered: Sp Analysis of the benefits and costs of urban transportation; concepts of social costs; benefits and externalities; environmental costs; social justice issues; policy and planning alternatives for sustainable transportation. Duplicates Credit in former PPD 584 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE 692

PPD 693 Communicating Public Policy
Units: 4 Exploring the complex relationships that exist among policies, policymakers, and the media; analyzing the role of journalists and policy analysts in the public policy process. Instruction Mode: Lecture Grading Option: Letter

PPD 694 Coastal Policy and Planning
Units: 4 Terms Offered: Sp Coastal management issues in the context of public and private users competing for land resources, the costs and benefits of seaports, compare coastal development models. Instruction Mode: Lecture Grading Option: Letter

PPD 695 Clinical Issues for Managers
Units: 1 Terms Offered: Fa Introduces key information and concepts for managers of clinical services. Examines problems and issues facing health care managers and clinician relations. Instruction Mode: Lecture Grading Option: Letter

PPD 696 Health Care Venture Development
Units: 2 Terms Offered: SpSm Focuses on developing the resourcefulness, know-how and decision support skills needed to identify, assess and develop new health ventures. Includes business planning, financing, strategy, entrepreneurship. *Recommended Preparation:* PPD 510a or HMGT 565. Instruction Mode: Lecture Grading Option: Letter

PPD 697 Cultural Proficiency in Health Management and Policy
Units: 2 Terms Offered: Sp Provides an understanding of what social factors contribute to racial/ethnic, socioeconomic, and gender disparities in health and the culturally proficient provision of health care. Instruction Mode: Lecture Grading Option: Letter

PPD 698 Strategic Management and Change
Units: 4 Theory and applied skills in management of social sector organizations with applications in international settings. Strategic management and planning; communication strategies, marketing and promotion; leadership skills; organizational development and change. Instruction Mode: Lecture Grading Option: Letter

PPD 699 Special Topics
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Selected topics in public policy, management and planning. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

PPD 700 Teaching Seminar
Units: 2 Pedagogy: learning objectives, curriculum design, teaching methods, evaluation. Duplicates Credit in former PPD 700ab. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 706 Paradigms of Research and the Design of Inquiry
Units: 4 Terms Offered: FaSp Philosophy of social science; applied social research; research design; sampling and validity; overview of qualitative and quantitative methods. Instruction Mode: Lecture Grading Option: Letter

PPD 707 Survey Research Methods
Units: 4 Terms Offered: Sp Collection and use of survey data: basic orientation, mechanics of using SAS, and interpretation of survey tabulations. *Prerequisite:* PPD 525. Duplicates Credit in former PLUS 608. Instruction Mode: Lecture Grading Option: Letter

PPD 708 Qualitative Methods
Units: 4 Terms Offered: Sp Reflective and critical approach that questions data collection techniques, positions relative to those being studied, and explanatory

methods. *Recommended Preparation:* PPD 525 or PPD 612. Duplicates Credit in former PLUS 609. Instruction Mode: Lecture Grading Option: Letter

PPD 709 Applications in the Advanced Quantitative Methods
Units: 4 Terms Offered: Sp Statistical and econometric modeling in real estate finance, urban economics, public policy, and planning research. Building, estimating and adjusting models for real-world. *Prerequisite:* PPD 525. Instruction Mode: Lecture Grading Option: Letter

PPD 710a Research Seminar
Units: 2 Terms Offered: FaSp Research fields and design; literature reviews; critical reading and critiquing; project development. *Prerequisite:* PPD 706. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 710b Research Seminar
Units: 2 Terms Offered: FaSp Research fields and design; literature reviews; critical reading and critiquing; project development. *Prerequisite:* PPD 706. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 711 Theoretical Foundation of Public Management
Units: 4 Terms Offered: Fa Theories of the role, structure, and growth of the public sector; political economy of public bureaucracies; the voluntary nonprofit sector. *Prerequisite:* PPD 501b. Instruction Mode: Lecture Grading Option: Letter

PPD 712 Seminar in Public Policy
Units: 4 Terms Offered: Fa Critical analysis of the policy field; theoretical foundations; integration of quantitative, organizational, and political considerations; policy research. *Prerequisite:* PPD 501b, PPD 554. Duplicates Credit in former PUAD 626. Instruction Mode: Lecture Grading Option: Letter

PPD 713 Advanced Planning Theory
Units: 4 Terms Offered: Fa Positive and normative attitudes of public plans, policies, programs, organizational and institutional settings; policy analysis; modeling of social choices; evaluation; applied welfare analysis; performance assessment. Duplicates Credit in former PLUS 605. Instruction Mode: Lecture Grading Option: Letter

PPD 714 Advanced Urban Development
Units: 4 Terms Offered: Fa Urbanization, urban economics, land use, the politics of growth, governance, regulation, and the state, immigration, and place promotion. Instruction Mode: Lecture Grading Option: Letter

PPD 715 Political Economy and Institutional Analysis
Units: 4 Institutional dimension of political economy; analytic approaches in institutional analysis and their relevance for understanding the interactions between political and economic factors in public-sector issues. Instruction Mode: Lecture Grading Option: Letter

PPD 716 Econometrics for Policy, Planning and Management I
Units: 4 Implementation of microeconometric techniques and assessment of studies; empirical strategies for research questions and data preparation and analytic tasks in Stata. *Prerequisite:* PPDE 668 Instruction Mode: Lecture Grading Option: Letter

PPD 717 Econometrics for Policy, Planning and Management II
Units: 4 Identification of a significant and innovative empirical research question; production of a dissertation chapter or draft manuscript for publication in policy, planning or management. *Prerequisite:* PPD 716 Instruction Mode: Lecture Grading Option: Letter

PPD 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 18.0 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former PLUS 790 and PUAD 790. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Policy, Planning, and Development — Expanded

PPDE 505 Professional Workshop in Public Administration
Units: 2 Evidence-based argumentation, written reporting and communication in public administration; research skills for effective stakeholder engagement. Instruction Mode: Lecture Grading Option: Letter

PPDE 506 Professional Residency in Public Administration
Units: 1 Skills in written reporting, professional briefings and social media for public administrators; effective engagement for stakeholders and constituencies; research, analysis and reporting on current policy or management cases Instruction Mode: Lecture Grading Option: Letter

PPDE 507 Capstone Residency in Public Administration
Units: 1 Development of enhanced skills in issue framing and options analysis in public administration for internal and external audiences. Instruction Mode: Lecture Grading Option: Letter

PPDE 580 Social Innovation
Units: 4 Strategies and processes of social innovation in the context of economics, institutional, and innovation theory. How social innovation materializes across all sectors, including the government, nonprofit, and for-profit spheres. Critical thinking and practical application development to solve social problems. Instruction Mode: Lecture Grading Option: Letter

PPDE 589 Public Policy and Administration in the European Union, Germany, and the United States
Units: 6 Terms Offered: Sm Governance issues from a comparative perspective with a special focus on the US, Germany and the European Union. Instruction Mode: Lecture Grading Option: Letter

PPDE 610 Population Health Management
Units: 2 Terms Offered: Sm Principles and concepts of population health management; application of key principles that drive health and well being of populations; development and evaluation of strategies in management of disease and prevention of illness. Instruction Mode: Lecture Grading Option: Letter

PPDE 611 Digital Health
Units: 2 Terms Offered: Fa Origins and impact of Digital health on the healthcare industry; acquire knowledge on how to identify and implement strategies on incorporating digital health in the workplace. Instruction Mode: Lecture Grading Option: Letter

PPDE 612 Consulting in Healthcare Organizations
Units: 2 The application of decision analysis principles necessary for determining priorities for uses of strategic human, facility and financial resources in healthcare organizations; analytic and consulting skills; case studies. Instruction Mode: Lecture Grading Option: Letter

PPDE 628 Introduction to Lean Health Care
Units: 2 Performance improvement methods and principles in health care; how Lean, Six-Sigma, and Human Centered Design (HCD) methodologies are applied to health care organizations to improve quality and efficiency. Instruction Mode: Lecture Grading Option: Letter

PPDE 629 Transitional Care and Hospital Readmission Prevention
Units: 2 Alternatives within the healthcare delivery system beyond the acute hospital; how social, medical and financial determinants provide alternatives to acute care and impact a patient's disposition; Hospital Readmission Penalty Program; effect of the Affordable Care Act of 2010 on patient care. Instruction Mode: Lecture Grading Option: Letter

PPDE 630 Community Health Planning
Units: 4 Terms Offered: Sp The role of planning in sustaining community health;

examines relationship between health and environment; historical development, conceptualization and practice of community health planning. Instruction Mode: Lecture Grading Option: Letter

PPDE 631 Public Space: Theory, Policy, and Design
Units: 4 Examination of contemporary issues and practices in the design, production, and uses of public space in a comparative perspective; implications for future design and public policy. Instruction Mode: Lecture Grading Option: Letter

PPDE 632 Sustainable Cities
Units: 4 Terms Offered: FaSp Exploration of environmental problems linked to urbanization, drawing on historical analysis, social theory, scientific research, and city planning/design practice. Alternative policy options for urban sustainability. Duplicates Credit in the former GEOG 601. Instruction Mode: Lecture Grading Option: Letter

PPDE 633 Communicating City Design: Positions and Representations
Units: 2 Communicating the processes, products, and concepts of city design; merging theoretical and skill-based exercises for effective communication; verbal and graphic communication; physical components of urban landscape and dimensional attributes. Instruction Mode: Lecture Grading Option: Letter

PPDE 634 Methodology, Methods and Tools for Urban Sustainability
Units: 2, 3, 4 Terms Offered: FaSp Methodology, assessment and planning methods for urban sustainability and land use planning; how the choice and use of theory and methods impact the planning process; systems and spatial analysis. Instruction Mode: Lecture Grading Option: Letter

PPDE 635 Housing and Land Use in Rapidly Urbanizing Regions
Units: 4 Terms Offered: Fa Interdisciplinary approach to conceptualize urban land and property rights; property rights strategies; design and policy interventions; the struggle for rights to space in the city. Instruction Mode: Lecture Grading Option: Letter

PPDE 636 Urban Spatial Ethnography and Critical Cartography
Units: 4 Theories and methods of how to develop original data about, analyze, and produce visualizations of urban space; conventional conceptualization and representations of cities and urban spatial data. *Recommended Preparation:* PPD 631 or other GIS course work Instruction Mode: Lecture Grading Option: Letter

PPDE 637 Urban Mass Transit
Units: 4 Terms Offered: Fa Fundamentals of urban mass transit planning. Topics include the fiscal context of mass transit planning, fares and farebox recovery, ridership forecasts, land development near transit, and transit operations, scheduling, and network design. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE 637

PPDE 638 Race, Arts, and Placemaking
Units: 4 Exploration of the inter-relationships between race, arts, and urban space through an inter-disciplinary inquiry of art practice, history, and policy, and urban economic and community development, and cultural geography fields. Instruction Mode: Lecture Grading Option: Letter

PPDE 639 Housing Dynamics for Policy and Planning
Units: 4 Comprehensive introduction to the dynamics of the housing sector, problems, programs, and policies. Attention to both publicly assisted and market rate housing, recent trends and current debates. Instruction Mode: Lecture Grading Option: Letter

PPDE 640 Environmental Planning and Analysis
Units: 4 Fundamentals of environmental planning and policy from an urban planning perspective; role of markets and market failures; environmental risks; policy approaches; modeling tools for environmental impact assessment and forecasts. Instruction Mode: Lecture Grading Option: Letter

PPDE 641 Art and the City
Units: 4 Role of art in modern society with a particular emphasis on the urban context including public spaces, the process of gentrification, and redevelopment; theoretical and research approaches. Duplicates Credit in former PPD 424 Instruction Mode: Lecture Grading Option: Letter

PPDE 644 Land Use and Transportation Planning
Units: 4 Key theories of land use — transportation interactions; understanding of land markets and derived-demand approach; use of evidence for information; travel data collection methods; application of land use. Instruction Mode: Lecture Grading Option: Letter

PPDE 645 Financial Management of Nonprofit Organizations
Units: 4 Accounting and financial management principles and practices in nonprofit organizations: budgeting financial analysis, internal controls, financial policies, grant making and financial reporting. Duplicates Credit in PPD 541. Instruction Mode: Lecture Grading Option: Letter

PPDE 646 Grant Writing Practicum
Units: 2 Grant making process and proposal development; philanthropic foundations; strategies for funding; budgeting, logic models, and evaluation; peer review. Instruction Mode: Lecture Grading Option: Letter

PPDE 647 Civic Engagement in Governance
Units: 4 Terms Offered: Sp Roles of citizens, civic associations, nonprofit organizations, government and business in democratic governance; civil society as the interface among these entities; techniques, purposes and contexts of civic engagement. Instruction Mode: Lecture Grading Option: Letter

PPDE 648 Performance Management
Units: 4 Concept and practice of performance management; examination of performance measurement; analysis and reporting practices for organizational accountability and improvements; performance design, indicators, utilization of information. Instruction Mode: Lecture Grading Option: Letter

PPDE 649 International Development NGOs: Theory, Policy and Management Issues
Units: 4 Critical issues involved in International Development NGO management; theoretical work and analytical framework to understand organizational features; NGO management, issues and challenges. Instruction Mode: Lecture Grading Option: Letter

PPDE 650 Social and Nonprofit Marketing
Units: 4 Terms Offered: Sm Marketing techniques in nonprofits and philanthropies, government agencies, health systems, application of marketing for social purposes; outreach strategies and efforts in nonprofits. Instruction Mode: Lecture Grading Option: Letter

PPDE 660 Environmental Policy Design and Analysis
Units: 4 Terms Offered: Sp Analytical foundation for design of institutions and policies; environmental policy; welfare economics and market failure; policy evaluation; economic policy instruments; climate change policy issues; other policy issues. *Prerequisite:* PPD 503 Instruction Mode: Lecture Grading Option: Letter

PPDE 661 Methods for Equity Analysis
Units: 4 Techniques to measure inequality and segregation. Policy evaluation using techniques for casual inference. *Prerequisite:* PPD 558. Instruction Mode: Lecture Grading Option: Letter

PPDE 662 China from a US Policy Perspective
Units: 4 Examination of China through the lens of the US federal government; trade issues; economic coordination and stability; environment and sustainability; defense and security; human development. Instruction Mode: Lecture Grading Option: Letter

PPDE 663 Media for Policy Change
Units: 4 Terms Offered: Sp The use of media as an implement of social policy and change at the state and federal level; analysis of social problems and the effect policy practitioners influence on change. Instruction Mode: Lecture Grading Option: Letter

PPDE 664 Seminar in Social Justice and Public Policy
Units: 4 Major theories of social justice in the US and globally; how theories of social justice influence policy, urban planning, and public administration; how to bridge theories about justice for professional practice. Instruction Mode: Lecture Grading Option: Letter

PPDE 665 Economic Models and Applications for Impact Analysis
Units: 4 Terms Offered: Sp Economic models for understanding and measuring impacts of man-made and natural disasters; analysis of public policy initiatives to mitigate environmental threats; model construction and software. *Prerequisite:* PPD 503 Instruction Mode: Lecture Grading Option: Letter

PPDE 668 Applied Econometrics for Program Evaluation
Units: 4 Terms Offered: FaSp Application of econometric methods for causal inference. Production and evaluation of

empirical estimates of causal relationships to inform evidence-based policy decisions. *Prerequisite:* PPD 558 Instruction Mode: Lecture Grading Option: Letter

PPDE 669 U.S. Education Policy
Units: 4 The role of public policy in education; application of theoretical frameworks to analyze policy design, implementation and impact; key concepts of policy analysis and key issues in education policy. Instruction Mode: Lecture Grading Option: Letter

PPDE 670 American Contemporary Homegrown Violent Extremism
Units: 4 Terms Offered: Sp Examination of the past half-century in America in understanding how public organizations and supporting legislation may deal with the threat of various forms of homegrown violent extremism. Instruction Mode: Lecture Grading Option: Letter

PPDE 671 Economic Analysis of Education Policy
Units: 4 Terms Offered: Sp Exploration of key educational policy issues and the relation of economic theories and principles; using economic theory to predict how policy affects education outcomes. Instruction Mode: Lecture Grading Option: Letter

PPDE 672 An Exploration of the Intelligence Community - from Policy to Cyber Espionage
Units: 4 Terms Offered: Sp Introduction to the intelligence community with an emphasis on public policy and open source intelligence (OSINT); analysis of US and foreign intelligence communities and sources, collection methods and analysis techniques; policy considerations. *Recommended Preparation:* PPD 683 Instruction Mode: Lecture Grading Option: Letter

PPDE 680 Board Governance and Leadership
Units: 2 Governance of nonprofit organizations; responsibilities and expectations of boards; board effectiveness; and changes in governance as a result of recent federal and state legislation. Instruction Mode: Lecture Grading Option: Letter

PPDE 681 Fund Development for Nonprofit Organizations
Units: 4 Key aspects of the fundraising process for nonprofit organizations; theoretical foundations and general fundraising principles; techniques sources of donations; key aspects of managing the process. Instruction Mode: Lecture Grading Option: Letter

PPDE 682 Capstone in Nonprofit Leadership and Management
Units: 4 Mission-mandated accountable and ethical practice, individually and organizationally; applications of core competencies; practical inquiry, analysis, systems; comparative frameworks; strategic leadership and management of public value production. *Prerequisite:* PPD 542 and PPD 675 and PPD 689 Instruction Mode: Lecture Grading Option: Letter

PPDE 683 Social Finance and Development
Units: 4 Critical analysis on the innovations, merits and challenges of wealth creation and poverty reduction based on the microfinance model. Instruction Mode: Lecture Grading Option: Letter

Public Relations

PR 209 Effective Writing for Strategic Public Relations
Units: 4 Terms Offered: FaSp Focus on the unique writing requirements of social, online, broadcast, print and other media in public relations/strategic communication; emphasis on judgment, context and audience understanding. Duplicates Credit in the former JOUR 209 Instruction Mode: Lecture Grading Option: Letter

PR 250 Strategic Public Relations: An Introduction
Units: 4 Terms Offered: FaSp Strategies/ practices in the growing field of public relations, including landmark cases, campaign planning; special emphasis on historical roots, current and future practice. Duplicates Credit in former JOUR 250 and former JOUR 350 Instruction Mode: Lecture Grading Option: Letter

PR 340 Introduction to Advertising
Units: 4 Terms Offered: FaSp History and development of advertising; basic advertising campaigns showing relationships of marketing, creative, print and electronic media. Duplicates Credit in former JOUR 340 Instruction Mode: Lecture Grading Option: Letter

PR 341 Advertising Copywriting
Units: 4 Terms Offered: Fa Writing and editing for advertising and commercial copy for all media. *Prerequisite:* PR 340 Duplicates Credit in former JOUR 341 Instruction Mode: Lecture Grading Option: Letter

PR 342 Advertising Media and Analysis
Units: 4 Terms Offered: Fa Selling, planning, buying for the media; advertising's relationship to society and business; media choice. *Prerequisite:* PR 340 Duplicates Credit in former JOUR 342 Instruction Mode: Lecture Grading Option: Letter

PR 343 Advertising Design and Production
Units: 4 Terms Offered: Sp Production of advertising materials; emphasis on the creation and design of advertising elements. *Prerequisite:* PR 340 Duplicates Credit in former JOUR 343 Instruction Mode: Lecture Grading Option: Letter

PR 351a Strategic Public Relations Media and Content
Units: 4 Terms Offered: FaSp Introduction to media relations, social media and influencer engagement; intensive writing and creating multimedia content for traditional, emerging and social media. *Prerequisite:* PR 209 and PR 250 Duplicates Credit in former JOUR 351a Instruction Mode: Lecture Grading Option: Letter

PR 351b Strategic Public Relations Media and Content
Units: 4 Terms Offered: FaSp Advanced course in writing, digital content and multimedia creation; production of communications collateral for social and owned media channels targeting an array of audiences. *Prerequisite:* PR 351a Duplicates Credit in former JOUR 351b Instruction Mode: Lecture Grading Option: Letter

PR 352 Public Relations Media and Content for Non-Majors
Units: 4 Learn advanced public relations writing and editing, basic design skills and sophisticated video planning, shooting, editing and production skills. *Prerequisite:* PR 209 Registration Restriction: Not open to Public Relations majors Instruction Mode: Lecture Grading Option: Letter

PR 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former JOUR 390 Instruction Mode: Lecture Grading Option: Letter

PR 391 Made in Italy: The Marketing of an Ideal
Units: 4 Terms Offered: FaSp (Enroll in COMM 391)

PR 392 Media and Migration in Times of European Crisis
Units: 4 Terms Offered: FaSp (Enroll in COMM 392)

PR 410 London Calling: Public Relations in the UK Hub
Units: 4 Examines how politics affects and influences public relations campaigns in the UK and Europe. Registration Restriction: Open only to Annenberg majors Instruction Mode: Lecture Grading Option: Letter

PR 426 Influencer Relations
Units: 4 Media is social. Influencers reign. Influencer Relations provides a practical understanding of the new rules of the industry for students interested in working within it. Instruction Mode: Lecture Grading Option: Letter

PR 428 Social, Legal and Ethical Foundations of Public Relations
Units: 4 Terms Offered: FaSp Covers the complex intersection of legal standards and regulations, ethical practices and decision making, and social responsibilities for public relations/strategic communication practitioners. *Prerequisite:* PR 250 Duplicates Credit in former JOUR 428 Instruction Mode: Lecture Grading Option: Letter

PR 429 Business and Economic Foundations of Public Relations
Units: 4 Terms Offered: FaSp Relationship between public relations/strategic communication and other organizational disciplines; understanding business goals and objectives; economic literacy; financial/ investor relations; how PR/communication agencies are built and managed. *Prerequisite:* PR 351a Duplicates Credit in former JOUR 429 Instruction Mode: Lecture Grading Option: Letter

PR 431 Integrated Media Planning and Buying
Units: 4 Fundamentals of media planning and buying across traditional and new media; how each media channel works independently and as part of an integrated media plan. *Prerequisite:* PR 340 Instruction Mode: Lecture Grading Option: Letter

PR 432 Concepting: Advertising Strategy and Creative Development
Units: 4 Learn how to develop an idea and transform that idea to create advertisements that cut through the clutter and communicate persuasively.

Prerequisite: PR 340 Instruction Mode: Lecture Grading Option: Letter

PR 433 Advertising and Technology
Units: 4 Hands-on introduction to advertising's digital tools, platforms, media, channels and techniques through an insider's view of LA's technology companies. *Prerequisite:* PR 340 and PR 431 Instruction Mode: Lecture Grading Option: Letter

PR 434 Advertising Campaign Construction
Units: 4 Develop an integrated marketing communication campaign that will compete against other universities in the national Collegiate Effie competition. *Prerequisite:* PR 340 and PR 431 and PR 432 Instruction Mode: Lecture Grading Option: Letter

PR 444 Lifestyle Public Relations
Units: 4 An extensive overview of the Lifestyle Public Relations category with special emphasis on social media, non-traditional influencers and audience segmentation. Instruction Mode: Lecture Grading Option: Letter

PR 450 Advanced Strategic Public Relations
Units: 4 Terms Offered: FaSp In-depth study of methods for planning, managing and evaluating strategic communication campaigns; critical analysis of contemporary cases; development of campaigns for real world clients. *Prerequisite:* PR 351b and PR 463 Duplicates Credit in former JOUR 450 Instruction Mode: Lecture Grading Option: Letter

PR 451 Promotional Public Relations
Units: 4 Principles and practices of public relations as a basic component in the promotion and marketing of goods and services; regulatory considerations; consumerism. Duplicates Credit in former JOUR 451 Instruction Mode: Lecture Grading Option: Letter

PR 452 Public Relations in Entertainment
Units: 4 Public relations in the design, promotion, and presentation of popular entertainment, including films, broadcasting, music, expositions, amusement parks, resorts and arenas. Duplicates Credit in former JOUR 452 Instruction Mode: Lecture Grading Option: Letter

PR 453 Public Relations Strategies for Working with Athletes
Units: 4 Sports Public Relations isn't only getting press for a team or player; it's managing communications among influencers. Complements overview course giving students advanced look at practitioners' role with professional athletes. Instruction Mode: Lecture Grading Option: Letter

PR 454 Sports Public Relations
Units: 2 Introduction to the field of sports information and promotion, including lectures, media assignments, role-playing, and presentations by sports professionals. Duplicates Credit in former JOUR 454 Instruction Mode: Lecture Grading Option: Letter

PR 455 Public Relations for Non-Profit Organizations
Units: 4 Introduction to the specialized field of public relations for non-profit and non-governmental organizations; emphasis on case studies, strategic and critical thinking, and campaign development. Duplicates Credit in former JOUR 455 Instruction Mode: Lecture Grading Option: Letter

PR 456 Public Relations for Diverse Audiences
Units: 4 Researching, planning, executing and evaluating communications campaigns aimed at audiences segmented by culture, lifestyle and other factors. *Prerequisite:* PR 250 Duplicates Credit in former JOUR 456 Instruction Mode: Lecture Grading Option: Letter

PR 457 The Role of Celebrity in Public Relations
Units: 4 Understanding of the history and application of celebrity in public relations, focusing on the entertainment industry and the notoriety attached to politics and the media. Duplicates Credit in former JOUR 457 Instruction Mode: Lecture Grading Option: Letter

PR 458 Public Relations in Politics and Political Campaigns
Units: 4 Application of public relations principles to the context of political campaigns; emphasis on message development and delivery; relationship between candidate, news media, and electorate. Duplicates Credit in former JOUR 458 Instruction Mode: Lecture Grading Option: Letter

PR 463 Strategic Public Relations Research, Analysis and Insights
Units: 4 Terms Offered: FaSp Identification of key strategic insights that drive successful communication campaigns, based on research techniques including surveys, content evaluation and social media monitoring. *Prerequisite:* PR 351a or JOUR 351a [Inactive] Duplicates Credit in former JOUR 463 Instruction Mode: Lecture Grading Option: Letter

PR 464 Advanced Lifestyle Public Relations
Units: 4 In-depth look at various aspects of Lifestyle PR with special emphasis on food, fashion and beauty, travel/tourism, hospitality, furniture/housewares, toys and more. *Prerequisite:* PR 444 Instruction Mode: Lecture Grading Option: Letter

PR 473 Emerging Media Strategies for Communication and Public Relations
Units: 4 In-depth, hands-on study of emerging tradigital, social and owned media channels; Emphasis on the evaluation of such media as effective tools for audience engagement. Registration Restriction: Open only to juniors and seniors Duplicates Credit in former JOUR 473 Instruction Mode: Lecture Grading Option: Letter

PR 477 Strategic Netnography for Digital Communication Insights
Units: 4 Provides deep understanding and hands-on experience in the strategic application of netnography, or digital anthropology, to contemporary public relations and communication fields. Instruction Mode: Lecture Grading Option: Letter

PR 478 Social Media Analytics: Data and Content Creation for Real-time Public Relations
Units: 4 Application of monitoring tools to become social media analysts and real-time content creators; interpretation of large data sets drawn from the social web; understanding of how to present data visually for optimal impact. Duplicates Credit in former JOUR 478 Instruction Mode: Lecture Grading Option: Letter

PR 481 Careers and Strategies in Health Communication
Units: 4 Understanding of the dynamic, changing world of U.S. healthcare; knowledge of healthcare audiences and how to reach them; creating effective strategic communications initiatives. Duplicates Credit in former JOUR 481 Instruction Mode: Lecture Grading Option: Letter

PR 482 Comparative Media in Europe
Units: 4 Terms Offered: Sm (Enroll in JOUR 482)

PR 485 Multimedia PR Content: Digital/Social Media Lab
Units: 2 Hands-on lab; Web and new social distribution platforms; development and management of online content and personal brands; social media trends and applications. Duplicates Credit in former JOUR 485 Instruction Mode: Lecture Grading Option: Letter

PR 486 Multimedia PR Content: Introduction to Digital Design Tools
Units: 2 Hands-on lab; producing multimedia content; basic principles of design; tools and techniques to create digital images and layouts. Duplicates Credit in former JOUR 486 Instruction Mode: Lecture Grading Option: Letter

PR 487 Multimedia PR Content: Introduction to Audio/Video Tools
Units: 2 Hands-on lab; audio/video tools for conceiving, shooting, editing, delivering and archiving compelling stories for online audiences; personal brand building; digital storytelling trends and applications. Duplicates Credit in former JOUR 487 Instruction Mode: Lecture Grading Option: Letter

PR 488 Multimedia PR Content: Visual Communication of Information
Units: 2 Overview of tools and techniques available to convey messages and experiences; exploration into graphic design, visual branding, design methods and processes. Duplicates Credit in former JOUR 488 Instruction Mode: Lecture Grading Option: Letter

PR 490 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSpSm Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

PR 491 Fan Relations
Units: 4 Examines fan relationships and explores fan activation strategies across sports, television, motion pictures, music, comic books, theme parks, social media and more. Registration Restriction: Open only to juniors, seniors and graduate students Duplicates Credit in former JOUR 491 Instruction Mode: Lecture Grading Option: Letter

PR 492 Personal Branding
Units: 4 Learn to build, promote and manage a personal brand through critical analysis, case study, interactive interpretation and creative problem solving. Duplicates Credit in former JOUR 492

Instruction Mode: Lecture Grading Option: Letter

PR 498 Public Relations Honors Seminar
Units: 2 Terms Offered: Sp Leadership workshop inspires students to be braver and more creative; encourages them to discover their leadership potential/ explore new challenges inside and outside of classroom. Registration Restriction: Admission to Honors Program Instruction Mode: Lecture Grading Option: Letter

PR 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: max 8 Terms Offered: FaSpSm Selected topics in public relations. Instruction Mode: Lecture Grading Option: Letter

PR 501 Advocacy Communications
Units: 4 Study and evaluation of communications campaigns by civil society actors to influence public policy with a focus on messaging and efforts to shape news coverage. Duplicates Credit in former JOUR 501 Instruction Mode: Lecture Grading Option: Letter

PR 504 Strategic Public Relations Research, Evaluation and Insights
Units: 3 Terms Offered: Fa Covers use of primary and secondary research methods, analysis, web monitoring and analytics, pre- and post-campaign testing, and other techniques in program planning and evaluation. *Prerequisite:* PR 508 Duplicates Credit in former JOUR 504 Instruction Mode: Lecture Grading Option: Letter

PR 508 Public Relations and Advertising Fundamentals and Strategy
Units: 3 Explores the practice of public relations and advertising in a broader strategic communication and digital context; emphasizing strategy, critical thinking and problem solving. Duplicates Credit in former JOUR 508 Instruction Mode: Lecture Grading Option: Letter

PR 510 Legal, Ethical and Social Foundations of Strategic Public Relations
Units: 3 Terms Offered: Sp Explores the origins, effects of, and processes for adhering to the complex network of legal, ethical and social responsibilities of the contemporary PR practitioner. Duplicates Credit in former JOUR 510 Instruction Mode: Lecture Grading Option: Letter

PR 522 Storytelling with Data Intelligence
Units: 3 Provides the foundations of quantitative research methods, the basics of storytelling with data and critical thinking skills in public relations, advertising and related fields. Instruction Mode: Lecture Grading Option: Letter

PR 523 Advanced Audience Insight Mining
Units: 3 Provides student training with cutting-edge digital research methods and applied data analytic skills relevant to current and future public relations and advertising practices. Instruction Mode: Lecture Grading Option: Letter

PR 524 Multimedia Content Creation for Brand Storytelling I
Units: 3 Covers the conceptualization and creation of strategy-based, engaging, primarily web-based multimedia content for use by organizations of all types. Instruction Mode: Lecture Grading Option: Letter

PR 525 Multimedia Content Creation for Brand Storytelling II
Units: 3 Conceptualization and creation of strategic, research-based, primarily image and video multimedia content for use by organizations of all types. *Prerequisite:* PR 524 Instruction Mode: Lecture Grading Option: Letter

PR 526 Understanding Transmedia Audiences
Units: 3 Understanding contemporary media audiences through theoretical concepts and developing applied business insights from research using interviews, ethnography, netnography, content analysis, data interpretation and visualization. Instruction Mode: Lecture Grading Option: Letter

PR 527 Multimedia Content Creation for Strategic Public Relations
Units: 3 Terms Offered: Sp Covers the conceptualization and creation of strategy-based, engaging, primarily web-based multimedia content for use by organizations of all types. *Prerequisite:* PR 508 and PR 535 Duplicates Credit in former JOUR 527 Instruction Mode: Lecture Grading Option: Letter

PR 529 Business and Economic Foundations for Communicators
Units: 3 Speaking the language of the board room; understanding business goals and objectives; economic literacy; financial/investor relations; understanding organizational disciplines and how they relate to corporate communication; PR/ communication business processes and management. Instruction Mode: Lecture Grading Option: Letter

PR 530 Strategic Public Relations Management
Units: 3 An analytical, case study-based approach to strategic campaign planning, management and execution, with heavy emphasis on problem solving and the role of research. Duplicates Credit in former JOUR 530 Instruction Mode: Lecture Grading Option: Letter

PR 532 International Public Relations
Units: 3 Public information policies and practices of national and supranational government units and national and multinational corporations involved in international relations. Duplicates Credit in former JOUR 532 Instruction Mode: Lecture Grading Option: Letter

PR 534 Case Studies in Public Relations
Units: 3 Analysis of landmark and contemporary public relations cases; evaluation of current literature, programs, and professional personnel; identification of emerging issues. Duplicates Credit in former JOUR 534 Instruction Mode: Lecture Grading Option: Letter

PR 535 Persuasive Writing
Units: 3 Teaches persuasive writing for practitioners in public relations, advertising, influencer relations and brand activation through in-class writing drills with and without deadline pressure. Duplicates Credit in former JOUR 535 Instruction Mode: Lecture Grading Option: Letter

PR 536 Digital, Social and Mass Media Public Relations Strategies
Units: 3 Analysis of shifting media environment; development and execution of multi-platform campaigns based on organizational goals and audience characteristics. Duplicates Credit in former JOUR 536 Instruction Mode: Lecture Grading Option: Letter

PR 537 Public Relations and Branding
Units: 3 Concept of branding, including brand definition, brand engagement, brand management and the role of public relations in creating brand value. Duplicates Credit in former JOUR 537 Instruction Mode: Lecture Grading Option: Letter

PR 538 Image Management in Entertainment
Units: 3 In-depth study of the creation and protection of reputations for entertainment properties of all types and the characteristics that distinguish it from other disciplines. Duplicates Credit in former JOUR 538 Instruction Mode: Lecture Grading Option: Letter

PR 539 Lifestyle Public Relations Audience Engagement
Units: 3 Terms Offered: Sm Examines engagement/activation as well as the nuances of lifestyle practitioner. Dissects segments such as towns and neighborhoods; race/ethnicity by cultural practices/nuances. *Recommended Preparation:* PR 444 Instruction Mode: Lecture Grading Option: Letter

PR 540 International Journalism Seminar I
Units: 3 (Enroll in JOUR 540)

PR 561 Principles of Public Relations
Units: 4 Terms Offered: Other Practical and theoretical survey of the public relations profession as it is currently practiced, providing a social/contextual backdrop for further study of the field. Duplicates Credit in former JOUR 561 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CMGT 561

PR 562 Foundations of Effective PR Writing
Units: 4 Terms Offered: Other Specialized writing for persuasive and strategic communication contexts. Intensive focus on public relations writing for print, online, broadcast, and social media. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CMGT 562

PR 563 Promotional and Product Public Relations
Units: 3 Planning, managing and evaluating integrated communications campaigns utilizing public relations strategies in concert with advertising and other marketing disciplines; emphasis on research, case studies and campaign development. Duplicates Credit in former JOUR 563 Instruction Mode: Lecture Grading Option: Letter

PR 565 Corporate Public Relations and Reputation
Units: 3 Learn all aspects of corporate communications and reputation management through real-time news analysis, cases and senior guest speakers from the world's largest, most admired companies. Duplicates Credit in former JOUR 565 Instruction Mode: Lecture Grading Option: Letter

PR 566 Public Relations for Multicultural and Niche Audiences
Units: 2 Developing, managing and

evaluating campaigns designed to reach audiences segmented by culture, lifestyle and other factors. Duplicates Credit in former JOUR 566 Instruction Mode: Lecture Grading Option: Letter

PR 568 Crisis Management in Strategic Public Relations
Units: 3 Focuses on theories, concepts and practices in risk assessment, issues monitoring, and crisis anticipation/ management in a wide variety of organizational contexts, and from multiple perspectives. Duplicates Credit in former JOUR 568 Instruction Mode: Lecture Grading Option: Letter

PR 569 Ethics in Public Relations
Units: 3 Application of public relations principles to ethical conduct in a business, government agency, non-profit organization or consulting entity; emphasis on applicable cases and dialogue. Duplicates Credit in former JOUR 569 Instruction Mode: Lecture Grading Option: Letter

PR 583 Managing Communication in the Entertainment Industry
Units: 4 (Enroll in CMGT 543)

PR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PR 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In Progress/Credit/ No Credit

PR 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

PR 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: Credit/No Credit

PR 597 Financial and Investor Communications
Units: 3 Provides a practical, working understanding of financial communications, concerned primarily with articulating a company's value. This applies to matters of corporate image and financial/ investment environment. *Prerequisite:* PR 508 Registration Restriction: Open only to Public Relations and Strategic Public Relations majors Duplicates Credit in former JOUR 597 Instruction Mode: Lecture Grading Option: Letter

PR 598 Improvisational Leadership
Units: 3 Leadership workshop inspires stepping outside of comfort zones to be braver and more creative. Encourages discovery of leadership potential by exploring new ideas and challenges. Instruction Mode: Lecture Grading Option: Letter

PR 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: max 8 Terms Offered: FaSpSm Seminar in selected topics in journalism. Instruction Mode: Lecture Grading Option: Letter

Product Innovation

PRIN 501 The Creator's Mindset
Units: 4 In-depth exploration of the mindsets, personalities and social, cultural and political factors that led to the world's greatest breakthroughs. Instruction Mode: Lecture Grading Option: Letter

PRIN 502 History and Theory of Product Innovation
Units: 2 Covers milestones of product design, including game-changing concepts and processes that led to disruptive innovations and new enterprise opportunities. Instruction Mode: Lecture Grading Option: Letter

PRIN 503 Principles of Human-Centered Design
Units: 2 Advanced methods and techniques for applying human-centered design to the development and launch of products and enterprises. Includes workshop design and facilitation, co-creation and synthesis. Instruction Mode: Lecture Grading Option: Letter

PRIN 504 Aesthetics of Form I
Units: 4 In-depth look at what shapes our aesthetic values. Students gain facility in critical dialog, recognition and practice of aesthetic decisions across physical and virtual product platforms. Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 505 Aesthetics of Form II
Units: 4 Through case studies and applied learning students gain advanced knowledge in consumer desirability and the functional aspects of virtual and physical form and aesthetic design. Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 510 Foundation Studio
Units: 4 An intensive look at the process of bringing a product from concept to market. Includes theory and applied techniques for both physical and virtual products. Instruction Mode: Lecture Grading Option: Letter

PRIN 515 Maker Foundation I
Units: 2 Advanced visualization concepts, techniques and tools used to communicate ideas, solve problems and enhance collaboration for product design and development. *Corequisite:* PRIN 516 Instruction Mode: Lecture Grading Option: Letter

PRIN 516 Maker Foundation II
Units: 2 Advanced explorations of digital design tools, including industry standard software. *Corequisite:* PRIN 515 Instruction Mode: Lecture Grading Option: Letter

PRIN 520 Creators Studio
Units: 4 Max Units: 12 Research, ideation, design, development and fabrication of products; applied principles of human centered design, blue ocean strategies and product desirability, feasibility and viability. *Recommended Preparation:* PRIN 510 Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 525 Physical Maker Lab
Units: 2 Max Units: 12 Fabrication of physical products; includes explorations of soft goods, hard goods and products suitable for hybrid or unique applications. Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 526 Virtual Maker Lab
Units: 2 Max Units: 12 Making and execution of virtual products; includes explorations of digital and interactive systems and experiences, and products suitable for hybrid or unique applications. Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 530 Business Essentials for Product Innovators
Units: 4 Foundational concepts, methodologies and techniques for developing and launching products and enterprises; product road-mapping, supply chain, market research and user/consumer insight. Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 531 Product Venture Design and Foresight
Units: 4 What if doing business was re-framed as a medium for design? Students uncover their ability to see and activate groundbreaking opportunities in new product development. *Prerequisite:* PRIN 530 Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 532 Leading Product Enterprises
Units: 4 Advanced concepts, methodologies and techniques for developing and launching products and enterprises; organizational structure and culture, finance and sustainable growth. *Prerequisite:* PRIN 531 Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 535 Entrepreneur Lab
Units: 2 Max Units: 12 Selected topics covering development of products for new enterprises; product viability, enterprise models, talent acquisition and management and legal considerations. Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 550 Industry Lab
Units: 2 Max Units: 12 Practicum through which student teams serve as design strategists for industry collaborators, and learn advanced methods and processes to solve problems in collaborative, field-specific environments. Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 575a The Garage Experience
Units: 2 Product Innovation capstone leading to innovative outcomes, including advanced research artifacts, operational prototypes and breakthrough enterprises across multiple fields and industries. Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 575b The Garage Experience
Units: 2 Max Units: 6 Continuation of PRIN 575a . Students refine and perfect outcomes, leading to a pitch/presentation to faculty and industry experts for funding or validation and critical networking. *Prerequisite:* PRIN 575a Instruction Mode: Lecture, Lab Grading Option: Letter

PRIN 590 Directed Research
Units: 1,2,3,4,5,6,7,8,9,10,11,12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC. Instruction Mode: Lecture Grading Option: Credit/No Credit

PRIN 591 Individual Instruction
Units: 1,2,3,4 Max Units: 8 Weekly, individual instruction with an Academy professor for deep exploration and study

within a Product Innovation core discipline. Instruction Mode: Lecture Grading Option: Letter

PRIN 599 Special Topics
Units: 1,2,3,4,5,6,7,8 Max Units: 8 Comprehensive exploration of particular aspects of product innovation. Selected topics. Instruction Mode: Lecture Grading Option: Letter

Pharmaceutical Sciences

PSCI 501 Drugs: Principles of ADME and Bioavailability
Units: 4 Terms Offered: Fa Principles of drug formulation, delivery, metabolism and transport; influence of physicochemical properties, physiology, and pharmacogenetics on these properties; drug-drug interactions; and pharmacokinetics. Instruction Mode: Lecture Grading Option: Letter

PSCI 502 Principles of Therapeutic Mechanisms
Units: 4 Terms Offered: Fa Principles of mechanisms of actions of common drug classes, medicinal chemistry, pharmacology, drug interactions with protein targets, biologics, drug targeting and nanotechnology. Instruction Mode: Lecture Grading Option: Letter

PSCI 503 Principles of Research Methodology
Units: 4 Terms Offered: Sp Covers various topics focused on the analysis of biological molecules and samples. Techniques in detection, separation and quantitative analysis of biological molecules will be presented and discussed. Instruction Mode: Lecture Grading Option: Letter

PSCI 511 Drugs: Solubility, Dissolution and Absorption
Units: 2 Terms Offered: Fa Drug formulation based on physicochemical properties, ionization, solubility, rate of solution, partitioning; methods to improve these properties to enhance absorption. Instruction Mode: Lecture Grading Option: Letter

PSCI 512 Drugs: Metabolism and Transporters
Units: 2 Terms Offered: Sp Drug metabolism and transport, mechanism of CYP P450 enzymes, chemistry of metabolic pathways, prediction of metabolism, mechanism of drug uptake and efflux, drug-drug interactions. Instruction Mode: Lecture Grading Option: Letter

PSCI 513 Drugs: Biologics and Specialty Pharmaceuticals
Units: 2 Terms Offered: Sp Formulation and delivery of biologics, mechanism of action and use of biologics in major disease states, and value of specialty pharmaceuticals. Instruction Mode: Lecture Grading Option: Letter

PSCI 515 Drugs: Genetics and Pharmacogenetics
Units: 2 Terms Offered: Sp Drug-related genetics principles; pharmacogenetics influencing drug action, including individual responses to drugs based on SNPs; and genetic engineering and gene therapy. Instruction Mode: Lecture Grading Option: Letter

PSCI 516 Free Radical Biology in Health and Disease
Units: 2 Terms Offered: Fa Principles of free radical biochemistry and its effects on pathophysiology; redox regulation of cell signaling and transcriptional pathways. *Recommended Preparation:* Undergraduate course in Biochemistry or Molecular Biology or Cell Biology Instruction Mode: Lecture Grading Option: Letter

PSCI 517 Protein Engineering and Drug Discovery
Units: 2 Terms Offered: Sp Highlight the principles and applications of protein chemistry, structure and engineering with a major focus on subjects and topics directly relevant to biological therapeutics and drug design and discovery. Instruction Mode: Lecture Grading Option: Letter

PSCI 531 Cell Biology
Units: 4 (Enroll in INTD 531)

PSCI 556 Principal Research Approaches and Scientific Writing
Units: 4 Terms Offered: Fa Familiarizes new graduate students with basic approaches used in biomedical research, with a focus on approaches in pharmaceutical, pharmacological and translational sciences. Provides an understanding of what to expect in the coming years as a graduate student doing biomedical research and in scientific writing. Instruction Mode: Lecture Grading Option: Letter

PSCI 557 Introduction to Tools and Techniques for Chemical Biology
Units: 2 Terms Offered: Sp Multidisciplinary science where the knowledge of chemistry is utilized to solve problems in biology, and biological systems are evolved to gain new functions. This course aims to establish a great opportunity for graduate students at the interface of biology and chemistry. *Recommended Preparation:* formal course work in chemistry and biochemistry. Instruction Mode: Lecture, Discussion Grading Option: Letter

PSCI 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

PSCI 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

PSCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSCI 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* completion of all required course work for the MS degree. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* completion of all required course work for the MS degree. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* completion of all required course work for the MS degree. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

PSCI 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Topics in advanced pharmaceutical sciences. Instruction Mode: Lecture Grading Option: Letter

PSCI 633 Free Radical Chemistry, Biology, and Medicine
Units: 4 Terms Offered: Fa (Enroll in GERO 666)

PSCI 655 Immunopharmaceutics
Units: 2, 2 years Terms Offered: Fa Lectures and discussion sessions on pharmaceutics related immunology, including drugs affecting the immune system, antibodies and cytokines as drugs, and new developments in immunobiotechnology. Instruction Mode: Lecture Grading Option: Letter

PSCI 662 Advanced Pharmacokinetics/ Pharmacodynamics
Units: 2 Max Units: 4.0 Terms Offered: FaSp Principles of advanced pharmacokinetics/pharmacodynamics. Mathematical description of drug disposition processes. Design and evaluation of pharmacokinetic/pharmacodynamic studies. Advanced approaches to parameter estimates. Instruction Mode: Lecture Grading Option: Letter

PSCI 664 Drug Discovery and Design
Units: 4 Terms Offered: FaSpSm Principles of drug discovery, design and characterization. Mechanisms of action of major classes of drugs. *Recommended Preparation:* college level chemistry and biology. Instruction Mode: Lecture Grading Option: Letter

PSCI 665 Drug Transport and Delivery
Units: 4 Terms Offered: Fa Principles of cellular drug transport, in vivo drug transport, and modern drug delivery, including drug targeting. *Recommended Preparation:* college level chemistry and biology. Instruction Mode: Lecture Grading Option: Letter

PSCI 667 Intracellular Drug Delivery and Targeting
Units: 2, 2 years Terms Offered: Sp Mechanisms of membrane trafficking and intracellular transport and the utilization of these mechanisms in drug delivery and targeting. *Recommended Preparation:* college level chemistry and biology, INTD 531. Instruction Mode: Lecture Grading Option: Letter

PSCI 756a Seminar in Pharmaceutical Sciences
Units: 1 Terms Offered: FaSpSm Review of current pharmaceutical and related

research topics. Instruction Mode: Lecture Grading Option: Letter

PSCI 756b Seminar in Pharmaceutical Sciences
Units: 1 Terms Offered: FaSpSm Review of current pharmaceutical and related research topics. Instruction Mode: Lecture Grading Option: Letter

PSCI 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSCI 791L Research
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: no max Directed research for the MS thesis or PhD dissertation.

PSCI 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Psychology

PSYC 100Lg Introduction to Psychology
Units: 4 Terms Offered: FaSpSm Introduction to psychological science, including historical and contemporary approaches. Behavior examined from biological, cognitive, social, developmental, and personality perspectives. Disorders and treatments. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 165Lg Drugs, Behavior and Society
Units: 4 Terms Offered: Irregular An integrative systems perspective of drugs; including their historical, economic, and cultural importance, psychopharmacology, addiction, relationship to crime, and therapeutic use in treating psychological disorders. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 201Lg The Science of Happiness
Units: 4 Evaluates scientific research on human happiness. Integrates research from psychology, economics, and neuroscience in the evaluation of personal and public policy choices. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 210gmw Social Analysis of Gender
Units: 4 Terms Offered: FaSp (Enroll in SWMS 210) Satisfies Global Perspective in Category G: Citizenship in a Diverse World

PSYC 215Lg Music, Mind and the Brain
Units: 4 Terms Offered: Irregular An interdisciplinary approach to music, mind and brain. Explores music as an object with its own properties and as a form of human behavior. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MUSC 215

PSYC 240gx Scientific Inquiry and Reasoning in Health Care
Units: 4 Critical analysis and reasoning skills required to solve scientific problems in human behavior, including presentation of data, logic of research design, statistics, and research ethics. Satisfies New General Education in Category F: Quantitative Reasoning Credit Restriction: Not for major credit for Psychology majors Instruction Mode: Lecture Grading Option: Letter

PSYC 274Lg Statistics
Units: 4 Terms Offered: FaSpSm Introduction to the use of statistics in psychology: basic ideas in measurement; frequency distributions; descriptive statistics; concepts and procedures in statistical inference. *Recommended Preparation:* PSYC 100. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 275Lg Language and Mind
Units: 4 Terms Offered: FaSp (Enroll in LING 275)

PSYC 290x Supervised Research in Psychology
Units: 2 or 4 Max Units: 8.0 Terms Offered: FaSpSm Supervised Research with department faculty. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 301L Cognitive Processes
Units: 4 Terms Offered: Irregular Experimental and theoretical aspects of human memory, perception, thinking, and language. *Prerequisite:* PSYC 100. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 304L Sensation and Perception
Units: 4 Terms Offered: Irregular Receptor processes and stimulus organization; traditional topics in the perception of objects, space, time. *Prerequisite:* PSYC 100. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 305 Learning and Memory
Units: 4 Terms Offered: Irregular Principles involved in classical and operant conditioning. Concentration on basic causes of behavior; consideration of the relevance of simple behavioral laws to complicated human behavior. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 314L Experimental Research Methods
Units: 4 Terms Offered: FaSpSm Experimental research methods in psychology; nature and concepts of scientific method. *Prerequisite:* PSYC 100 and PSYC 274. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 316L Non-Experimental Research Methods
Units: 4 Terms Offered: FaSpSm Non-experimental research methods in psychology. Observational, survey and data analysis exercises. *Prerequisite:* PSYC 100 and PSYC 314. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 320 Principles of Psychobiology
Units: 4 Terms Offered: Irregular The integrative study of bio-behavioral systems. Evolutionary, developmental, ecological, social, ethological, and physiological factors mediating representative behavioral and psychological phenomenon are examined in detail. *Prerequisite:* PSYC 100Lg Instruction Mode: Lecture Grading Option: Letter

PSYC 326 Behavioral Neuroscience
Units: 4 Terms Offered: FaSp Neural bases of behavior. Concentration on sensory and motor processes and the interaction of neural, chemical, and hormonal systems. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 336L Developmental Psychology
Units: 4 Terms Offered: FaSp Child and adolescent behavior and associated theories; exploration of the continuity between child and adult behavior. *Prerequisite:* PSYC 100. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 337L Adult Development and Aging
Units: 4 Genetic, physical, and social influences during adult years on perception, learning and memory, intelligence, personality, social roles, and normal and deviant behavioral patterns. *Prerequisite:* PSYC 100. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 339Lg Origins of the Mind
Units: 4 Terms Offered: Sp Exploration of ancient philosophical questions concerning the origins of human knowledge through empirical studies of infants, animals, and adults from diverse cultures. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 353g Close Relationships
Units: 4 Terms Offered: FaSp Scientific perspective of close relationships: intimate relationships, friendships and others, evolutionary and biological bases of attraction and love, historical, social, cultural influences. *Prerequisite:* PSYC 100 Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

PSYC 355 Social Psychology
Units: 4 Terms Offered: FaSp Theoretical and experimental analysis of human behavior. Social processes involved in attitudes, conformity, compliance,

interpersonal perception, liking, affiliation, aggression, altruism, and group dynamics. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 360 Abnormal Psychology
Units: 4 Terms Offered: FaSp The commonly diagnosed behavior pathologies; biological, social, cultural, and developmental antecedents of abnormal behavior; principles of learning, perception, and motivation, as they relate to psychopathology. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 361 Introduction to Clinical Psychology
Units: 4 Terms Offered: Irregular Introduction to the scientist-practitioner model of clinical psychology, including research methods, psychological assessment and diagnosis, psychotherapeutic interventions, and treatment of special populations. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 363 Criminal Behavior
Units: 4 Genetic, biological, psychological, and sociological characteristics of those who evidence criminal behavior; theoretical formulations to be reviewed and appraised. *Prerequisite:* PSYC 100. Duplicates Credit in the former PSYC 463. Instruction Mode: Lecture Grading Option: Letter

PSYC 365 Introduction to Forensic Psychology
Units: 4 Terms Offered: FaSpSm Survey of current topics, technologies and techniques. Students acquire a basic understanding of how forensic psychologists contribute their unique expertise to the American legal system. *Prerequisite:* PSYC 100. Duplicates Credit in the former PSYC 465. Instruction Mode: Lecture Grading Option: Letter

PSYC 367g Stress, Health, and the Mind-Body Connection
Units: 4 Terms Offered: Sp Introduction to psychological, biological and behavioral processes affecting physical health, including stress, coping with disease, health behaviors and socioeconomic and cultural influences on health. *Prerequisite:* PSYC 100Lg Satisfies New General Education in Category C: Social Analysis Registration Restriction: Open only to Health and Human Sciences, Psychology, Social Sciences (Psychology) majors Instruction Mode: Lecture Grading Option: Letter

PSYC 372 Human Sexuality
Units: 4 Psychological and physiological base of sexuality; gender identity, childbearing, birth control, venereal diseases; dysfunctions and treatments. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-372

PSYC 380 Junior Honors Seminar
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Sp Advanced study of scientific inquiry in psychology with in-depth analysis of current research by faculty in the Psychology Department. Preparation for senior honors thesis research. *Corequisite:* PSYC 314. Instruction Mode: Lecture Grading Option: Letter

PSYC 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PSYC 391 Directed Field Experience in Psychology
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Individual field experience and independent study supervised by an on-site professional and USC faculty sponsor. *Prerequisite:* PSYC 100; *Recommended Preparation:* minimum of three courses completed in psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 404L Psychophysiology of Emotion
Units: 4 Terms Offered: Irregular Introduction to the scientific study of emotional behavior. Emphasizes research into relations between physiological and psychological variables underlying emotional experience. *Prerequisite:* PSYC 100, PSYC 274, and PSYC 314. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 405 Child Language Acquisition
Units: 4 (Enroll in LING 405)

PSYC 406 Psycholinguistics
Units: 4 (Enroll in LING 406)

PSYC 407 Atypical Language
Units: 4 (Enroll in LING 407)

PSYC 412 Current Topics In Social Psychology
Units: 4 Terms Offered: Sp Extensive examination of select current research in social psychology, based on original research papers. Specific topics change by semester. *Prerequisite:* PSYC 274Lg and PSYC 314L Instruction Mode: Lecture Grading Option: Letter

PSYC 415L Psychological Measurement
Units: 4 Classical and modern approaches to psychological measurement; scaling; test construction; true score reliability model; generalizability theory; validity; decision theoretic selection; item analysis; item response theory. *Prerequisite:* PSYC 314. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 418 Experimental Exploration into the Origins of Cognition
Units: 4 Exploration of the origins of cognition via the basics of experimental design, 3D computer modeling, data analysis, and scientific presentation. *Recommended Preparation:* PSYC 314 or background in experimental research. Instruction Mode: Lecture Grading Option: Letter

PSYC 420 Animal Behavior
Units: 4 Exploration of human nature through studies of nonhuman animals, including topics of navigation, culture, object representation, social cognition, music, and morality. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 421L Data Analysis for Psychological Research
Units: 4 Multivariate analysis emphasizing model estimation and testing; topics vary, e.g., multiple regression, logistic regression, factor analysis, multilevel linear modeling, structural equation modeling, multiway frequency analysis. *Prerequisite:* PSYC 314. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 422 Human Judgment and Decision Making
Units: 4 Descriptive and normative models of decision making; topics include probability judgments, inference, correlation, emotion, mental accounting, decision analysis, lens model, equity, social dilemmas, time, risk. *Prerequisite:* PSYC 314. Instruction Mode: Lecture Grading Option: Letter

PSYC 423 User Experience
Units: 4 Terms Offered: FaSp (Enroll in MDA 423)

PSYC 424 Neuropsychology
Units: 4 Terms Offered: Irregular Effects of brain damage on human behavior and abilities, particularly language, memory, and emotion. *Prerequisite:* PSYC 100Lg Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 422

PSYC 425 Functional Imaging of the Human Brain
Units: 4 Terms Offered: Irregular Introduction to the physical and physiological bases of Magnetic Resonance Imaging (MRI), and principles of functional MRI, safety, design and analysis of experiments, and operation. *Prerequisite:* PSYC 100Lg and PSYC 274Lg Instruction Mode: Lecture Grading Option: Letter

PSYC 426 Motivated Behaviors and Addiction
Units: 4 Terms Offered: Other Social, environmental, and physiological influences on behaviors associated with aggression, eating, reproduction, and sleep. Will focus on behavioral disorders such as addiction. *Prerequisite:* PSYC 100 *Recommended Preparation:* Junior or Senior Standing Instruction Mode: Lecture Grading Option: Letter

PSYC 427 Neuropsychopharmacology
Units: 4 Terms Offered: Fa Pharmo-chemical nature of the brain; diseases of the brain and drug treatments. *Prerequisite:* PSYC 100Lg Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 427

PSYC 428 Advanced Psychobiology Seminar
Units: 4 Terms Offered: FaSp Topics in psychobiology, including brain mechanisms that provide for perception, motivation, and memory. Student led mini-lectures and discussion in seminar format. *Prerequisite:* PSYC 304L or PSYC 326 Instruction Mode: Lecture Grading Option: Letter

PSYC 430 Social Development of Infants, Children and Adolescents
Units: 4 An analysis of selected topics and issues in child social development. *Prerequisite:* PSYC 100; *Recommended Preparation:* PSYC 274, PSYC 314, PSYC 336. Instruction Mode: Lecture Grading Option: Letter

PSYC 433 Children's Learning and Cognitive Development
Units: 4 Principles of cognitive development, learning, and motivation applied to the development of literacy; includes tutoring a child two hours per week. *Prerequisite:* PSYC 336. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-433

PSYC 434 Intelligence, Problem Solving and Creativity
Units: 4 Psychometric and experimental approaches to the study of intelligence, problem solving, reasoning and creativity, including analysis of mental test construction and validity. *Prerequisite:* PSYC 100 and PSYC 274. Instruction Mode: Lecture Grading Option: Letter

PSYC 437 Adolescent Development
Units: 4 Terms Offered: FaSp The adolescent years from both an applied and a research-oriented perspective. Topics include physical, cognitive, and moral development; socialization; and sexual and sex-role development. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 438 Behavioral Genetics
Units: 4 Terms Offered: Irregular Inheritance and evolution of behavioral characteristics in man and other species. *Prerequisite:* PSYC 274. Instruction Mode: Lecture Grading Option: Letter

PSYC 440 Foundations of Cognitive Neuroscience
Units: 4 Terms Offered: FaSp Introduction to the major components of cognition (perception, memory, intelligence) in terms of the neural coding characteristic of the relevant brain areas. *Prerequisite:* PSYC 100Lg *Recommended Preparation:* PSYC 301L Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 440

PSYC 450 Neural Network Models of Social and Cognitive Processes
Units: 4 Terms Offered: Irregular Introduction to using neural network or connectionist models to simulate cognitive, social, emotional and motivational processes; basic concepts and tools in computational neuroscience. *Prerequisite:* PSYC 100Lg *Recommended Preparation:* Basic knowledge of programming is helpful, but not required Instruction Mode: Lecture Grading Option: Letter

PSYC 451 Formation and Change of Attitudes
Units: 4 Terms Offered: Irregular Effects of socialization, personal influence, propaganda and social structure on private attitudes and public opinion. *Prerequisite:* PSYC 100 and PSYC 355. Instruction Mode: Lecture Grading Option: Letter

PSYC 452 Social Neuroscience
Units: 4 Terms Offered: Irregular Overview of principles and research in social neuroscience, which uses neuroscience approaches to inform social processes including empathy, inter-group relations, emotion, morality and social decision-making. *Prerequisite:* PSYC 100Lg *Recommended Preparation:* PSYC 355 Instruction Mode: Lecture Grading Option: Letter

PSYC 453 Intergroup Relations
Units: 4 Examination of the nature of relations between human groups and the psychological mechanisms relating to intergroup conflict, war, genocide, stereotyping, prejudice, and discrimination. *Prerequisite:* PSYC 355. Instruction Mode: Lecture Grading Option: Letter

PSYC 454 Social Cognition
Units: 4 Terms Offered: Irregular Theory and research on cognitive processes in social behavior, to include social inference, cognition and emotion, the Self, social categorization, person memory, and attribution processes. *Prerequisite:* PSYC 100; PSYC 355 recommended. Instruction Mode: Lecture Grading Option: Letter

PSYC 456 Conservation Psychology
Units: 4 Terms Offered: Fa Examination of theories, research, interventions regarding psychology of environmental sustainability including cognition, emotion, behavior, attitudes, persuasion, values, social identity, consumerism, and science of happiness. *Recommended Preparation:* PSYC 100Lg Instruction Mode: Lecture Grading Option: Letter

PSYC 459 Industrial/Organizational Psychology
Units: 4 I/O Psychologists develop and apply scientifically supported solutions to the workplace. "Industrial" deals with human resource functions, and "Organizational" with psychological aspects of the organization. *Prerequisite:* PSYC 100 *Recommended Preparation:* PSYC 316 Instruction Mode: Lecture Grading Option: Letter

PSYC 462m Culture and Mental Health
Units: 4 Terms Offered: Irregular The influence of culture, ethnicity, race and gender on human behavior. Mental health issues relevant to ethnic minorities in the U.S. *Recommended Preparation:* sophomore standing or higher; PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 464 Psychology of Marriage and the Family
Units: 4 Theories and research on family relationships across the life span, including research methods, cultural and developmental perspectives, communication, conflict, attachment, individual psychopathology and family violence. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 467 Introduction to Autism Spectrum Disorder
Units: 4 Terms Offered: Sp A comprehensive overview of the assessment, diagnosis and treatment of individuals diagnosed with autism spectrum disorder. Instruction Mode: Lecture Grading Option: Letter

PSYC 469 Schizophrenia Research
Units: 4 Terms Offered: Irregular Current research on possible causes of schizophrenia. Topics: history, diagnosis, genetics, neural development, obstetrics, psychosocial factors, brain imaging, psychopharmacology, premorbid signs and aging. *Prerequisite:* PSYC 100; *Recommended Preparation:* read current professional journals related to schizophrenia. Instruction Mode: Lecture Grading Option: Letter

PSYC 480x Senior Honors Seminar
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Sp Advanced study of empirical approaches in psychology. Progress presentations and evaluations of Senior Honors Thesis research. In-depth exploration of issues in science. *Prerequisite:* senior standing in Psychology Undergraduates Honors Program. Instruction Mode: Lecture Grading Option: Letter

PSYC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

PSYC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Selected topics in the various specialty areas within psychology. Topic will vary from semester to semester. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 500L An Overview of Quantitative Methods in Psychology
Units: 4 Team taught introduction to analysis of variance, regression analysis, multivariate measurement, and significance testing. Computer laboratory linked to class material using SAS, SPSS, and R. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 501L Classic and Modern Statistical Methods I
Units: 4 Terms Offered: Fa An introduction to classic statistical techniques as well as modern robust methods for dealing violations of standard assumptions. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 502 Classic and Modern Statistical Methods II
Units: 4 Terms Offered: Sp Classic and modern ANOVA, ANCOVA methods, multiple comparison procedures, basic multivariate methods, robust regression methods and basic methods for analyzing categorical data. *Prerequisite:* PSYC 501L Instruction Mode: Lecture, Lab Grading Option: Letter

PSYC 503L Regression and the General Linear Model
Units: 4 Terms Offered: Fa Multiple regression as a tool in experimental and non-experimental data; analysis of variance and covariance as regression on coded variables. Computer applications Laboratory exercises. *Prerequisite:* PSYC 501. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 504 Research Design
Units: 4 Terms Offered: Sp Intensive review of research methods in the behavioral sciences. Problem analysis, formulation of research propositions, and procedures for research inference. Instruction Mode: Lecture Grading Option: Letter

PSYC 505 Research Methods in Applied Social Psychology
Units: 4 Terms Offered: FaSpSm Various research techniques that are useful in a variety of different real world settings, such as business, governmental agencies and charities. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 506 Learning and Cognition
Units: 4 Terms Offered: Irregular Survey of learning theory and research, including conditioning and information-processing approaches with human and animal subjects. Instruction Mode: Lecture Grading Option: Letter

PSYC 508 Historical Foundations of Psychology
Units: 4 Terms Offered: Irregular History

of psychology: clinical, cognitive, developmental, experimental, quantitative, and social; epistemology and philosophy of science as applied to psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 512 Seminar in Social Psychology
Units: 4 Terms Offered: Fa Problems and theories of the person in the social context. Person perception, interpersonal relations, attitude dynamics, social systems. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EDUC-601

PSYC 513 Attitudes and Social Influence
Units: 4 Terms Offered: FaSpSm Current theories of attitudes and behavior, measurement, attitudes as predictors of behaviors, effects on changing attitudes and behavior. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 514 Psychopathology
Units: 4 Terms Offered: Fa Study of psychopathology: in-depth survey of theory and research concerning psychological disorders; introduction of diagnosis. (One of three clinical psychology core courses: PSYC 514, PSYC 515, PSYC 619.) Instruction Mode: Lecture Grading Option: Letter

PSYC 515 Clinical Assessment
Units: 4 Terms Offered: Fa Study of clinical assessment: test construction, measurement and prediction of behavior, major cognitive and personality assessment instruments. (One of three clinical psychology core courses: PSYC 514 , PSYC 515, PSYC 619.) Instruction Mode: Lecture Grading Option: Letter

PSYC 517 Group Dynamics and Leadership
Units: 4 Terms Offered: FaSpSm Theory and research on effective teams and characteristics of strong leaders. Negotiation, morale-building, managing expectancies, utilization of cultural diversity as a strength. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 518 Cognitive Modeling
Units: 4 Terms Offered: Sp History, philosophy and goals of cognitive modeling; basic issues in model construction and evaluation. *Recommended Preparation:* PSYC 625 or a similar machine learning course Instruction Mode: Lecture Grading Option: Letter

PSYC 520 Fundamentals of Psychological Measurement
Units: 4 Factor analysis; latent variable; scaling; test construction; classical true score reliability model; generalizability theory; validity; decision theoretic approaches to selection; item analysis; item response theory. Instruction Mode: Lecture Grading Option: Letter

PSYC 521 Cross Cultural Psychology in Applied Settings
Units: 4 Terms Offered: FaSpSm Examination of major theoretical frameworks mapping worldwide cultures and values with a focus on applying that knowledge in organizations. Registration Restriction: Open only to students in Applied Psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 523 User Experience (UX) Research
Units: 4 Terms Offered: FaSpSm Provides a broad introduction to the social science methods UX researchers most commonly use, including qualitative approaches, and quantitative approaches. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

PSYC 524 Research Design in Developmental Psychology
Units: 4 Terms Offered: Irregular Review and practice in the analysis and design of experimental and quasiexperimental paradigms for research on ontogenetic age changes and generational differences in behavior. Instruction Mode: Lecture Grading Option: Letter

PSYC 530 Concepts and Principles of Behavior Analysis
Units: 3 Terms Offered: Fa Provides intensive training in behavioral principles and laws of learning and motivation. Focuses on broad application of principles, from basic research with nonhumans, to application across human clinical populations. Instruction Mode: Lecture Grading Option: Letter

PSYC 531 Behavioral Assessment
Units: 3 Terms Offered: Fa Studies theory and application of behavioral methods for skill assessment, functional assessment of destructive behavior, and learner motivation. Discusses relative strengths and limitations of direct versus indirect methods. Instruction Mode: Lecture Grading Option: Letter

PSYC 532 Ethics for Behavior Analysts
Units: 3 Terms Offered: Fa Provides training in legal and ethical issues as they pertain to the professional practice of behavior analysis. Reviews the Guidelines for Responsible Conduct for Behavior Analysts, as well as the American Psychological Association's Ethical Principles of Psychologists and Code of Conduct. Instruction Mode: Lecture Grading Option: Letter

PSYC 533 Cognitive Development in Children
Units: 4 Terms Offered: Sp Review of theories of cognitive development. Analysis of research on brain functioning, perception, memory, language, reasoning and academic skills from birth to adolescence. Instruction Mode: Lecture Grading Option: Letter

PSYC 534 Social and Emotional Development in Children
Units: 4 Terms Offered: Fa Theories of social and emotional development, including sociocultural perspectives. Analysis of research on temperament, social relationships, individuation and moral development from birth to adolescence. Instruction Mode: Lecture Grading Option: Letter

PSYC 535 Research Methods in Behavior Analysis
Units: 3 Terms Offered: Sp Survey of methods for measuring behavior. Examines theoretical background for single subject research methods, practical application of research methods to treatment evaluation, and analyzes strengths and limitations of single subject research methods. Instruction Mode: Lecture Grading Option: Letter

PSYC 536 Behavioral Interventions
Units: 3 Terms Offered: Sp Examines empirically supported behavioral interventions across a range of socially relevant behavioral excesses, skill deficits, disorders, and age ranges. Focuses on least-intrusive, person-centered approaches. Instruction Mode: Lecture Grading Option: Letter

PSYC 537 Behavioral Supervision
Units: 2 Terms Offered: Fa Analyzes evidence-based approaches to designing behavior change systems at the individual, family, group, and organizational levels. Examines family and systems variables that affect the likelihood of initial and continued success of interventions. *Prerequisite:* PSYC 530 and PSYC 536 Instruction Mode: Lecture Grading Option: Letter

PSYC 538 Origins of Human Nature
Units: 4 Exploration of the evolutionary and developmental origins of human nature. Topics include navigation, object and number cognition, culture, sexual behavior, cooperation, language, and morality. Instruction Mode: Lecture Grading Option: Letter

PSYC 539 Behavioral Approaches to Skill Acquisition
Units: 2 Terms Offered: Fa Examines contemporary research on behavioral procedures for teaching complex skills to individuals of a variety ages and populations, including language, social, cognitive, vocational, and independent living skills. Instruction Mode: Lecture Grading Option: Letter

PSYC 540 Cognitive Neuroscience
Units: 4 Terms Offered: Sp An examination of the major components of cognition (e.g., perception, memory, intelligence) in terms of the neural coding characteristic of the relevant brain areas. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NSCI 533

PSYC 544 Psychophysiology
Units: 4 Max Units: 8.0 Terms Offered: Irregular Recent research on relations between basic psychological states (e.g., cognition, learning, emotion) and physiological response processes (e.g., autonomic responses, covert muscle activity). Instruction Mode: Lecture Grading Option: Letter

PSYC 545 Neuropsychology
Units: 4 Terms Offered: Irregular Brain mechanisms underlying perceptual and cognitive functioning: brain damage, loss of function, and clinical assessment. Instruction Mode: Lecture Grading Option: Letter

PSYC 547 Functional Neuroanatomy
Units: 4 Terms Offered: Irregular Regional organization and systems of the mammalian nervous system and their functions. Instruction Mode: Lecture Grading Option: Letter

PSYC 550a Proseminar in Human Behavior
Units: 4 Terms Offered: FaSpSm The nature of the human mind, social interactions, conflicts, cooperative behavior, mutual

influence and effectiveness. Application of psychological principles to the dynamics of commercial entities. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 550b Proseminar in Human Behavior
Units: 4 Terms Offered: FaSpSm The nature of the human mind, social interactions, conflicts, cooperative behavior, mutual influence and effectiveness. Application of psychological principles to the dynamics of commercial entities. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 551 Decision Neuroscience
Units: 4 Neuroscientific studies attempting to understand the neural basis of judgment and decision-making, social behavior, and market economies. *Recommended Preparation:* PSYC 547. Instruction Mode: Lecture Grading Option: Letter

PSYC 552 Principles of Consumer Psychology
Units: 4 Examination of the attitudes and decisions of consumers, and how to effectively reach consumers by using persuasion and proper positioning in the marketplace. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 555 Introduction to Functional Magnetic Resonance Imaging
Units: 4 Terms Offered: FaSp The physical and physiological bases of MRI and fMRI. Design and analysis of fMRI experiments. Operation of a magnetic resonance imaging system. Instruction Mode: Lecture Grading Option: Letter

PSYC 556 Psychology of Interactive Media
Units: 4 Examination of the diverse methods of communicating with a target audience with a special emphasis on the newest computer-based tools for providing information and influence. Registration Restriction: Open only to Applied Psychology (MS) students Instruction Mode: Lecture Grading Option: Letter

PSYC 565x Organizational Psychology
Units: 4 Terms Offered: FaSpSm Examination of the psychological factors that impact employee motivation, job satisfaction, teamwork, leadership, and organizational development. Registration Restriction: Open only to Master of Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 566 The Psychology of Employee Selection and Assessment
Units: 4 Terms Offered: FaSpSm Develop an understanding of recruitment and selection practices, processes, and approaches into the strategic role that recruitment and selection plays in organizational success. *Prerequisite:* PSYC 565x Registration Restriction: Open only to graduate Applied Psychology students Instruction Mode: Lecture Grading Option: Letter

PSYC 571 Foundations of Statistical and Data Analytic Methods in Psychology
Units: 4 Terms Offered: Fa Model comparison approach to analyzing experimental and non-experimental data; including moderated, mediated and nonlinear models as well as models with a categorical outcome. Instruction Mode: Lecture Grading Option: Letter

PSYC 573 Bayesian Data Analysis
Units: 4 Terms Offered: Fa Topics and techniques in Bayesian data analysis, including the philosophical foundations, Markov Chain Monte Carlo estimation, and applications to linear and generalized linear models. Instruction Mode: Lecture, Lab Grading Option: Letter

PSYC 575L Multilevel Modeling
Units: 4 Terms Offered: Irregular Topics in multilevel modeling including two- and three-level hierarchical linear models (HLM), random intercepts and slopes, longitudinal models and growth curve models, non-nested models as well as some recent development. *Recommended Preparation:* PSYC 503 Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 576 Psycholinguistics
Units: 3 Terms Offered: Fa (Enroll in LING 576)

PSYC 577 Analysis of Covariance Structures
Units: 4 Terms Offered: Irregular Multivariate analysis of non-experimental data, including structural equation modeling, path analysis, and confirmatory factor analysis. Computer applications using variety of optimization routines and purpose-written software. *Prerequisite:* PSYC 503. Instruction Mode: Lecture Grading Option: Letter

PSYC 578 Workshop in Quantitative Methods
Units: 4 Max Units: 8.0 Practical, hands-on experience in the application of selected quantitative methods to empirical data. Includes training in use of relevant computer software. *Prerequisite:* PSYC 501 and either PSYC 502 or PSYC 503. Instruction Mode: Lecture Grading Option: Letter

PSYC 586 Advanced Psycholinguistics
Units: 3 Max Units: max 9 (Enroll in LING 586)

PSYC 587 Practicum in Applied Behavior Analysis
Units: 2 Max Units: 10 Terms Offered: FaSpSm Provides supervised practical experience in implementing behavior analytic assessment and treatment services. Meets supervision requirements for the Board Certified Behavior Analyst exam. Students meet with course instructor to present and discuss cases for two hours per week every semester, including one summer session. Practicum hours in the field vary from 18-20 hours per week during the academic year to 30 hours per week during the summer. Instruction Mode: Lecture Grading Option: Letter

PSYC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 591 Applied Psychology Internship
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Internship in a non-university setting, such as business, governmental agency, or NGO. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 592 Applied Psychology Treatise
Units: 2 Terms Offered: FaSpSm Requires a research paper of substantial length and high quality that integrates the Internship experience with concepts and principles of human behavior. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 595 Practicum in Clinical Psychology
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp Supervised experience in interviewing skills and assessment, including psychological test administration and the preparation of reports. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 596 Advanced Behavioral Theory
Units: 3 Terms Offered: Sp Examines advanced topics in behavioral theory and philosophy, including a comprehensive behavioral approach to language and cognition. Discusses the nature of productive relations between behavior analysis and other psychological theories. *Prerequisite:* PSYC 530 Instruction Mode: Lecture Grading Option: Letter

PSYC 597 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least two semesters of enrollment in the graduate program. Registration Restriction: Open only to Psychology graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 597a Capstone Project in Behavior Analysis
Units: 2 Terms Offered: FaSp Supervision for completing independent project, consisting of practical treatment evaluation, program development, or literature review. Instruction Mode: Lecture Grading Option: Letter

PSYC 597b Capstone Project in Behavior Analysis
Units: 2 Terms Offered: FaSp Supervision for completing independent project, consisting of practical treatment evaluation, program development, or literature review. Instruction Mode: Lecture Grading Option: Letter

PSYC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in the various specialty areas within psychology at the graduate level. Topic will vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

PSYC 602 Self-concept and Motivation
Units: 4 Graduate-level depth-and-breadth course using a social psychological perspective on self-concept. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EDUC-602

PSYC 612 Seminar in Advanced Social Psychology
Units: 4 Max Units: 16.0 Terms Offered: Irregular An intensive consideration of selected concepts, theories, and research problems in social psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 616 Research Techniques for Non-Experimental Social Science
Units: 4 Terms Offered: Irregular Quasiexperimental designs; causal inference from correlational research, techniques for evaluating measures of attitude, personality, and social motives: observational methods; content analysis; sampling and survey techniques. Instruction Mode: Lecture Grading Option: Letter

PSYC 619 Psychological Intervention
Units: 4 Terms Offered: Sp Study of clinical psychological treatment: research and theory about major psychological approaches to intervention. (One of three clinical psychology core courses: PSYC 514, PSYC 515, PSYC 619.) Instruction Mode: Lecture Grading Option: Letter

PSYC 621 Seminar in Quantitative Psychology
Units: 4 Max Units: 12.0 Terms Offered: Irregular Selected topics in mathematical psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 622 Decision Analysis and Behavioral Decision Theory
Units: 4 Terms Offered: Irregular Normative and descriptive theories and research on human decision-making, with special emphasis on applications to real social decision problems. Instruction Mode: Lecture Grading Option: Letter

PSYC 625 Applied Machine Learning
Units: 4 Terms Offered: Fa Machine learning techniques, including Bayesian and Neural Networks, for analyzing different types of human-generated data. *Recommended Preparation:* PSYC 501L Instruction Mode: Lecture Grading Option: Letter

PSYC 626 Computational Social Sciences
Units: 4 Discussion of advances in computational social sciences, including automated text and network analysis. *Recommended Preparation:* PSYC 625. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-626

PSYC 660 Seminar in Clinical Psychology
Units: 4 Max Units: 8.0 Terms Offered: Irregular Selected topics in clinical psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 676 Seminar in Psycholinguistics
Units: 3 Max Units: max 12 (Enroll in LING 676)

PSYC 691a Internship in Clinical Psychology
Units: 0 Terms Offered: FaSp Supervised clinical work in an approved mental health setting. *Prerequisite:* good standing in clinical program and departmental approval. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 691b Internship in Clinical Psychology
Units: 0 Terms Offered: FaSp Supervised clinical work in an approved mental health setting. *Prerequisite:* good standing in clinical program and departmental approval. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 695 Advanced Practicum in Clinical Psychology
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp Didactic practicum combining theory and research on psychological intervention with clinical practice in assessment and treatment, focused on particular client groups or disorders. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Physical Therapy

PT 509 Cellular and Systems Physiology
Units: 3 Terms Offered: Fa Selected subjects in cellular and systems physiology. Emphasis on molecular and cellular aspects of neuromuscular function; also renal and endocrine physiology. Instruction Mode: Lecture Grading Option: Letter

PT 514L Musculoskeletal Anatomy
Units: 4 Terms Offered: Fa Musculoskeletal anatomy, innervation, blood supply, and function: intensive study of the head, neck, trunk, and limbs. Lecture, dissection laboratory. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 516 Principles of Disease
Units: 1 Terms Offered: Sm Principles and mechanisms of genetics, immunology, infection, wound healing and oncology. *Prerequisite:* PT 509 Instruction Mode: Lecture Grading Option: Letter

PT 521L Basics of Patient Management
Units: 4 Terms Offered: Fa Development of basic decision-making skills, professional behaviors and impairment assessment in patients with musculoskeletal neurologic and/or cardiopulmonary dysfunction. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 529 Life Span Motor Control
Units: 2 Terms Offered: Sm Introduction to sensorimotor systems, overview of current perspectives in motor control from fetus through late adulthood, and clinical tests of motor proficiency. *Corequisite:* PT 546 and PT 581L Instruction Mode: Lecture Grading Option: Letter

PT 530a Therapeutic Exercise
Units: 2 Terms Offered: Sp Theoretical and practical principles for evaluation of exercise need and prescription of exercise programs. Emphasis on approaches for patients with musculoskeletal deficits. *Prerequisite:* PT 509 and PT 514L and PT 521L Duplicates Credit in former PT 530 Instruction Mode: Lecture Grading Option: Letter

PT 530b Therapeutic Exercise
Units: 2 Terms Offered: Sm Examination of needs analysis and prescription of exercise programs for special patient populations and assessment of current community trends in exercise and wellness. *Prerequisite:* PT 530a and PT 554L and PT 574 and PT 621L Duplicates Credit in former PT 530 Instruction Mode: Lecture Grading Option: Letter

PT 534L Neuroanatomy
Units: 3 Terms Offered: Fa Organized approach to structures in the brain, spinal cord and peripheral nervous systems that subserve motor, sensory, and integrative functions, memory, cognitive and special senses. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 536 Pathology of Cardiopulmonary Disease and General Medical Conditions
Units: 3 Terms Offered: Fa Pathology and pathophysiological mechanisms in disease of the cardiac, pulmonary and circulatory systems; examination of diabetes, burns and other disabling medical disorders. *Prerequisite:* PT 509 and PT 516 Instruction Mode: Lecture Grading Option: Letter

PT 539 Clinical Pharmacology
Units: 1 Terms Offered: Fa Effects of commonly used drugs in patients with physical disability; side effects that alter physical performance or responses to exercise. Instruction Mode: Lecture Grading Option: Letter

PT 546 Neuropathology
Units: 3 Terms Offered: Sp Pathology in the central and peripheral nervous systems

that alter motor and sensory performance. Emphasis on loss of motion, excessive and involuntary movement disorders. *Prerequisite:* PT 516 and PT 509 and PT 566 and PT 534L *Corequisite:* PT 529 and PT 569 and PT 581L Instruction Mode: Lecture Grading Option: Letter

PT 549L Clinical Exercise Physiology
Units: 4 Terms Offered: Fa Adaptation of the human body to exercise and the use of exercise to modify human function. *Prerequisite:* PT 530b and PT 509 Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 551L Therapeutic Application of Physical Agents
Units: 3 Terms Offered: Sm Physiologic responses to the application of thermal, mechanical, electromagnetic and hydrodynamic therapeutic procedures. Evaluation procedures and intervention planning. *Prerequisite:* PT 509 and PT 530a and PT 554L and PT 566 and PT 621L Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 554L Analytical Anatomy
Units: 3 Terms Offered: Sp Detailed kinesiologic analysis of axial, spine, head, neck, face and bulbar muscles. *Prerequisite:* PT 514. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 561a Evidence for Physical Therapist Practice
Units: 2 Introduction to a patient-centered Evidence Based Practice model with emphasis on professional communication skills, ethics, professional guidelines, laws and regulations. Instruction Mode: Lecture Grading Option: Letter

PT 561b Evidence for Physical Therapist Practice
Units: 2 Introduction to acquiring, appraising and integrating research evidence. Instruction Mode: Lecture Grading Option: Letter

PT 561c Evidence for Physical Therapist Practice
Units: 2 Advanced critical analysis and application of research of evidence. Instruction Mode: Lecture Grading Option: Letter

PT 561d Evidence for Physical Therapist Practice
Units: 2 Advanced integration of patient values as influenced by culture, ethnicity, lifestyles, gender, and age into patient-centered clinical decision making. Instruction Mode: Lecture Grading Option: Letter

PT 561e Evidence for Physical Therapist Practice
Units: 2 Analysis of the integration of physical therapist practice into the national health care system; administration, budgeting and reimbursement for physical therapist services. Instruction Mode: Lecture Grading Option: Letter

PT 566 Disorders of the Musculoskeletal System
Units: 3 Terms Offered: Sp Regional description of pathology and pathophysiological mechanisms of disorders of bone, connective tissue, and joints. Lecture, demonstration. Instruction Mode: Lecture Grading Option: Letter

PT 569 Fundamentals of Neuroscience
Units: 4 Terms Offered: Sp Detailed analysis of neurophysiologic mechanisms underlying normal and abnormal motor and sensory function. *Corequisite:* PT 546 and PT 581L Instruction Mode: Lecture Grading Option: Letter

PT 571L Clinical Management of Cardiopulmonary Dysfunction
Units: 4 Terms Offered: Fa Physical therapy evaluation and intervention in the care of patients with circulatory, cardiac or pulmonary dysfunction. Lecture, case presentations, laboratory. *Prerequisite:* PT 621L and PT 530b and PT 516 Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 574 Clinical Biomechanics
Units: 3 Terms Offered: Sp Introduction to the principles of biomechanics (statics, dynamics) as they apply to physical therapy practice. Emphasis on tissue mechanics, joint function and gait. *Prerequisite:* PT 582 Instruction Mode: Lecture Grading Option: Letter

PT 581L Clinical Management of the Patient with Neurological Dysfunction
Units: 5 Terms Offered: Sp Physical therapy theory and methods for intervention in neurological dysfunction. *Prerequisite:* PT 534L and PT 571L and PT 574 *Corequisite:* PT 529 and PT 546 and PT 569 Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 582 Mechanics of Human Gait
Units: 2 Terms Offered: Fa Introduction to both normal and pathological gait. Emphasis on the basic components of abnormal ambulation including temporal-spatial factors, joint motion, kinetics, kinematics, and muscle activity. Instruction Mode: Lecture Grading Option: Letter

PT 583L Clinical Electrophysiology
Units: 1 Terms Offered: Sp Use of electrical currents to evaluate and treat musculoskeletal, neurological and wound disorders. Theory and practice. *Prerequisite:* PT 530b and PT 534L and PT 551L Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSpSm Selected topics in Physical Therapy. Instruction Mode: Lecture Grading Option: Letter

PT 600a Clinical Experience
Units: 1 Terms Offered: FaSpSm Practical experience in two- or six-week physical therapy manual skills, decision making and professional behaviors. Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 600b Clinical Experience
Units: 3 Terms Offered: FaSpSm Practical experience in six-week physical therapy manual skills, decision making, and professional behaviors. *Prerequisite:* PT 600a Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 600c Clinical Experience
Units: 1 Terms Offered: FaSpSm Practical experience in two-week physical therapy psychomotor skills, decision making and professional behaviors. *Prerequisite:* PT 600b Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 600d Clinical Clerkship
Units: 4 Terms Offered: FaSpSm Practical experience in eight week physical therapy psychomotor skills, decision making and professional behaviors. *Prerequisite:* PT 600c Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 600z Clinical Clerkship
Units: 0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 606 Clinical Imaging
Units: 2 Terms Offered: Sp Elements of reading roentgenographs, CAT and MRI scans for the physical therapist. Lecture, demonstration, practical experience. Instruction Mode: Lecture Grading Option: Letter

PT 621L Clinical Management of the Patient with Musculoskeletal Dysfunction
Units: 5 Terms Offered: Sp Physical therapy theory and methods of evaluation and treatment of orthopedic dysfunction. *Prerequisite:* PT 514, PT 521. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 625 Emerging Topics in Physical Therapy
Units: 3 Terms Offered: FaSpSm Familiarize the developing PT with emerging research, technology and skills that show promise in preparation for advances in patient management. *Corequisite:* PT 561e and PT 650 Instruction Mode: Lecture Grading Option: Letter

PT 630 Integrated Patient Management Clinical Skills
Units: 6 Terms Offered: FaSp Advanced evaluation and management of patients with movement dysfunction spanning all diagnoses seen by physical therapists. *Corequisite:* PT 632 Duplicates Credit in former PT 631 Instruction Mode: Lecture Grading Option: Letter

PT 632 Integrated Patient Management Seminar
Units: 5 Terms Offered: FaSp Integration of physical therapy management of complicated patients with concurrent musculoskeletal, cardiopulmonary and/or neurologic disorders. *Prerequisite:* PT 571, PT 581, PT 621. Instruction Mode: Lecture Grading Option: Letter

PT 640a Hybrid Integrated Patient Management Clinical Skills
Units: 3 Terms Offered: FaSp Advanced evaluation and management of patients with movement dysfunction spanning all diagnoses seen by physical therapists (musculoskeletal conditions focus on upper quarter body regions). Duplicates Credit in PT 630 Instruction Mode: Lecture Grading Option: In Progress to Letter

PT 640b Hybrid Integrated Patient Management Clinical Skills
Units: 3 Terms Offered: FaSp Advanced evaluation and management of patients with movement dysfunction spanning all diagnoses seen by physical therapists (musculoskeletal conditions focus on lower quarter body regions). *Prerequisite:* PT 640a Duplicates Credit in PT 630 Instruction Mode: Lecture Grading Option: In Progress to Letter

PT 642a Hybrid Integrated Patient Management Seminar
Units: 2.5 Terms Offered: FaSp Integration of physical therapy management of complicated patients with concurrent musculoskeletal (concentrating on upper quarter body regions), cardiopulmonary and/or neurologic disorders. Duplicates Credit in PT 632 Instruction Mode: Lecture Grading Option: In Progress to Letter

PT 642b Hybrid Integrated Patient Management Seminar
Units: 2.5 Terms Offered: FaSp Integration of physical therapy management of complicated patients with concurrent musculoskeletal (concentrating on lower quarter body regions), cardiopulmonary and/or neurologic disorders. *Prerequisite:* PT 642a Duplicates Credit in PT 632 Instruction Mode: Lecture Grading Option: In Progress to Letter

PT 650 Differential Diagnosis in Physical Therapy
Units: 2 Terms Offered: Sm Consideration of principle of differential diagnosis with emphasis on mastering this skill. *Prerequisite:* PT 536 and PT 546 and PT 581L *Recommended Preparation:* completion of years 1 and 2 *Concurrent Enrollment:* PT 625 Instruction Mode: Lecture Grading Option: Letter

PT 660 Advanced Clinical Experience with Academic Integration
Units: 5 Terms Offered: FaSp A 16-week clerkship consisting of a minimum of 24 hours per week in a part-time setting. Emphasis on the care of orthopedic, neurologic, pediatric or complicated medical conditions. Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 665 Advanced Clinical Experience
Units: 8 Terms Offered: FaSp A 16-week clerkship consisting of a minimum of 36 hours per week in a full-time setting. Emphasis on care of orthopedic, neurologic, pediatric or complicated medical conditions. Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 670a Hybrid Advanced Clinical Experience with Academic Integration
Units: 6.5 Terms Offered: FaSp A 13-week clerkship consisting of a minimum of 36 hours per week in a part-time setting. Emphasis on the care of orthopedic, neurologic, pediatric or complicated medical conditions. Duplicates Credit in PT 660 Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

PT 670b Hybrid Advanced Clinical Experience with Academic Integration
Units: 6.5 Terms Offered: FaSp A 13-week clerkship consisting of a minimum of 36 hours per week in a full-time setting. Emphasis on care of orthopedic, neurologic, pediatric or complicated medical conditions. *Prerequisite:* PT 670a Duplicates Credit in PT 660 Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

Petroleum Engineering

PTE 202x Energy and Society
Units: 4 Terms Offered: Irregular Study of the impact of the development, production, and global distribution of energy on societal, political, and economic behavior. Not available for major credit to engineering majors. *Prerequisite:* pass Math Skill Level. Instruction Mode: Lecture Grading Option: Letter

PTE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PTE 411 Introduction to Transport Processes in Porous Media
Units: 3 Terms Offered: Fa Properties of porous rocks; capillarity effect, single-phase and multiphase fluid flow through porous media; diffusion and dispersion, miscible displacement heat transfer. Lecture, 3 hours. Not available for credit to Petroleum Engineering majors. *Prerequisite:* (CHEM 105aLg or CHEM 115aLg) and (CE 309 and MATH 245 and PHYS 151Lg) Instruction Mode: Lecture Grading Option: Letter

PTE 412x Petroleum Reservoir Engineering
Units: 3 Terms Offered: Fa Properties of reservoir fluids, volumetric and material balances for gas and oil reservoirs; reservoir modeling concepts. Instruction Mode: Lecture Grading Option: Letter

PTE 461 Formation Data Sensing with Well Logs
Units: 4 Terms Offered: Fa Measurement theory and petroleum/geothermal applications of electrical, radioactive, acoustic, and production logging tools. Estimation of rock porosity, water saturation, permeability, shale content, gas flow rate. *Recommended Preparation:* Mechanics of materials, fundamentals of physics on the level of PHYS 152L and PHYS 408b Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE 461, AME 461

PTE 462 Economic, Risk and Formation Productivity Analysis
Units: 4 Terms Offered: Sp Principle of economic evaluation, risk analysis, reserves estimation, decline curves, energy prices, and well transients for flow prediction. *Prerequisite:* PTE 461. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-462, ME-462, AME-462

PTE 463L Introduction to Transport Processes in Porous Media
Units: 4 Terms Offered: Fa Fundamentals of flow and transport in porous materials including: Properties of porous rocks, capillarity effect, single- and multiphase flow, diffusion and dispersion in miscible displacements. *Prerequisite:* MATH 245 and PHYS 151Lg and (CHEM 105aLg or CHEM 115aLg) Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CHE 463, AME 463

PTE 464L Modeling and Simulation of Subsurface Flow Systems
Units: 4 Terms Offered: Sp Properties of reservoir fluids, volumetric and material balances for gas and oil reservoirs; reservoir modeling concepts. *Prerequisite:* PTE 463L Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CHE 464, AME 464

PTE 465L Drilling Technology and Subsurface Methods
Units: 3 Terms Offered: Fa Theory and practice in drilling technology; mechanical properties of reservoir rocks; well completion; acidizing and fracturing, oil production technology. *Prerequisite:* PTE 464. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as AME-465, CHE-465

PTE 466 Petroleum Geology
Units: 3 Terms Offered: Sm Introductory topics of physical and historical geology will be focused on the components that relate to the formation of oil and gas accumulations. Instruction Mode: Lecture Grading Option: Letter

PTE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

PTE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content to be selected each semester from recent developments in petroleum engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

PTE 500 Computational Reservoir Modeling
Units: 3 Terms Offered: Fa Introduction to mathematical and computational methods in characterizing, modeling, and describing the subsurface flow and transport phenomena. *Recommended Preparation:* Familiarity with basic calculus, differential equation, and MATLAB programming. Registration Restriction: Open only to Engineering students. Instruction Mode: Lecture Grading Option: Letter

PTE 502 Advanced Reservoir Characterization
Units: 3 Terms Offered: Irregular Sources of data for reservoir characterization; cross-disciplinary integration; geologic models; sequence stratigraphic, lithologic, well test and geophysical models; 4-D seismic; compartmentalized and fractured reservoirs; error and risk analysis. *Prerequisite:* PTE 411, PTE 461. Instruction Mode: Lecture Grading Option: Letter

PTE 503 Technology of Unconventional Oil and Gas Resources Development
Units: 3 Terms Offered: Fa Geology of unconventional resources, exploration, development, laboratory testing, drilling, formation evaluation, design and monitoring of hydraulic fracturing, forecasting, technology of oil sand and environmental issues. *Recommended Preparation:* PTE 507, graduate standing in petroleum engineering. Instruction Mode: Lecture Grading Option: Letter

PTE 504 Geophysics for Petroleum Engineers
Units: 3 Terms Offered: Sm Geosciences concepts and technologies with applications in petroleum engineering: 2D-3D-4D seismic, borehole geophysics, passive seismic, controlled source electromagnetics, geophysical and geological modeling and inversion. *Recommended Preparation:* familiarity with Matlab. Instruction Mode: Lecture Grading Option: Letter

PTE 505 Inverse Modeling for Dynamic Data Integration
Units: 3 Terms Offered: Sp Introduction to fundamentals of deterministic and stochastic inverse modeling, integration

of dynamic data into predictive reservoir models, reservoir parameterization, derivation of adjoint models. *Recommended Preparation:* PTE 508, basic knowledge of calculus, linear algebra and probability/ statistics. Instruction Mode: Lecture Grading Option: Letter

PTE 506 Geothermal Reservoirs
Units: 3 Terms Offered: Fa Geothermal reservoirs, heat and mass flow in fracture network, enhanced geothermal systems (EGS), exploration methods, exploitation of hydrothermal and EGS fields, stimulation, forecasting, power generation. *Recommended Preparation:* familiarity with Matlab. Registration Restriction: Open only to Engineering and Geological Sciences students. Instruction Mode: Lecture Grading Option: Letter

PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs
Units: 3 Terms Offered: Fa Studies, data and methods for estimating size of underground fluid deposits for predicting physical and economic behavior of designed flow schemes, and for quantifying uncertainty. *Prerequisite:* PTE 464. Instruction Mode: Lecture Grading Option: Letter

PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes
Units: 3 Terms Offered: Sp Formulation and solution of the equations describing the underground flow of fluids through porous media. Includes mass (contaminant) transport in single and multiphase flow. *Recommended Preparation:* PTE 507. Instruction Mode: Lecture Grading Option: Letter

PTE 509 High-Resolution Simulations of Porous Media Flows
Units: 4 Terms Offered: Sp High-order finite difference, finite volume and spectral methods to simulate contaminant transport, CO2 sequestration and viscous fingering problems in high resolution using Matlab/ Python. *Recommended Preparation:* Concepts covered in MATH 225 and MATH 245. Introductory knowledge of MATLAB or Python programming language Instruction Mode: Lecture Grading Option: Letter

PTE 511 Advanced Phase Behavior of Petroleum Reservoir Fluids
Units: 3 Terms Offered: Irregular From classical thermodynamics to engineering application; equations of state based calculations; PVT experiments; reservoir fluid characterization; PT-flash calculations and stability analysis; compositional grading; transport properties. *Recommended Preparation:* CHE 330, MATH 226. Instruction Mode: Lecture Grading Option: Letter

PTE 512 Gas Injection Processes — Analytical Solutions and Analysis
Units: 3 Terms Offered: Fa Gas injection and enhanced oil/gas recovery; conservation equations; flow and phase behavior; displacement efficiency; dispersion; method of characteristics; development of multicontact miscibility in multicomponent systems. *Recommended Preparation:* CHE 330, MATH 226 and MATH 245 (or similar). Instruction Mode: Lecture Grading Option: Letter

PTE 514 Drilling Engineering
Units: 3 Terms Offered: Sp Graduate level course on drilling engineering with an emphasis on field design and applications. Topics covered include well planning; rock mechanics; rotary drilling processes; drilling rig components; drill string and bottom hole assemblies; well hydraulics and drilling muds; casing design and cementing; directional drilling; offshore drilling and drilling economics. Registration Restriction: Open only to Engineering graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 515 Natural Gas Engineering
Units: 3 Terms Offered: Sp Characterization, development and prediction of natural gas reservoirs, including natural gas surface production equipment and systems, forecasting natural gas well and reservoir performance and current LNG developments *Prerequisite:* PTE 411 and PTE 412x *Recommended Preparation:* Good handle of Excel, running VBA apps, programming macros and Matlab programming; concurrent enrollment in a computer programming class would be helpful Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 517 Testing of Wells and Aquifers
Units: 3 Terms Offered: Sp Principles of well testing; down hole device; Aquifer tests; slug tests; DST; pressure transient modeling in homogeneous and heterogeneous systems; parameter estimation; computer aided techniques. *Prerequisite:* PTE 464. Instruction Mode: Lecture Grading Option: Letter

PTE 519 Integrated Physical and Cyber Security for Oil and Gas Operations
Units: 3 Terms Offered: Fa Infrastructure Security, Resilience and Management of Digital Oil Fields, Process Control Networks in exploration and production, refining and chemical plants, Asset Integrity principles, case histories. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

PTE 520 Mathematical Methods for Deep Learning
Units: 4 Terms Offered: Sp (Enroll in MASC 520)

PTE 531 Enhanced Oil and Gas Recovery
Units: 4 Terms Offered: Sm Enhanced recovery from conventional and unconventional hydrocarbon resources including: Water, surfactant and polymer processes, miscible gas and WAG displacements, and thermal recovery processes. *Prerequisite:* PTE 500 and PTE 582 Registration Restriction: Open only to graduate students Instruction Mode: Lecture, Discussion Grading Option: Letter

PTE 542 Carbonate Rocks
Units: 3 Terms Offered: Fa Classification; porosity development; source rocks; wettability; capillary pressure curves; compressibility; surface areas; relative permeabilities; various petrophysical properties; formation evaluation; overpressures; thin section analysis. *Recommended Preparation:* Basic familiarity with linear algebra and general reservoir engineering Registration Restriction: Open only to graduate Engineering students Instruction Mode: Lecture Grading Option: Letter

PTE 545 Corrosion Control in Petroleum Production
Units: 3 Terms Offered: Sp Types of corrosion encountered in petroleum production; methods for practical control including use of inhibitors, coatings, and cathodic protection. *Prerequisite:* CHEM 430 or CHEM 430a Registration Restriction: Open only to graduate students in Engineering Instruction Mode: Lecture Grading Option: Letter

PTE 555 Well Completion, Stimulation, and Damage Control
Units: 3 Terms Offered: Sm This course reviews current practices related to well completion methods, wellbore stimulation, and damage control. Formation damage prevention and stimulation methods are emphasized. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter

PTE 572L Applied Geostatistical Modeling for Subsurface Characterization
Units: 4 Terms Offered: Sp Introduction to conventional and modern geostatistical estimation and simulation techniques, combining theory with hands-on computer application of geostatistical methods in modeling the spatial phenomena. *Recommended Preparation:* Basic knowledge and familiarity with general calculus, linear algebra, and probability Registration Restriction: Open only to graduate students Instruction Mode: Lecture, Lab Required Grading Option: Letter

PTE 574 Optimization Methods for Subsurface Energy Systems
Units: 4 Terms Offered: Sp Optimization algorithms for oilfield development, including well control optimization, well placement, open-loop and closed-loop model predictive control, and robust optimization. *Prerequisite:* PTE 500 *Recommended Preparation:* Basic familiarity with linear algebra, vector calculus, and general calculus for engineers and scientists at the level of MATH 229 or PTE 500 Registration Restriction: Open only to graduate students of USC Viterbi School of Engineering Instruction Mode: Lecture Grading Option: Letter

PTE 578 Advanced Production Engineering
Units: 3 Terms Offered: Sp Principles of onshore and offshore oil well & gas well production; design of artificial lift systems and surface operations; field problems of enhanced oil recovery operations. Registration Restriction: Open only to graduate students in the School of Engineering. Instruction Mode: Lecture Grading Option: Letter

PTE 581 Environmental Technology in the Petroleum Industry
Units: 3 Terms Offered: Irregular This course examines engineering and scientific principles necessary for understanding, assessing, and remediating environmental problems in the petroleum industry including drilling, production, transportation and refining operations. Graduate standing. Instruction Mode: Lecture Grading Option: Letter

PTE 582 Fluid Flow and Transport Processes in Porous Media
Units: 3, 2 years Terms Offered: Fa Principles of single and multiphase flow through porous media; mechanisms of immiscible and miscible displacement; momentum, heat and mass transport in porous media. Instruction Mode: Lecture Grading Option: Letter

PTE 586 Artificial Intelligence and Machine Learning in Oilfield Operations
Units: 3 Terms Offered: Fa Soft computing methods such as neural networks, fuzzy logic, problematic reasoning in reservoir characterization, dynamic reservoir modeling, oilfield data integration and analysis of uncertainty in prediction. *Recommended Preparation:* Basic Python programming on the level of DSCI 510; familiarity with platforms for running Python programs, such as online via Google Colab or JupyterLab, or the downloadable Anaconda Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 587 Smart Completions, Oilfield Sensors and Sensor Technology
Units: 3 Terms Offered: Sp Intelligent Wellbore completion, technology of subsurface and surface sensors, deployment and data acquisition, telemonitoring and feedback, reliability of sensors, data transmission, systems networks. *Recommended Preparation:* prerequisites for non-majors. Instruction Mode: Lecture Grading Option: Letter

PTE 588 Smart Oilfield Data Mining
Units: 3 Terms Offered: Fa Methods for oilfield data mining, data preparation mining images, prediction and knowledge discovery, subset selection, pattern recognition. Limited to students with graduate standing. *Recommended Preparation:* prerequisites for non-majors. Instruction Mode: Lecture Grading Option: Letter

PTE 589 Advanced Oilfield Operations with Remote Immersive Visualization and Control
Units: 3 Terms Offered: Sp Immersive subsurface and surface environments, web based monitoring and feedback, visualizing risk, unattended operation. Limited to students with graduate standing. *Recommended Preparation:* prerequisites for non-majors. Instruction Mode: Lecture Grading Option: Letter

PTE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PTE 591 Petroleum Geochemistry
Units: 3 Terms Offered: Fa Application of chemical principles to the study of the origin, migration, accumulation, and alteration of petroleum. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 592 Geomechanics for Energy and Environment
Units: 4 Terms Offered: FaSp Physical, mathematical and simulation aspects of coupled flow and geomechanics in petroleum/geothermal reservoirs. Coupled flow-geomechanics simulator development using finite element and finite volume methods. *Recommended Preparation:* Familiarity with concepts covered in PTE 500, PTE 508, AME 535a, AME 404, AME 507, CE 529a Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 594 Formation Damage in Petroleum Reservoirs
Units: 3 Terms Offered: Fa Overview of background and techniques required for understanding, assessing, and mitigating formation damage in petroleum and subsurface reservoirs. *Recommended Preparation:* Reservoir engineering, thermodynamics, petroleum reservoir fluids, fluid mechanics, Excel worksheets Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 594a Master's Thesis
Units: 2 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 594b Master's Thesis
Units: 2 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 594z Master's Thesis
Units: 0 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content will be selected each semester to reflect current trends and developments in the field of petroleum engineering. Instruction Mode: Lecture Grading Option: Letter

PTE 611 Stochastic Modeling and Simulation
Units: 3 (Enroll in CE 611)

PTE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Laboratory study of specific problems for candidates for the degree engineer in petroleum engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

PTE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PTE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Public Administration

Frequency of course offerings varies from campus to campus. Check with individual campuses regarding availability.

PUAD 613 Seminar in Financial Policy
Units: 4 Terms Offered: Irregular Historical development and trends in public revenues and expenditures. Political, economic, and administrative significance of decisions in the field of financial management. *Prerequisite:* PPD 647. Instruction Mode: Lecture Grading Option: Letter

PUAD 617 Seminar on Behavioral Aspects of Training and Development
Units: 4 Terms Offered: Irregular Theoretical concepts governing the administration of socio-technical systems, organization development, action training and research, and other development and change processes utilized in public service. Instruction Mode: Lecture Grading Option: Letter

PUAD 675 Institutional Context of the Public Sector
Units: 4 Terms Offered: Sp Theories of the role, structure and growth of the public sector; public choice processes; political economy of public bureaucracies; the voluntary nonprofit sector. *Prerequisite:* PPD 501b. Instruction Mode: Lecture Grading Option: Letter

PUAD 685 Seminar on Organizational Behavior in Public Systems
Units: 4 Terms Offered: FaSp Organizing processes; decision-making; communication; leadership; behavioral models; political and social behavior in organizations. *Prerequisite:* PPD 545. Instruction Mode: Lecture Grading Option: Letter

PUAD 692 Multivariate Statistical Analysis
Units: 4 Terms Offered: Fa Multivariate analysis of qualitative and quantitative variables including multiple linear regression, multiple contingency table analysis, log-linear and logit models, and path analysis. *Prerequisite:* PPD 502. Instruction Mode: Lecture Grading Option: Letter

PUAD 695 Seminar in Administrative Theory
Units: 4 Terms Offered: FaSp Assessment of current normative and descriptive theories of public administration; variety of conceptual systems; operationalism; levels of organizational analysis. *Prerequisite:* PPD 540. Instruction Mode: Lecture Grading Option: Letter

PUAD 697 Seminar in Public Management
Units: 4 Terms Offered: Irregular Public management research and theory; differences between private and public organizations: contextual influences on public management; contemporary

empirical studies; bibliographic research. *Prerequisite:* admission to the DPA program. Instruction Mode: Lecture Grading Option: Letter

PUAD 791a Public Administration Research Seminar
Units: 1 Terms Offered: FaSp Presentation and discussion of research histories and current research projects of members of the faculty and distinguished guest scholars. Registration Restriction: Open only to Ph.D. and D.P.A. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PUAD 791b Public Administration Research Seminar
Units: 1 Terms Offered: FaSp Presentation and discussion of research histories and current research projects of members of the faculty and distinguished guest scholars. Registration Restriction: Open only to Ph.D. and D.P.A. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

Public Diplomacy

PUBD 369w Public Diplomacy and Global Citizenship
Units: 4 Introduces public diplomacy as a central feature of contemporary international relations and challenges students to locate themselves as both its target and practitioners. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 369

PUBD 417 Global Engagement: Designing Public Diplomacy Strategies
Units: 4 Examines issues on the global political agenda and the tools and approaches that the Public Diplomacy practitioner might profitably employ to address them. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 417

PUBD 418 International Exchanges and Public Diplomacy
Units: 4 Examines international exchanges, their role in the foreign policy process, and their challenges in a world marked by rapid change and innovation in communication technologies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 418

PUBD 419 Public Diplomacy in Los Angeles
Units: 4 Examines how the City of Los Angeles and other local actors use public diplomacy tools to strengthen ties between themselves and foreign audiences. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 419

PUBD 420 Regional Studies in Public Diplomacy
Units: 4 Max Units: 08 Analyzes the role and effectiveness of public diplomacy in different countries, examining a region's influence on global affairs and the development of diplomatic strategies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 420

PUBD 500 Introduction to the Advanced Study of Public Diplomacy
Units: 4 Introduction to the advanced academic study of public diplomacy from multidisciplinary perspectives: including media and communication, international relations and history. Instruction Mode: Lecture Grading Option: Letter

PUBD 502 Historical and Comparative Approaches to Public Diplomacy
Units: 4 Examines historical and comparative approaches to public diplomacy. Explores public diplomacy operations in public and private settings, by individuals and institutions. Reviews traditional, critical, war, and peace perspectives. Instruction Mode: Lecture Grading Option: Letter

PUBD 504 Global Issues and Public Diplomacy
Units: 4 Focuses on critical global issues/challenges that require some form of intervention from the international community. Taught with active leading strategies: case studies and "problem-based learning." Instruction Mode: Lecture Grading Option: Letter

PUBD 508 The Rhetoric of War and Peace
Units: 4 Special exercise in "Think Tank" procedure that explores rhetorics of war and peace from a 21st century perspective. Instruction Mode: Lecture Grading Option: Letter

PUBD 509 Advocacy in Public Diplomacy: Argumentation and Debate
Units: 4 Skills and theory based approach to the criticism and development of public diplomacy campaigns. Emphasizes the instruction of advocacy skills to assess the utility of specific campaigns. Instruction Mode: Lecture Grading Option: Letter

PUBD 510 Technologies and Public Diplomacy
Units: 4 Explores relationship between diplomacy and technological change. Emphasis on question of how new media may force us to rethink traditional frameworks of public diplomacy. Instruction Mode: Lecture Grading Option: Letter

PUBD 512 Cultural Diplomacy
Units: 4 Provides overview of formal cultural diplomacy and concentrates on ways in which non-governmental entities communicate across international boundaries and the effects of those interchanges. Instruction Mode: Lecture Grading Option: Letter

PUBD 514 Corporate Diplomacy
Units: 4 Provides basic public diplomacy and public relations tools for global organizations and their foreign publics. Instruction Mode: Lecture Grading Option: Letter

PUBD 515 Transnational Diplomacy and Global Security
Units: 4 Examination of the historical and theoretical basis of diplomatic relationships between states, international organizations, and transnational nonstate actors in developing global peace and security policies. Instruction Mode: Lecture Grading Option: Letter

PUBD 516 International Broadcasting
Units: 4 History, context and practice of global international broadcasting strategies; technological and financial parameters that shape future international broadcasting strategies; use of radio, television, and Internet. Instruction Mode: Lecture Grading Option: Letter

PUBD 518 International Exchanges and Public Diplomacy
Units: 4 Examination of educational and cultural exchanges; variety and experience of participants, flagship exchange programs, economic and social implications of the programs, and measurement of outcomes. Instruction Mode: Lecture Grading Option: Letter

PUBD 519 News Media and the Foreign Policy Process
Units: 4 Analysis of news media's role in contemporary diplomacy; historical context; consideration of the professional practices of journalists and those who devise and implement foreign policy. Instruction Mode: Lecture Grading Option: Letter

PUBD 520 Regional Studies in Public Diplomacy
Units: 4 Max Units: 16.0 In-depth examination of historical, political, economic, cultural factors that influence public diplomacy efforts within specific geographic regions. Instruction Mode: Lecture Grading Option: Letter

PUBD 522 Hard Power, Soft Power and Smart Power
Units: 4 Institutional and cultural perspectives on instruments of state power: military, intelligence, trade, and traditional diplomacy; strategic analyses for determining proper use; desirability of combining resources. Instruction Mode: Lecture Grading Option: Letter

PUBD 524 The Public Diplomacy of Trade
Units: 4 Public diplomacy's role in shaping ideas about trade and development and in creating trade agreements, and the use of trade agreements as public diplomacy. Instruction Mode: Lecture Grading Option: Letter

PUBD 526 Public Diplomacy Evaluation
Units: 4 Critical examination of challenges and benefits of measuring public diplomacy's impact; terminology and mechanics of evaluation, the measurement community, and varying approaches for evaluation. Instruction Mode: Lecture Grading Option: Letter

PUBD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the school. Instruction Mode: Lecture Grading Option: Credit/No Credit

PUBD 596 Practicum in Public Diplomacy Research
Units: 4 Development and production of original research-based project in the area of public diplomacy. Instruction Mode: Lecture Grading Option: Credit/No Credit

PUBD 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in the area of public diplomacy. Instruction Mode: Lecture Grading Option: Letter

Quantitative Biology

QBIO 105 Introduction to Quantitative Biology Seminar
Units: 2 Terms Offered: FaSp Introduction to quantitative biology including a definition of its role within the Biological Sciences and relationship with Chemistry, Computer Science, Engineering, Mathematics, Medicine and Physics. Registration

Restriction: Open to QBIO majors or by permission of the department Instruction Mode: Lecture Grading Option: Letter

QBIO 310 Statistical Thinking for Quantitative Biology
Units: 4 Terms Offered: Sp Introduction to general statistical theory with higher-level mathematics for biological data analysis. Basic programming in R. Discussion of techniques to describe, visualize and model different types of data. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as BISC 310

QBIO 401 Introduction to Computational Analysis of Biological Data
Units: 4 Terms Offered: FaSp A project-based course integrating biology, computer science, and statistics through the analysis of genomic datasets available publicly or collected and sequenced during the semester. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as BISC 401

QBIO 430 Principles and Applications of Systems Biology
Units: 4 Terms Offered: Fa (Enroll in BME 430)

QBIO 475 Statistical and Evolutionary Genetics
Units: 4 Terms Offered: Sp Introduction to the mathematical modeling and statistical analysis of genetic variation, including genetic drift, natural selection, mutation, migration, population structure, family studies and GWAS. *Prerequisite:* QBIO 310 or MATH 307 or MATH 407 Instruction Mode: Lecture, Discussion Grading Option: Letter

QBIO 479L Computational Genome Analysis Laboratory
Units: 4 Terms Offered: Sp Applied bioinformatic analysis of sequence data. Analysis of genome structure, genetic variation, gene expression, functional DNA and genetic association. *Recommended Preparation:* BISC 478 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as BISC 479

QBIO 481 Structural Bioinformatics: From Atoms to Cells
Units: 4 Terms Offered: Fa (Enroll in BISC 481)

QBIO 482 Systems Biology: From Cells to Oceans
Units: 4 Terms Offered: Sp Foundational skill-building in statistics, modeling and computational analyses. Hands-on instruction in MATLAB for developing and coding models of dynamic systems in biological/quantitative biology research. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC 482

QBIO 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. Project approval by QBIO committee or faculty adviser required. Registration Restriction: Open only to QBIO undergraduates Credit Restriction: Not available for graduate credit Instruction Mode: Lecture Grading Option: Letter

QBIO 493 Quantitative Biology Honors Seminar
Units: 2 Max Units: 04 Terms Offered: FaSp Student-led discussions of recent research in quantitative biology and presentation of their own research. *Prerequisite:* QBIO 105 Registration Restriction: Open only to Quantitative Biology undergraduates Instruction Mode: Lecture Grading Option: Letter

QBIO 494x Quantitative Biology Honors Thesis
Units: 2 Terms Offered: FaSp Experience in conducting research and writing a thesis under supervision of a faculty adviser. *Prerequisite:* QBIO 493 Registration Restriction: Open only to Quantitative Biology undergraduates Credit Restriction: Not available for graduate credit Instruction Mode: Lecture Grading Option: Letter

QBIO 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSpSm Topics in specialized areas of the quantitative biological sciences. Registration Restriction: Registration open to QBIO majors only. Other majors require permission from the instructor. Instruction Mode: Lecture, Discussion Grading Option: Letter

QBIO 502 Molecular Biology for Quantitative Scientists
Units: 4 Terms Offered: FaSp In-depth study of molecular biology techniques and experiments with an emphasis on those that are able to generate "big data." Intended for quantitative science students. Instruction Mode: Lecture Grading Option: Letter

QBIO 542 Seminar in Computational Biology
Units: 1 Max Units: 06 Terms Offered: FaSp Experience and training in giving science research presentations. Students will discuss recent research in computational biology and bioinformatics. Registration Restriction: Open only to Computational Biology and Bioinformatics, and to Quantitative and Computational Biology majors Instruction Mode: Lecture Grading Option: Credit/No Credit

QBIO 547 Ethics and Professional Conduct in Computational Biology
Units: 1 Terms Offered: Fa Discussion-based ethics course for graduate students, with topics including authorship, peer review, publication, research misconduct, discrimination in science, data privacy and algorithmic bias. Registration Restriction: Open only to Computational Biology and Bioinformatics, and to Quantitative and Computational Biology majors Instruction Mode: Lecture Grading Option: Credit/No Credit

QBIO 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the graduate degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to Quantitative and Computational Biology students Instruction Mode: Lecture Grading Option: Credit/No Credit

QBIO 596 Internship for Curricular Practical Training
Units: 1, 2, 3 Max Units: 03 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Registration Restriction: Open only to graduate students in Quantitative and Computational Biology Instruction Mode: Lecture Grading Option: Credit/No Credit

QBIO 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to graduate students in Quantitative and Computational Biology Instruction Mode: Lecture Grading Option: Credit/No Credit

QBIO 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm For doctoral students who have passed the qualifying exam. Credit on acceptance of dissertation. *Prerequisite:* QBIO 790 Registration Restriction: Open only to doctoral students in Quantitative and Computational Biology Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

QBIO 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm For doctoral students who have passed the qualifying exam. Credit on acceptance of dissertation. *Prerequisite:* QBIO 794a Registration Restriction: Open only to doctoral students in Quantitative and Computational Biology Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

QBIO 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm For doctoral students who have passed the qualifying exam. Credit on acceptance of dissertation. *Prerequisite:* QBIO 794b Registration Restriction: Open only to doctoral students in Quantitative and Computational Biology Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

QBIO 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm For doctoral students who have passed the qualifying exam. Credit on acceptance of dissertation. *Prerequisite:* QBIO 794c Registration Restriction: Open only to doctoral students in Quantitative and Computational Biology Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

QBIO 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm For doctoral students who have passed the qualifying exam. Credit on acceptance of dissertation. *Prerequisite:* QBIO 794d Registration Restriction: Open only to doctoral students in Quantitative and Computational Biology Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

Real Estate Development

RED 200 Introduction to Real Estate
Units: 4 Terms Offered: FaSp Basic understanding of the real estate industry, the process of real estate development and investment, and the key players involved. Instruction Mode: Lecture Grading Option: Letter

RED 201 Real Estate Career Seminar
Units: 2 Terms Offered: FaSp Career assessment and preparation; real

estate industry overview; reflection on experiences. Duplicates Credit in PPD 301 Instruction Mode: Lecture Grading Option: Credit/No Credit

RED 301 Real Estate Internship Seminar
Units: 1 Terms Offered: FaSpSm Real estate development skills for practice; internship seminar; leadership, group dynamics and presentation skills; application of management; organizational diversity; reflection on experiences. *Prerequisite:* RED 201 Duplicates Credit in PPD 301 Instruction Mode: Lecture Grading Option: Credit/No Credit

RED 325 Introduction to Finance in Cities
Units: 4 Terms Offered: FaSp Basic understanding of public finance, public debt, public-private joint ventures, time value of money, present value, risk and return, discounted cash flows, leverage and taxes. *Prerequisite:* ACCT 410x and 1 from (MATH 108g or MATH 117g or MATH 118gx or MATH 125g) Instruction Mode: Lecture Grading Option: Letter

RED 351 Land Use Regulation
Units: 4 Terms Offered: Sp Land use planning and zoning; community and government relations; environmental regulation. *Recommended Preparation:* RED 362 Instruction Mode: Lecture Grading Option: Letter

RED 362 Real Estate Development Fundamentals
Units: 4 Real estate overview; evolution of cities and neighborhoods; product types; introduction to valuation. *Prerequisite:* (PPD 227 or PPD 245g) and (MATH 108g or MATH 117g or MATH 118gx or MATH 125g) *Recommended Preparation:* ECON 203g Instruction Mode: Lecture Grading Option: Letter

RED 375 Real Estate Development Analysis
Units: 4 Terms Offered: FaSp Real estate development feasibility and analysis; underwriting local fundamentals including neighborhood and city change, real estate capital flows. *Prerequisite:* (BUAD 215x or BUAD 306 or RED 325) and (ECON 203g and RED 362) Duplicates Credit in former PPD 375 Instruction Mode: Lecture Grading Option: Letter

RED 398 Shaping Cities Through Real Estate
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Cities and urban form created through various real estate product types. Case studies and site visits. *Recommended Preparation:* RED 362 Instruction Mode: Lecture Grading Option: Letter

RED 417 History of Planning and Development
Units: 4 Terms Offered: FaSp Historical evolution of planning and development. How changing modes of planning and development have shaped the built landscape throughout the century. *Prerequisite:* PPD 227 or PPD 245g Duplicates Credit in the former PPD 417 Instruction Mode: Lecture Grading Option: Letter

RED 425 Designing Livable Communities
Units: 4 Terms Offered: FaSp Theories and concepts of livable communities and good city form; case studies of historical and current best practices; field visits; collaborative design project. *Prerequisite:* PPD 227 or PPD 245g Duplicates Credit in the former PPD 425. Instruction Mode: Lecture Grading Option: Letter

RED 435 Analyzing Real Estate Markets
Units: 4 Terms Offered: FaSp Macro and micro-analysis of urban property markets; demographics; location choice; regulation *Prerequisite:* PPD 303 and RED 375 Duplicates Credit in the former PPD 435 Instruction Mode: Lecture Grading Option: Letter

RED 437 Advanced Finance and Investment for Real Estate Development
Units: 4 Terms Offered: FaSpSm Advanced real estate principles. Underwriting property valuation and deal structure including risk and return. Debt and equity markets; difference between development and existing assets. *Prerequisite:* RED 435 Duplicates Credit in the former PPD 437 Instruction Mode: Lecture Grading Option: Letter

RED 469 Mixed Use Development Process
Units: 4 Terms Offered: Sp Design, financial, legal and management challenges of mixed use real estate development; field project. *Prerequisite:* FBE 391 or RED 375 or ARCH 302bL Instruction Mode: Lecture Grading Option: Letter Crosslisted as FBE 469, ARCH 469

RED 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

RED 499 Special Topics
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm Selected topics in real estate development. Instruction Mode: Lecture Grading Option: Letter

RED 500 Real Estate Development and the Economy
Units: 2 Terms Offered: Sm Linkages between national and regional economies and the performance of the real estate sector. Anticipating development trends. Public policy applications. Instruction Mode: Lecture Grading Option: Letter

RED 509 Market Analysis for Real Estate
Units: 4 Terms Offered: Fa Explores macro and micro aspects of residential, retail, office, and industrial markets and examines methodologies for analyzing such markets for real estate development/ investment purposes. *Prerequisite:* RED 542. Instruction Mode: Lecture Grading Option: Letter

RED 510 Real Estate Practice and Principles
Units: 4 Terms Offered: FaSp Fundamental principles of real estate analysis; economics; capital markets; development decision-making; relationships between real estate markets and federal, state and local government policies; property value. Instruction Mode: Lecture Grading Option: Letter

RED 511 Foundations of Real Estate Analysis
Units: 4 Terms Offered: FaSp Principles of real estate analysis; capital markets; importance of uncertainty and metrics of risk; investments; valuation techniques; use of debt and equity, leases, taxes. *Prerequisite:* RED 510. Instruction Mode: Lecture Grading Option: Letter

RED 512 Real Estate Project Analysis
Units: 4 Terms Offered: FaSp Fundamental economic theories; analytical techniques; practical applications for market analysis of various forms of real estate. *Prerequisite:* RED 511. Instruction Mode: Lecture Grading Option: Letter

RED 541 Finance Fundamentals for Real Estate Development
Units: 2 Terms Offered: Sm Introduction to the general principles of finance with application to real estate development, including capital markets, financial institutions, valuation and risk management. Instruction Mode: Lecture Grading Option: Letter

RED 542 Finance of Real Estate Development
Units: 3 Terms Offered: FaSm Theory and methods of real estate finance and investment. Real estate investment analysis, real estate entities, taxation; introduction to securization of real estate equities, debt. *Prerequisite:* RED 541. Instruction Mode: Lecture Grading Option: Letter

RED 544 Real Estate Capital Markets
Units: 2 Terms Offered: Fa Explore structure, instruments and institutions of real estate capital markets. Consider linkages between real estate and capital markets. Assess role of Real Estate Investment Trusts. *Prerequisite:* RED 542 Instruction Mode: Lecture Grading Option: Letter

RED 545 Advanced Real Estate and Financial Modeling
Units: 2 Terms Offered: Sp Quantitative problem solving using computerized modeling. Complex debt financing, including lender participation, subordination, joint venture structuring, systematic treatment of real estate portfolios. *Prerequisite:* RED 542. Instruction Mode: Lecture Grading Option: Letter

RED 546 Applications of Real Estate Finance to Problems of Development
Units: 3 Terms Offered: Sp Advanced topics in finance applied to cases and problems of real estate development; emphasis on structuring, finance and evaluation of various types of development projects. *Prerequisite:* RED 542. Instruction Mode: Lecture Grading Option: Letter

RED 547 Project Management and Construction
Units: 2 Terms Offered: Sm Managing the building phase of development. Architectural and engineering aspects of construction management for the real estate developer. Instruction Mode: Lecture Grading Option: Letter

RED 551 The Approval Process
Units: 4 Terms Offered: FaSpSm Approval process for real estate development including land use entitlement, site selection, zoning, environmental review, community and government relations, infrastructure financing, ethical issues, negotiation skills. Instruction Mode: Lecture Grading Option: Letter

RED 562 Legal Issues in Real Estate Development
Units: 4 Terms Offered: FaSp Ownership and transfer of real estate; formation and enforcement of contracts; business associations; environmental regulation; taxation of property transfers; acquiring, financing, leasing of commercial property. Duplicates Credit in former RED 662. Instruction Mode: Lecture Grading Option: Letter

RED 563 Introduction to the Asset Management of Real Estate
Units: 2 Terms Offered: Fa Overview of institutional asset management: creating and implementing investment and portfolio strategies through the development, acquisition, underwriting, and operational stages of the investment, asset disposition. Instruction Mode: Lecture Grading Option: Letter

RED 564 Issues in Asset Management of Real Estate
Units: 2 Terms Offered: Sp Advanced issues in institutional asset management. How value is created during investment process with focus on tactical, operational, and strategic goals of asset and owner. *Prerequisite:* RED 563. Instruction Mode: Lecture Grading Option: Letter

RED 571 Introduction to Appraisal Principles, Procedures, and Standards
Units: 4 Terms Offered: Fa Valuation concepts. Theory and problem solving. Cost, sales comparison, and income approaches. Instruction Mode: Lecture Grading Option: Letter

RED 572 Advanced Appraisal Approaches and Applications
Units: 2 Terms Offered: Sp Highest and best use. Advanced income capitalization. Advanced cost and sales comparison approaches. Advanced applications. *Recommended Preparation:* RED 571. Instruction Mode: Lecture Grading Option: Letter

RED 573 Design History and Criticism
Units: 2 Terms Offered: Sm The concepts, language and metaphors of design-related disciplines are examined in relation to design and construction values and choices in real estate development. Duplicates Credit in former RED 673. Instruction Mode: Lecture Grading Option: Letter

RED 574 Building Typologies
Units: 2 Terms Offered: Fa The exploration of categories of building types, including retail, industrial, residential, office and institutional, using key examples or case studies from each. Duplicates Credit in former RED 674. Instruction Mode: Lecture Grading Option: Letter

RED 575L Community Design and Site Planning
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Sp Physical implementation of development projects. Students will develop concept plan, preliminary design and marketing plan for selected domestic and/or international development sites. Duplicates Credit in former RED 675L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

RED 583 International Development Opportunities
Units: 2 Terms Offered: Sp A survey of various markets prominent in the global real estate community. Protocols for analyzing international development opportunities and cultural, political, and socioeconomic considerations. Instruction Mode: Lecture Grading Option: Letter

RED 585 Comparative International Development Workshop
Units: 2, 3, 4 Terms Offered: Sm Comparative study tour focused on understanding international real estate development practices and markets, site visits and meeting with principals. Instruction Mode: Lecture Grading Option: Letter

RED 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

RED 598 Real Estate Product Development
Units: 2, 3, 4 Max Units: 12.0 Terms Offered: FaSpSm An evaluation of various real estate development types. Case studies and site visits. Instruction Mode: Lecture Grading Option: Letter

RED 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Current issues, trends, and developments in real estate development. Instruction Mode: Lecture Grading Option: Letter

Religion

REL 111g The World of the Hebrew Bible
Units: 4 The Hebrew Bible in the cultural setting of the Ancient Near East; the formation of theological and ethical concepts which have shaped Western culture. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 112g Religions of Ancient Egypt and the Near East
Units: 4 Religions, cultures, and values of ancient Egypt and Near East (Iran, Iraq, Israel, Syria, Lebanon, Arabia, Turkey) and their legacies in contemporary society. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 114g The Mediterranean: A Religious History
Units: 4 Explores multiple religious traditions of the Mediterranean as networks that emerge within and among the landscapes, cultures, and politics of this highly interconnected geographic space. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 115g Jerusalem, City of Three Faiths
Units: 4 History of Jerusalem as a window onto the nature of the three Abrahamic faiths. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 121g The World of the New Testament
Units: 4 Historical investigation of New Testament characters, events, ethics and theology in relation to its social, intellectual, and religious contexts in the Jewish and GrecoRoman world. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 125gp Introduction to Christianity: Antiquity to 1500
Units: 4 Survey of the changing beliefs and practices of the Christian religion from its origins through early modernity (100 CE - 1500 CE), with special attention to different varieties of Christian literature. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 132g Origins of Western Religions
Units: 4 Examination of Judaism, Christianity, and Islam in their origins and their development in relation to Western civilization. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 134g Introduction to Buddhism
Units: 4 Focus primarily on works of Buddhist literature written in a variety of genres. Introduction of basic teachings that link Buddhist traditions across time and space. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 135g Chinese Religions and Culture
Units: 4 Historical and thematic survey of Chinese religious history from earliest times to the present. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 136g Sense and Sensuality in Indian Religions and Culture
Units: 4 Exploration of the senses and the technologies of pleasure in India, relating this material to some fascinating examples of Hindu, Jain, and Buddhist literature. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 137g Introduction to Islam
Units: 4 Introduction to Islam, emphasizing its historical and cultural development since the seventh century C.E., and the basic teachings of Islam. Satisfies New General Education in Category B: Humanistic

Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

REL 138g Japanese Religions and Culture
Units: 4 Major religious traditions of Japan (such as Buddhism, Shinto, Christianity, Confucianism) and their broader social and cultural contexts. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 141g Global Religions in Los Angeles
Units: 4 Congregational and individual expressions of religion in Los Angeles. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 146gp Spirituality in America
Units: 4 Examination of the historical continuities and disjunctions between "spiritual but not religious" Americans; the relationship between spirituality, politics and social change, and the role of media. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 147g Religion, Media and Popular Culture
Units: 4 Exploration of the manner in which the media frame discussions and understandings of ethical issues, moral dilemmas, spirituality and religious imagination. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter, Discussion

REL 301 Introduction to the Study of Religion
Units: 4 Terms Offered: Fa Survey of academic approaches to the study of religion. When possible this course will be taken during the first year of the major or minor. Instruction Mode: Lecture Grading Option: Letter

REL 302 Religions of Ancient Egypt and the Near East
Units: 4 Religious experience and values of ancient Egypt and Near East through material culture, literature, art, and cultic practices; and their legacies in contemporary society. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-301

REL 303g Exploring Ancient Ways of Living: Experimental Archaeology
Units: 4 Active learning course enables students to acquire and experience survival skills devised in pre-modern times and to apply this knowledge in an experimental context. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 303

REL 304 Ethics and Global Heritage
Units: 4 Archaeology and global heritage debates, laws, ethical conundrums, and stakeholder perspectives reveal goals and guiding values of society's exploration of the past. *Recommended Preparation:* REL 301 or ANTH 202g Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ARCG 304, ANTH 318

REL 305L Virtual and Digital Culture, Heritage and Archaeology
Units: 2, 4 Max Units: 04 Terms Offered: FaSpSm (Enroll in ARCG 305L)

REL 310 Anti-Semitism, Racism and Other Hatreds
Units: 4 Terms Offered: FaSp (Enroll in JS 315g)

REL 311g The Bible in Western Literature
Units: 4 Comparative analysis of biblical works and how they were employed by various writers in major works of Western literature. Instruction Mode: Lecture Grading Option: Letter

REL 312 Biblical Wisdom Literature
Units: 4 Survey of and inquiry into the biblical wisdom literature; emphasis on the Book of Job. Satisfies New General Education in B Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 314 Introduction to Shiism
Units: 4 Examination of the major branches of Shiism, the second largest articulation of Islam, both historically and in the world today. Instruction Mode: Lecture Grading Option: Letter

REL 315 Thought and Life of Islam
Units: 4 History, thought, institutions, and religious practices of Islam. Instruction Mode: Lecture Grading Option: Letter

REL 316 Women and the Islamic Tradition
Units: 4 Terms Offered: Fa Overview of social and legal status of women in Islamic society, past and present. Examination of social roles established both for and by Muslim women. Instruction Mode: Lecture Grading Option: Letter

REL 317g The Bible in Its Ancient Context
Units: 4 A close consideration of ancient Near Eastern myths — especially those from Mesopotamia and Canaan — with special attention to their influence on the Bible. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 319 Religious and Ethical Issues in Death and Dying
Units: 4 Analysis of religious and ethical approaches to death and dying, including refusal of treatment for competent and incompetent patients, voluntary and involuntary euthanasia, and resuscitation. Satisfies New General Education in B Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 323 Aegean Archaeology
Units: 4 (Enroll in CLAS 323) Instruction Mode: Lecture Grading Option: Letter

REL 324g Sex and the Bible: Gender, Sexuality, and Scripture
Units: 4 Role the Bible has played in debates about sex, gender, and sexuality in Western history. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture Grading Option: Letter

REL 325g Religious Experience in the Greco-Roman World
Units: 4 Terms Offered: FaSpSm Varieties of religious experience as reflected in the literature, art, and cultic practices of the Hellenistic world. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 326gp Historical Jesus
Units: 4 Examination of the question of how ancient and modern Christians and scholars have reconstructed the life of Jesus of Nazareth, founding figure of Christianity. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 327g Heretics, Martyrs, and Miracles
Units: 4 Examines Christianity in the second century including theology, ethics and identity. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 328 Archaeology of Religion in the Greco-Roman World
Units: 4 (Enroll in CLAS 328)

REL 329 Themes in the Religions of China
Units: 4 A study of selected themes in the history of Chinese religions and culture. Compares cases and materials from several historical periods and religious traditions. Instruction Mode: Lecture Grading Option: Letter

REL 330 Introduction to the Religions of India
Units: 4 Terms Offered: FaSpSm History, teaching, and practice of Hinduism, Buddhism, and other religious traditions of India. Instruction Mode: Lecture Grading Option: Letter

REL 331 Religions of East Asia
Units: 4 History, teaching, and practice of the religions of China, Tibet, and Japan. Instruction Mode: Lecture Grading Option: Letter

REL 332 Religions of Japan
Units: 4 The development of religious thought and practice in the Japanese islands, with Buddhism and Shinto being the most prominent. Instruction Mode: Lecture Grading Option: Letter

REL 333 Religion in the Borderlands
Units: 4 Survey of religious history of U.S./Mexico borderlands. Emphasis is given to definitions of place and transformations in culture and forms of belief. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-333

REL 334g Religion and Colonial Encounter
Units: 4 Terms Offered: FaSpSm Survey of religious responses to colonial encounter in the Americas. Emphasis given to study of religious innovations of Amerindians, Africans and Europeans. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 335 Gender, Religion, and Sexuality
Units: 4 The construction of gender and sexuality in Western religious traditions; its continued impact on contemporary intellectual, cultural, and social life. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 335

REL 336w Re-Viewing Religion in Asian America
Units: 4 Interdisciplinary analysis of the religions traditions, institutions, and experiences of Asians and Pacific Islanders in the U.S. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 336

REL 337 Islam in Black America: From Slavery to Hip Hop
Units: 4 (Enroll in AMST 337)

REL 338 Mysticism and Religious Desire
Units: 4 How human appetites for sex, food, community or immortality are articulated as mystical desires in different religions, either within institutional structures or working against them. Instruction Mode: Lecture Grading Option: Letter

REL 339 Studies in the History of Christianity
Units: 4 In-depth exploration of one of the pivotal moments in the history of Christianity and Western society. Instruction Mode: Lecture Grading Option: Letter

REL 340 Introduction to Indian Philosophy
Units: 4 An introduction to Indian philosophy, including major schools of thought in Hindu, Buddhist, and Jain philosophies. No previous knowledge of Indian religions or philosophy required. Instruction Mode: Lecture Grading Option: Letter

REL 341 Technology, Culture, and Ethics
Units: 4 Examination of value questions arising from the impact of technology on individuals, social institutions, and culture. Instruction Mode: Lecture Grading Option: Letter

REL 342g Buddhist Modernism
Units: 4 Examines various topics in the process of rapid modernization and globalization in Buddhism including environmentalism, gender, nationalism, social activism, and war and peace. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 344 Islamic Law and American Society
Units: 4 (Enroll in AMST 344)

REL 345p Islamic Mysticism: Sufism
Units: 4 Examination of the origins, development, and basic concepts and practices of Sufism, as well as its relationship to other areas of Islamic life. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

REL 350 Drugs, Alcohol, Visions and Altered States in Religion
Units: 4 Examines the history and meaning of drugs, alcohol and altered states of mind in world religions across history. Instruction Mode: Lecture Grading Option: Letter

REL 359g Culture in Diaspora: The Jews of Spain
Units: 4 Course traces the Jewish diaspora from Spain and Portugal with particular attention to how Sephardic Jews maintained ties of culture, commerce, language, and identity. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as HIST-371

REL 360 Ethical Issues in the New Medical Revolution
Units: 4 Multimedia-oriented analysis of issues; definition of life and death; research on human subjects, health care delivery, euthanasia, abortion, genetic counseling, behavior control. Instruction Mode: Lecture Grading Option: Letter

REL 361 Law and Religion
Units: 4 Explores the intersection between law and religion including ways in which religious traditions conceive of, create, order, and contest law. Instruction Mode: Lecture Grading Option: Letter

REL 364 Religion and Ethics
Units: 4 Traces the development of how religious ideas have informed ethics, or accounts of the good life, including notions of justice, righteousness, virtue, duty, charity and happiness. Instruction Mode: Lecture Grading Option: Letter

REL 365 Global Ethics
Units: 4 Provide an overview of debates concerning moral, cultural ethics in a globalizing world. Encourage critical reflection on global justice, ethical systems, role of religion. Instruction Mode: Lecture Grading Option: Letter

REL 366 Religion and Social Change
Units: 4 Empirical and theoretical analysis of social change and its effect on religious institutions as well as the impact of religious movements on society. Instruction Mode: Lecture Grading Option: Letter

REL 370 Religion and Visuality
Units: 4 Examination of the deep connections between visuality and religions, including visions, controversies over religious images, and other connections between religion and visual art. Instruction Mode: Lecture Grading Option: Letter

REL 371 Religion and the Supernatural
Units: 4 Methods of religious studies, history, anthropology, and psychology used to analyze religious beliefs in and responses to the supernatural. Instruction Mode: Lecture Grading Option: Letter

REL 376g Religion and Human Rights
Units: 4 Close examination and discussion of a variety of religious views regarding human rights. Forges useful frameworks for interpreting the complexity of competing ideas. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

REL 382gw Zen and Daoism in Asian Literature
Units: 4 (Enroll in COLT 382gw)

REL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

REL 394 Archaeology of Egypt and the Near East
Units: 4 Study of archaeology and excavated artifacts from Egypt and the Near East. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-304, MDES-394

REL 401 Seminar in Religious Studies
Units: 4 Terms Offered: Sp Survey of methods and selected issues in the field of religious studies; required of all majors during their junior or senior year. *Recommended Preparation:* REL 301. Duplicates Credit in former REL 399. Instruction Mode: Lecture Grading Option: Letter

REL 402 Cultural Heritage, Religion, and Politics in the Middle East
Units: 4 Terms Offered: Fa In-depth exploration of archaeology and heritage issues in the Middle East and their implications for politics and practice in modern Islam, Judaism and Christianity. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-402, IR-405, MDES-402

REL 414 History of Islamic Law
Units: 4 Terms Offered: Sp Examines legal methods and religious sources used in Islamic law. Emphasis is placed on the way cultural developments affect legal thought and the administration of justice. Instruction Mode: Lecture Grading Option: Letter

REL 415 Seminar in Buddhism
Units: 4 Seminar on selected aspects of the Buddhist tradition. Instruction Mode: Lecture Grading Option: Letter

REL 417 Seminar in South Asian Religions
Units: 4 Exploration of particular themes and/or traditions in South Asian religions. Instruction Mode: Lecture Grading Option: Letter

REL 425 Communicating Religion
Units: 4 (Enroll in COMM 425)

REL 426 Religion, Media and Hollywood: Faith in TV
Units: 4 (Enroll in COMM 426)

REL 431 The Taoist Tradition
Units: 4 (Enroll in EALC 431)

REL 435 Religious Thought After the Enlightenment
Units: 4 Changes in religious thought between the late 18th and early 20th centuries in the wake of the emergence of modernity in the West. Instruction Mode: Lecture Grading Option: Letter

REL 440 Christian Thought in the 20th Century
Units: 4 Examination of dynamic new directions taken by Christian understandings of self, God, and salvation in response to the novel conditions of modern culture, politics and philosophy. Instruction Mode: Lecture Grading Option: Letter

REL 441 Origins of Modern Theology
Units: 4 19th century liberal, rationalist, and historical theology. Instruction Mode: Lecture Grading Option: Letter

REL 442 Religion and Science
Units: 4 Explores whether religion and science offer competing or complementary

models for understanding the world and the human place within it. Instruction Mode: Lecture Grading Option: Letter

REL 448m France and Islam
Units: 4 Terms Offered: FaSp (Enroll in FREN 448)

REL 455 Philosophy of Religion: Bases of Belief and Disbelief
Units: 4 Rational and empirical foundations for religious faith and for skepticism. Instruction Mode: Lecture Grading Option: Letter

REL 460 Senior Seminar: Medical Ethics
Units: 4 Analysis of ethical problems related to new developments in medical science. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 462 Religion and Violence
Units: 4 Religious and moral perspectives on war, pacifism, violent and nonviolent protest, and religion-based terrorism and militia. Instruction Mode: Lecture Grading Option: Letter

REL 465 Archaeology and Society
Units: 4 Terms Offered: FaSpSm (Enroll in CLAS 465)

REL 468 Sociology of Religion
Units: 4 The role of religion in modern society from the standpoint of sociological theory and research. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-468

REL 469 Black Religion in America
Units: 4 Historical, sociological, and theological analysis of the nature and role of black religion in the American setting. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ETST-469

REL 471 Jesus
Units: 4 A study of major interpretations of the figure of Jesus, with focus on the interaction between religious traditions and culture. Instruction Mode: Lecture Grading Option: Letter

REL 473 Advanced Hebrew Bible Studies
Units: 4 Consideration of specific topics in Old Testament studies; particular topics determined each semester. Instruction Mode: Lecture Grading Option: Letter

REL 474 Advanced New Testament Studies
Units: 4 Consideration of specific topics in New Testament studies. Particular topics determined each semester. Instruction Mode: Lecture Grading Option: Letter

REL 475 Religion, Material Culture and the Senses
Units: 4 A comparative study of the role of material culture and the senses in religions based on a number of case studies and problem sets. Instruction Mode: Lecture Grading Option: Letter

REL 479 Seminar in Christian Thought
Units: 4 Studies a theme, period, or problem from the history of Christian thought within its intellectual and social context. Instruction Mode: Lecture Grading Option: Letter

REL 481 History of Religion in America
Units: 4 Intellectual, institutional, and social history of religion in America from colonial times to the present. Instruction Mode: Lecture Grading Option: Letter

REL 483 Religion and Popular Culture in the United States
Units: 4 Terms Offered: Sp Critical analysis of the relationship between religion, mass media, and popular cultural forms in the U.S. *Recommended Preparation:* REL 301. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-483

REL 484 American Religion, Foreign Policy and the News Media
Units: 4 (Enroll in JOUR 484)

REL 485 Transnational Religion
Units: 4 Explores the role of transnational religion in relation to both the formation of new diasporic communities and problems of conflict and peace building. Instruction Mode: Lecture Grading Option: Letter

REL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

REL 491x Undergraduate Honors Research
Units: 4 Individual research for honors in the major leading to a substantial project. Instruction Mode: Lecture Grading Option: Letter

REL 493 Art and Archaeology of Religion
Units: 4 Terms Offered: FaSp The history of religion through its material expression: art, architecture and artifact. Exploration of different themes and time periods. Instruction Mode: Lecture Grading Option: Letter

REL 494 Lab Methods and Theories in Archaeology
Units: 4 Archaeological research design, data recovery, artifact analysis, interpretation and analogy, publication and ethics. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 494

REL 495 Field Methods and Theories in Archaeology
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Archaeological field study emphasizing current paradigms of data collection and evaluation; social scientific study of material culture and its relationship to religious expression. Instruction Mode: Lecture Grading Option: Letter

REL 499 Special Topics in Religion
Units: 2, 3, 4 Max Units: 8.0 Selected topics in religious studies. Instruction Mode: Lecture Grading Option: Letter

REL 500 Methods and Theories in the Study of Religion
Units: 4 Introduction to the major topics, trends, and theoretical approaches in the study of religion. Instruction Mode: Lecture Grading Option: Letter

REL 502 Themes in the Study of Religion
Units: 4 Max Units: 8.0 Thematic approaches to the study of religion and religions transcending particular traditions, time periods and geographic regions. Course topic varies by semester according to faculty. Instruction Mode: Lecture Grading Option: Letter

REL 525 Colloquium in Global Islam
Units: 4 Introduces major issues that have defined Islamic Studies in premodern and modern periods. Generally taken in the first year. Instruction Mode: Lecture Grading Option: Letter

REL 535 Colloquium in Christian Studies
Units: 4 Research methods and recent scholarship in Christian Studies. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

REL 545 Colloquium in Asia Pacific Religions
Units: 4 Research methods, tools and current scholarship in the study of Asian Pacific Religions. Instruction Mode: Lecture Grading Option: Letter

REL 560 Colloquium in Jewish Studies
Units: 4 Foundation for and exposure to a number of sub-fields in Jewish Studies. Instruction Mode: Lecture Grading Option: Letter

REL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 592 Professionalization Proseminar in Religious Studies
Units: 2 Offers students a structured environment in which to consider issues in professional development and to discuss their dissertation proposals. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 593 Practicum in Teaching the Liberal Arts
Units: 2 Practical principles for the long-term development of effective teaching within liberal arts disciplines. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

REL 625 Advanced Graduate Seminar in Global Islam
Units: 4 Exploration of themes and traditions of Islam as they appear globally in a variety of specific country contexts Instruction Mode: Lecture Grading Option: Letter

REL 635 Advanced Graduate Seminar in Christian Studies
Units: 4 Comparative and transhistorical methods for understanding the most prominent developments in premodern or modern globalized Christianity. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

REL 645 Advanced Graduate Seminar in Asia Pacific Religions
Units: 4 Application of comparative and transhistorical methods for understanding the most prominent themes in Asian Pacific Religions. Instruction Mode: Lecture Grading Option: Letter

REL 650 Readings in Islamic Texts
Units: 4 Max Units: 12 Study of Islamic religious texts in multiple genres, primarily in Arabic, though other languages may be offered. *Recommended Preparation:* Advanced Arabic language ability. Instruction Mode: Lecture Grading Option: Letter

REL 651 Readings in Christian Texts
Units: 4 Max Units: 12 Survey of the different genres of texts in the history of Christian spirituality from ancient Christianity to the present. Instruction Mode: Lecture Grading Option: Letter

REL 652 Readings in Buddhist Texts
Units: 4 Max Units: 12 Study of varied Asian Buddhist texts in translation and in original languages. Exploration of the major secondary literature on Buddhist texts. Instruction Mode: Lecture Grading Option: Letter

REL 653 Readings in Indic Religious Texts
Units: 4 Max Units: 12 Study of varied Hindu, Buddhist, and Jain texts, primarily in Sanskrit. The class covers multiple genres from Puranas to Tantra. *Recommended Preparation:* Two years of previous study of Sanskrit Instruction Mode: Lecture Grading Option: Letter

REL 654 Readings in Chinese Religious Texts
Units: 4 Max Units: 12 Study of Chinese religious texts primarily in literary Chinese. Covers multiple genres of texts from Buddhist sutras to Daoist texts. *Recommended Preparation:* Advanced Chinese language and at least one year of training in classical Chinese. Instruction Mode: Lecture Grading Option: Letter

REL 655 Readings in Japanese Religious Texts
Units: 4 Max Units: 12 Study of Japanese Buddhist texts in classical or modern Japanese and/or kambun. Covers multiple genres from sutras to vernacular text. *Recommended Preparation:* Advanced Japanese language ability; REL 652 Instruction Mode: Lecture Grading Option: Letter

REL 701 Research Seminar in Religious Studies
Units: 2 Max Units: 08 Terms Offered: FaSp Skills for academic professionalization, presentation of research in progress and formal responses to academic writing. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

REL 790 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

REL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

REL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

REL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

REL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Restorative Dentistry

REST 314 Physiology of Occlusion for Hygienists
Units: 1 Biology and function of the gnathostomatic system. Role of the hygienist in diagnosis and treatment of occlusal dysfunctions. Instruction Mode: Lecture Grading Option: Letter

REST 501 Preclinical Operative and Fixed Prosthodontics (Conjoint)
Units: 2 Fundamental concepts of restoring an individual tooth with a cast restoration; principles of cavity preparation; casting fabrication and cementation. Instruction Mode: Lecture Grading Option: Letter

REST 503a Clinical Restorative Dentistry
Units: 1 Application of pre-clinical procedures in operative dentistry, fixed prosthodontics, removable prosthodontics, and dental materials. Instruction Mode: Lecture Grading Option: Letter

REST 503b Clinical Restorative Dentistry
Units: 1 Application of pre-clinical procedures in operative dentistry, fixed prosthodontics, removable prosthodontics, and dental materials. Instruction Mode: Lecture Grading Option: Letter

REST 504 Diagnosis and Treatment Planning
Units: 1 Utilizing a restorative approach, enhance students' knowledge and ability to choose treatment best suited for existing dental conditions, patients' requests and their financial ability. Instruction Mode: Lecture Grading Option: Letter

REST 521 Preclinical Operative/Fixed Prosthodontics Laboratory
Units: 3 Experience in cavity preparation; casting fabrication and cementation on extracted teeth and plastic dentiforms. Instruction Mode: Lecture Grading Option: Letter

REST 522 Aesthetics in Dentistry
Units: 1 Definition and relationship of elements of aesthetics; application in patient motivation and care. Instruction Mode: Lecture Grading Option: Letter

REST 602a Participation in Advanced Dental Care
Units: 0, 1, 2, 3 Participation in advanced dental treatment in Faculty Private Practice Clinic, techniques of difficult case presentation and efficiency in practice. Clinic and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

REST 602b Participation in Advanced Dental Care
Units: 0, 1, 2, 3 Participation in advanced dental treatment in Faculty Private Practice Clinic, techniques of difficult case presentation and efficiency in practice. Clinic and seminar. Instruction Mode: Lecture Grading Option: Letter

REST 701 Orientation to Advanced Prosthodontics
Units: 5 Preclinical overview of materials, techniques, instrumentation, and treatment procedures necessary for providing advanced prosthodontic care in the clinical environment. Instruction Mode: Lecture Grading Option: Letter

REST 702a Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702b Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702c Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702d Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702e Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702f Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702h Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702i Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 703a Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703b Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703c Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703d Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703e Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703f Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703h Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704a Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704b Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704c Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704d Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704e Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704f Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704h Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 705 Advanced Fixed Prosthodontics Techniques
Units: 1 Tooth preparation and advanced laboratory techniques necessary to implement full mouth rehabilitation. Instruction Mode: Lecture Grading Option: Letter

REST 706 Advanced Complete Denture Techniques
Units: 1 Advanced laboratory and clinical skills for a specialty prosthodontic practice. Instruction Mode: Lecture Grading Option: Letter

REST 708a Dental Ceramics, Color, and Aesthetics
Units: 2 Theory of color and dental aesthetics; history and development of dental ceramics; design and techniques in fabrication of ceramo-metal restorations. Instruction Mode: Lecture Grading Option: Letter

REST 708b Dental Ceramics, Color, and Aesthetics
Units: 2 Theory of color and dental aesthetics; history and development of dental ceramics; design and techniques in fabrication of ceramo-metal restorations. Instruction Mode: Lecture Grading Option: Letter

REST 709a Seminar: Removable Partial Dentures
Units: 1, 2 Diagnosis, treatment planning, and design of removable partial dentures using extracoronal and intracoronal retainers. Instruction Mode: Lecture Grading Option: Letter

REST 709b Seminar: Removable Partial Dentures
Units: 1, 2 Diagnosis, treatment planning, and design of removable partial dentures using extracoronal and intracoronal retainers. Instruction Mode: Lecture Grading Option: Letter

REST 710a Implant Dentistry
Units: 1 Implant modalities and types; basis for selection; techniques of placement and of supervision of prosthodontic restoration. Includes a review of classic implant literature. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 710b Implant Dentistry
Units: 1 Implant modalities and types; basis for selection; techniques of placement and of supervision of prosthodontic restoration. Includes a review of classic implant literature. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 710c Implant Dentistry
Units: 1 Implant modalities and types; basis for selection; techniques of placement and of supervision of prosthodontic restoration. Includes a review of classic implant literature. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 710d Implant Dentistry
Units: 1 Implant modalities and types; basis for selection; techniques of placement and of supervision of prosthodontic restoration. Includes a review of classic implant literature. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 712 Maxillofacial Prosthodontics
Units: 2 Theory and techniques for fabrication of prostheses to correct maxillofacial deformities including cleft palate. Instruction Mode: Lecture Grading Option: Letter

REST 721a Principles of Occlusion
Units: 2 Application of current occlusal concepts in removable prosthodontics. Techniques of occlusal adjustment and additive waxing for development of occlusal morphology. Instruction Mode: Lecture Grading Option: Letter

REST 721b Principles of Occlusion
Units: 2 Application of current occlusal concepts in removable prosthodontics. Techniques of occlusal adjustment and additive waxing for development of occlusal morphology. Instruction Mode: Lecture Grading Option: Letter

REST 761a Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761b Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761c Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761d Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761e Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761f Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761h Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex

interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761i Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761j Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 781 Clinic: Maxillofacial Prosthetics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Clinical experience in fabrication of prostheses to correct maxillofacial deformities. Instruction Mode: Lecture Grading Option: Letter

REST 782a Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 782b Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 782c Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 782d Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 782e Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 790 Directed Research: Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Opportunities for research in clinical and experimental prosthodontics. Instruction Mode: Lecture Grading Option: Credit/No Credit

Robotics

ROBO 601L Fundamentals of Robotics I
Units: 4 Terms Offered: Fa Fundamental knowledge of robotics principles, including state estimation in theory and practice for mobile and manipulator robots. *Recommended Preparation:* Knowledge of linear algebra at the level of MATH 225 is strongly encouraged; knowledge of probability theory at the level of MATH 407 or EE 465 Registration Restriction: Not open to undergraduate students Instruction Mode: Lecture, Lab Required Grading Option: Letter

ROBO 602L Fundamentals of Robotics II
Units: 4 Terms Offered: Sp Fundamental knowledge of robotics principles, including planning and control in theory and practice for mobile and manipulator robots. *Prerequisite:* ROBO 601L *Recommended Preparation:* Knowledge of linear algebra at the level of MATH 225 is strongly encouraged; knowledge of probability theory at the level of MATH 407 or EE 465 Registration Restriction: Not open to undergraduate students Instruction Mode: Lecture, Lab Required Grading Option: Letter

Removable Prosthodontics

RPRO 501 Preclinical Removable Complete Prosthodontics
Units: 1 Fundamental theory for the fabrication of removable complete dentures. Instruction Mode: Lecture Grading Option: Letter

RPRO 502 Removable Complete Prosthodontics
Units: 1 Complete denture treatment: phases, clinical procedures, philosophy, concept, rationale, and need. Instruction Mode: Lecture Grading Option: Letter

RPRO 503a Preclinical Removable Prosthodontics and Implants
Units: 2 Introduction to disciplines of removable complete and partial dentures and implants, including classification and progress of edentulism, support sources and principles, design, fabrication and evaluation. Instruction Mode: Lecture Grading Option: Letter

RPRO 503b Preclinical Removable Prosthodontics and Implants
Units: 1 Introduction to disciplines of removable complete and partial dentures and implants, including classification and progress of edentulism, support sources and principles, design, fabrication and evaluation. Instruction Mode: Lecture Grading Option: Letter

RPRO 510 Implant Dentistry
Units: 1 Principles and use of implants in dentistry: includes history, biological basis, types, diagnosis and treatment planning, surgical and restorative procedures, and limitations. Instruction Mode: Lecture Grading Option: Letter

RPRO 511 Preclinical Removable Partial Prosthodontics I
Units: 1 Partial denture diagnosis and treatment planning; basic principles of partial denture design, fabrication, and function. Instruction Mode: Lecture Grading Option: Letter

RPRO 512 Preclinical Removable Partial Prosthodontics II
Units: 1 Partial denture design, fabrication, and function; repair; patient education. Instruction Mode: Lecture Grading Option: Letter

RPRO 513 Removable Partial Prosthodontics
Units: 1 Clinical removable partial prosthodontic treatment including diagnosis, treatment planning and clinical techniques. Instruction Mode: Lecture Grading Option: Letter

RPRO 521 Preclinical Removable Complete Prosthodontics Laboratory
Units: 1 Fundamental theory for the fabrication of removable complete dentures. Instruction Mode: Lecture Grading Option: Letter

RPRO 523a Preclinical Removable Prosthodontics and Implants Laboratory
Units: 1 Laboratory experience in the fabrication of removable complete and partial dentures and implants. Instruction Mode: Lecture Grading Option: Letter

RPRO 523b Preclinical Removable Prosthodontics and Implants Laboratory
Units: 1 Laboratory experience in the fabrication of removable complete and partial dentures and implants. Instruction Mode: Lecture Grading Option: Letter

RPRO 532 Preclinical Removable Partial Prosthodontics Laboratory II
Units: 1 Laboratory experience in fabrication of removable partial dentures. Instruction Mode: Lecture Grading Option: Letter

RPRO 550 Removable Complete Prosthodontics Clinic I
Units: 1 Clinical demonstration with supervised clinic experience in construction, repair, and evaluation of the removable complete denture. Instruction Mode: Lecture Grading Option: Letter

RPRO 561a Clinic: Removable Complete Prosthodontics I
Units: 0 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporo-mandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 561b Clinic: Removable Complete Prosthodontics I
Units: 0 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporo-mandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 561c Clinic: Removable Complete Prosthodontics I
Units: 0 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporo-mandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 561d Clinic: Removable Complete Prosthodontics I
Units: 2 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporo-mandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: Letter

RPRO 562a Clinic: Removable Complete Prosthodontics II
Units: 0, 1, 2, 3 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporomandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 562b Clinic: Removable Complete Prosthodontics II
Units: 0, 1, 2, 3 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporomandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: Letter

RPRO 571a Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571b Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571c Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571d Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571e Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571f Clinic: Removable Partial Prosthodontics
Units: 2 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: Letter

RPRO 602 Advanced Removable Prosthodontics
Units: 4 Critical review and evaluation of the removable prosthodontic literature; guided experience in the laboratory and clinical phases of removable prosthodontic therapy. Duplicates Credit in RPRO 604a, RPRO 604b, RPRO 604c. Instruction Mode: Lecture Grading Option: Letter

RPRO 603 The Edentulous Patient — Conventional or Implant Prosthesis
Units: 1 Effective management of the edentulous patient who is unable to adapt to a prosthesis; includes a review of implant dentistry with a hands-on session. Instruction Mode: Lecture Grading Option: Letter

RPRO 604a Advanced Removable Prosthodontics
Units: 0 Critical review and evaluation of the removable prosthodontic literature; guided experience in the laboratory and clinical phases of removable prosthodontic therapy. Duplicates Credit in RPRO 602. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 604b Advanced Removable Prosthodontics
Units: 0 Critical review and evaluation of the removable prosthodontic literature; guided experience in the laboratory and clinical phases of removable prosthodontic therapy. Duplicates Credit in RPRO 602. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 604c Advanced Removable Prosthodontics
Units: 4 Critical review and evaluation of the removable prosthodontic literature; guided experience in the laboratory and clinical phases of removable prosthodontic therapy. Duplicates Credit in RPRO 602. Instruction Mode: Lecture Grading Option: Letter

RPRO 605 Prosthodontic Seminar: Removable Partial Prosthodontics
Units: 1 Provides fourth year dental students with an advanced didactic foundation for treating the partially edentulous patient with a removable partial. Instruction Mode: Lecture Grading Option: Letter

Regulatory Science

RSCI 504 Good Laboratory Practices (GLP)
Units: 2 Introduction to Good Laboratory Practices (GLP), including the design, implementation and monitoring of non-clinical GLP studies, and GLP studies in an academic environment. Instruction Mode: Lecture Grading Option: Letter

RSCI 506 Auditing Principles
Units: 3 Audit requirements mandated by the FDA and other international regulatory agencies including internal, external, regulatory agency, third party, GMP, GLP, ISO 13485/QSR and supplier audits. Instruction Mode: Lecture Grading Option: Letter

RSCI 507 Quality Systems and Statistical Process Control
Units: 2 Fundamentals and applications of Statistical Process Control (SPC) in development and monitoring of manufacturing processes; includes SPC in root cause analysis and CAPA. Instruction Mode: Lecture Grading Option: Letter

RSCI 508 Quality Assurance for Drugs and Biologics
Units: 3 Design and implementation of a quality system to assure quality and safety of pharmaceuticals and biologics, according to relevant FDA and international regulations and guidance documents. Instruction Mode: Lecture Grading Option: Letter

RSCI 509 Quality Assurance, Medical Devices and Combination Products
Units: 3 Design of systems according to FDA and international regulations and guidelines to ensure the quality and safety of medical devices and combination products. Instruction Mode: Lecture Grading Option: Letter

RSCI 520 Introduction to Risk Management for Health Care Products
Units: 2 Historical development, formal language and theoretical approaches to risk management in health care and medical product environment; policies, regulations, standards; liability prevention and loss control. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Duplicates Credit in former MPTX 520. Instruction Mode: Lecture Grading Option: Letter

RSCI 521 Seminars in Regulatory Science
Units: 1 Max Units: 6.0 Terms Offered: FaSpSm Current problems in regulatory affairs, legal management, preclinical and clinical testing, scientific evaluation and quality assurance. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post secondary training and industry experience; enrollment in MS, Regulatory Science program. Duplicates Credit in former MPTX 521. Instruction Mode: Lecture Grading Option: Credit/No Credit

RSCI 523 Advanced Concepts in Risk Management for Medical Products
Units: 3 Managing risk in demanding health-care and medical-product situations: clinical trials, emerging technologies, counterfeit prevention, hard-to-reach populations. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in M.S. (Regulatory Science), Certificate in Patient and Product Safety, or permission of instructor. Instruction Mode: Lecture Grading Option: Letter

RSCI 525 Introduction to Drug and Food Toxicology
Units: 3 Factors affecting toxic responses to foods and drugs: dose-response relationships, absorption, distribution, biotransformation, elimination of toxicants; target organ toxicity, teratogenesis, mutagenesis, carcinogenesis, food allergies, risk assessment. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 527 Medical Product Safety
Units: 3 Management of medical product safety by manufacturers/suppliers including: safe manufacturing, labeling, packaging;

pharmacovigilance, field observations, complaint handling; record-keeping, safety issues documentation; crisis management/ recalls. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 529 Application of Risk Management Tools and Techniques
Units: 2 Use of risk management tools in the medical products arena: functional analysis, fault-tree analysis, failure modes and effects analysis, HACCP and six sigma methods. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 531 Industrial Approaches to Drug Discovery
Units: 4 Terms Offered: FaSpSm Examines the process of drug discovery from selection of disease and therapeutic target to characterization and validation of lead drug candidates. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS, Regulatory Science, Certificate in Preclinical Drug Development and MS, Management of Drug Development. Instruction Mode: Lecture Grading Option: Letter

RSCI 532 Early Stage Drug Development
Units: 3 Terms Offered: FaSpSm Explores the activities involved in transforming an early drug or biological candidate to a drug approved for marketing by regulatory authorities. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS, Regulatory Science, Certificate in Preclinical Drug Development and MS, Management of Drug Development. Instruction Mode: Lecture Grading Option: Letter

RSCI 533 Safety Evaluation during Drug Development
Units: 3 Safety pharmacology/toxicology requirements mandated by FDA and other regulatory agencies to move a new chemical entity from discovery stage to market approval. Instruction Mode: Lecture Grading Option: Letter

RSCI 534 Drug Development in CNS Disorders
Units: 4 Successes and challenges related to central nervous system therapeutics. Major brain disorders, current and future therapeutic targets and clinical trial designs. Instruction Mode: Lecture Grading Option: Letter

RSCI 535 Methods Development and Validation
Units: 3 Foundation in the process of developing and validating analytical methodology for purposes of pharmaceutical, biological and medical device development. Instruction Mode: Lecture Grading Option: Letter

RSCI 540 Analysis of Food and Dietary Supplement Regulations
Units: 3 Changes and interpretation of regulations affecting food supply and dietary supplements impacting global markets. Product development, health-claim positioning, advertising, media messaging, consumer choices, personal health outcomes. Instruction Mode: Lecture Grading Option: Letter

RSCI 541 Drug Development, Reimbursement, and Marketing
Units: 3 Survey of drug development strategies; health economics and outcomes researches and reimbursements; emphasis on coverage determination process and FDA and CMS parallel review process. Instruction Mode: Lecture Grading Option: Letter

RSCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

RSCI 596 Internship for Curricular Practical Training in Regulatory Science
Units: 1 Max Units: 4.0 Terms Offered: FaSpSm Part-time or full-time practical work experience in Regulatory Science. The internship must be located at an off-campus facility. Students are individually supervised by faculty. *Recommended Preparation:* Undergraduate or professional degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS (Regulatory Science). Instruction Mode: Lecture Grading Option: Credit/No Credit

RSCI 601 Biomedical Commerce
Units: 4 Introduction to business principles appropriate to medical products, including: supply and demand, product entry-exit strategies, financing, reimbursement, marketing and pricing in global marketplace. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS, Regulatory Science. Instruction Mode: Lecture Grading Option: Letter

RSCI 603 Managing Complex Projects
Units: 3 Theory and methods to manage complex projects in medical products sectors; timelines, intellectual property, security, contracts, budgets, review activities, reports, electronic tools, cross-cultural communication. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 604 Regulatory Strategy in Asia
Units: 4 Terms Offered: FaSpSm Regulatory policy, standards and practices in different Asian markets: product licensing, import/export management, materials sourcing, quality systems compliance, reimbursement, prescribing practices. Travel may be required. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of postsecondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 605 Managing Organizations and Human Resources
Units: 3 Theory and practice of personnel management, organizational structure and industrial relations in small, growing enterprises and large global companies typical of pharmaceutical and medical device sectors. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of postsecondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 606 Regulation of Emerging Technologies and Biological Products
Units: 3 Policies, testing and regulatory requirements affecting commercialization of biologics and novel medical technologies. Focus on biologics, blood and tissue products, radiopharmaceuticals and nanotechnology. Instruction Mode: Lecture Grading Option: Letter

RSCI 607 Theory, Methods and Practice of Medical Products Research
Units: 4 Terms Offered: FaSpSm Statistical and research design methods, data analysis, survey and interview techniques laying the foundation for the dissertation. Instruction Mode: Lecture Grading Option: Letter

RSCI 608 Regulatory Strategy in Europe and the Americas
Units: 4 Regulatory strategy in EU, Canada, Mexico and South America; culture, health-care practices, reimbursement, product registration, quality systems, trade restrictions, import/export requirements. Travel may be required. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 790 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied towards the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

RSCI 794a Doctoral Dissertation
Units: 2 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

RSCI 794b Doctoral Dissertation
Units: 2 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

RSCI 794c Doctoral Dissertation
Units: 2 Dissertation research required for completion of doctoral degree in regulatory

science. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

RSCI 794d Doctoral Dissertation
Units: 2 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

RSCI 794z Doctoral Dissertation
Units: 0 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

RSCI 800 Studies for the Qualifying Exam
Units: 0 Terms Offered: FaSpSm Preparation for the qualifying exam. Instruction Mode: Lecture Grading Option: Credit/No Credit

Russian

RUSS 120 Beginning Russian I
Units: 4 Terms Offered: FaSpSm Introduction to the Russian language with emphasis on basic conversational skills, major points of grammar and reading. Duplicates Credit in former SLL 120 Instruction Mode: Lecture Grading Option: Letter

RUSS 150 Beginning Russian II
Units: 4 Terms Offered: FaSpSm Continuation of RUSS 120. *Prerequisite:* RUSS 120 Duplicates Credit in former SLL 150 Instruction Mode: Lecture Grading Option: Letter

RUSS 220 Intermediate Russian I
Units: 4 Terms Offered: FaSpSm Development of thematic conversational skills with emphasis on extended dialogue. Review of basic morphology with special attention to verbs of motion. Reading of authentic material is emphasized. *Prerequisite:* RUSS 150 Duplicates Credit in former SLL 220 Instruction Mode: Lecture Grading Option: Letter

RUSS 250 Intermediate Russian II
Units: 4 Terms Offered: FaSpSm Continuation of RUSS 220. Development of proficiency in conversation skills, reading and writing. *Prerequisite:* RUSS 220 Duplicates Credit in former SLL 250 Instruction Mode: Lecture Grading Option: Letter

RUSS 260x The Trans-Siberian Experience
Units: 2 Max Units: 04 Terms Offered: Sp Introduction to Russian language and culture by means of a study-tour on the Trans-Siberian Railway. Credit Restriction: Not available for major credit for students in Russian and Central European Studies majors Duplicates Credit in former SLL 260 Instruction Mode: Lecture Grading Option: Letter

RUSS 310 Advanced Russian in Popular Culture
Units: 4 Terms Offered: FaSpSm Advanced conversation, reading, grammar and topical analysis of Russian press, films and other popular sources. Conducted in Russian. *Prerequisite:* RUSS 250 Duplicates Credit in former SLL 310 Instruction Mode: Lecture Grading Option: Letter

Pharmaceutical and Regulatory Science

RXRS 200 Approaches to Pharmacology and Drug Development
Units: 4 Pharmacology and Drug Development explored through the lens of Clinical Pharmacy, Translational and Bench Research, Regulatory Science and Global Policy and Economics. Instruction Mode: Lecture Grading Option: Letter

RXRS 201p The History and Geography of Drugs
Units: 4 Global perspectives; discovery and use of drugs (legal/illegal); poisons. How they helped shape, modify or change history as described in classical literature through present day. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

RXRS 302 Introduction to Pharmacology and Therapeutics
Units: 4 Drug/Receptor interactions, pharmacodynamics, pharmacokinetics. Safe and effective drug administration; differences in pediatric and geriatric populations. Current therapies, adverse effects and drug interactions. Instruction Mode: Lecture Grading Option: Letter

RXRS 304 Mysterious Deaths: From Poisons in Literature and History to Forensic Toxicology
Units: 4 The story of poisons and their deliberate use told through the prism of history and literature, as a fun way to discover forensic toxicology. Instruction Mode: Lecture Grading Option: Letter

RXRS 402 Human Pharmacology: Challenge of Therapeutics in Society
Units: 4 Principles of human pharmacology/toxicology related to prescription, over the counter medications; nutraceuticals; drug-drug interactions; polypharmacy; hot topics related to recently approved drugs. *Recommended Preparation:* Students should have at completed at least one year of undergraduate biology and/or chemistry Instruction Mode: Lecture Grading Option: Letter

RXRS 403 Neuropharmacology in Health and Disease
Units: 4 Neuropharmacological treatments of brain disorders including neurodegenerative disorders, injury, and disease; influence of environment and experiences on neuroplasticity and brain development; drug discovery. *Recommended Preparation:* one year of biology Instruction Mode: Lecture Grading Option: Letter

RXRS 405 Breaking Brains: The Pharmacology of Addiction
Units: 4 Neurological basis of addiction to drugs of abuse including alcohol, marijuana, opioids and sugar, focusing on neuropharmacology and challenges of current and future therapies. Instruction Mode: Lecture Grading Option: Letter

RXRS 406 Clinical Pharmacology and Medication Management
Units: 4 Comprehensive Medication Management Applications in Pharmacotherapy; evidence-based, pharmacist driven medication selection; improved and/or optimized medication therapy; patient compliance; better and safer health outcomes. *Recommended Preparation:* clinical pharmacology course Instruction Mode: Lecture Grading Option: Letter

RXRS 407 The Discovery, Development and Marketing of Medicines
Units: 4 Principles, concepts, challenges and short comings of modern day drug discovery and development of medicines. Inter-relationships with regulatory, ethical and societal sectors presented. Instruction Mode: Lecture Grading Option: Letter

RXRS 408 Arming the Immune System for Novel Therapies
Units: 4 Principles of human immunological responses to maintain wellness and perturbation in disease. Focus on discovery, development and use of therapeutic strategies targeting immune mechanisms. *Recommended Preparation:* One year of biology and chemistry Instruction Mode: Lecture Grading Option: Letter

RXRS 410 Cancer Biology and Pharmacotherapy
Units: 4 Cancer and the complex molecular basis leading to tumor oncogenesis, invasion and metastasis; current therapeutic strategies and strategies on the horizon. *Prerequisite:* BISC 120Lg and BISC 220Lg) or (CHEM 105aLg and CHEM 105bL) Instruction Mode: Lecture Grading Option: Letter

RXRS 411 Innovations in Medical Product Development
Units: 4 Developing new medical technologies; political, regulatory, financing and reimbursement issues that may be associated; case studies looking at the newest medical technologies. Instruction Mode: Lecture Grading Option: Letter

RXRS 412 Ethics, Drugs and Society
Units: 4 Ethical and moral issues have arisen from responsibilities within different fields of pharmaceutical practice. Exploration of the broad solutions those responsibilities have presented. Instruction Mode: Lecture Grading Option: Letter

RXRS 413w Globalization of the Biomedical Industry
Units: 4 Globalization; pharmaceuticals, biologics, medical devices, and combination products in advanced, emerging, and developing markets; regional and national regulations, global and regional harmonization efforts, ethical considerations. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

RXRS 414 Buzzed: Modern Substances of Abuse and Addiction
Units: 4 Modern perspectives; discovery and use of legal and illicit drugs including alcohol and opioids. How drugs have helped, shaped, modified or changed individuals and society. Instruction Mode: Lecture Grading Option: Letter

RXRS 416 Medical Products: From Idea to Market
Units: 4 Progress of medical product development through intellectual property, animal and clinical trials and commercialization. Emphasis on safety, quality systems and efficacy. Instruction Mode: Lecture Grading Option: Letter

RXRS 417 Food Safety: The Good, The Bad and The Deadly
Units: 4 Critical thinking, science translation, effective communications, personal health, and public policy development are at the interface of food safety, nutrition intervention and health controversies. Instruction Mode: Lecture Grading Option: Letter

RXRS 418 Plant Medicines in Modern Medicine
Units: 4 Plant medicines; how discovered; activity; pharmacology, toxicity and human benefit; emphasis on the US, Europe and China. Instruction Mode: Lecture Grading Option: Letter

RXRS 421 Management and Operation of Clinical Trials
Units: 4 Clinical Trials management and operations are vital aspects in the design, planning, conduct and reporting of successful research projects and portfolios. Instruction Mode: Lecture Grading Option: Letter

RXRS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Individual research, reading, writing and project development. Instruction Mode: Lecture Grading Option: Letter

RXRS 493x Senior Honors Seminar I
Units: 2 Exciting and challenging opportunity to marshal and deploy research, analysis, interpretation and writing skills students learned in their major. Registration Restriction: Open to Pharmacology and Drug Development majors at the junior and senior level Credit Restriction: Not available for graduate credit Instruction Mode: Lecture Grading Option: Letter

RXRS 494x Senior Honors Seminar II
Units: 2 An independent study course for students undertaking the research and writing of an Honors thesis. *Prerequisite:* RXRS 493x Registration Restriction: Open only to Pharmacology and Drug Development majors at the junior and senior levels Credit Restriction: Not available for graduate credit Instruction Mode: Lecture Grading Option: Letter

Systems Architecting and Engineering

SAE 496 Systems Engineering Through Motorsports
Units: 3 Terms Offered: Irregular Applied systems architecting, engineering and management to motorsports from design to validation and verification; venues include drag racing, grand prix Formula SAE racing, DARPA Challenges. Instruction Mode: Lecture Grading Option: Letter

SAE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Course content to be selected each semester from recent developments in Systems Architecting and Engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

SAE 515 Sustainable Infrastructure Systems
Units: 4 Terms Offered: Fa Explores broad issues and mitigation measures involved in the analysis and design of complex, uncertain, interacting infrastructure systems needing to be resilient and sustainable. Instruction Mode: Lecture, Discussion Grading Option: Letter

SAE 541 Systems Engineering Theory and Practice
Units: 3 Terms Offered: FaSpSm Integration of engineering problem solving methodologies based on systems concepts. Application to complex, large scale technical systems and problems faced by engineering managers. Case studies. Duplicates Credit in former ISE 541. Instruction Mode: Lecture Grading Option: Letter

SAE 542 Advanced Topics in Systems Engineering
Units: 3 Terms Offered: FaSpSm Probability theory in systems engineering: test design and performance, reliability and maintainability, quantitative decision models. Constraint theory to manage and de-conflict complex requirements. Complexity theory. *Prerequisite:* SAE 541 *Recommended Preparation:* Calculus, linear algebra and multivariate probability Duplicates Credit in former ISE 542 Instruction Mode: Lecture Grading Option: Letter

SAE 543 Case Studies in Systems Engineering and Management
Units: 3 Terms Offered: FaSp Real-world case studies in DoD, NASA, and commercial arenas, employing new methodologies to cover the fundamental positive and negative development learning principles of systems engineering. Instruction Mode: Lecture Grading Option: Letter

SAE 546 Engineered Resilient Systems and System-of-Systems
Units: 3 Terms Offered: Sp Formal methods for the design and analysis of resilient systems and system-of-systems (SoS); Disruption risks as a function of system scale and complexity, management, and architectures. *Recommended Preparation:* SAE 549 Instruction Mode: Lecture Grading Option: Letter

SAE 547 Model-Based Systems Architecting and Engineering
Units: 3 Approaches for modeling systems using software such as SysML; modeling system, requirements, structure, behavior, and parametrics; mapping to hardware description language and behavioral code generation. *Recommended Preparation:* Modeling and simulation courses. Instruction Mode: Lecture Grading Option: Letter

SAE 548 Systems/System-of-Systems Integration and Communication
Units: 3 Terms Offered: FaSp Essentials of systems and system-of-systems integration from the perspectives of business, programs, and technology. Process, legacy, and systems-of-systems integration. Verification and validation methods. Case studies. *Recommended Preparation:* bachelor's degree in engineering or physical sciences. Instruction Mode: Lecture Grading Option: Letter

SAE 549 Systems Architecting
Units: 3 Terms Offered: FaSp Introduction to systems architecture in aerospace, electrical, computer, and manufacturing systems emphasizing the conceptual and acceptance phases and using heuristics. *Prerequisite:* BS degree in a related field of engineering. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-549

SAE 550 Systems Architecting and the Political Process
Units: 3 Analysis of risks inherent in managing high-tech / high-cost government-funded engineering programs; tools and techniques for coping with the impacts of politically-driven budgets on the engineering design process. *Recommended Preparation:* two years of work experience. Duplicates Credit in former ISE 550. Instruction Mode: Lecture Grading Option: Letter

SAE 551 Lean Operations
Units: 3 Terms Offered: FaSp (Enroll in ISE 506)

SAE 560 Economic Considerations for Systems Engineering
Units: 3 Terms Offered: Sp Impact of economic factors for systems architects and engineers, tools for understanding these factors, fundamental quantitative analysis of cash flow, life-cost estimating for systems and software engineering. Instruction Mode: Lecture Grading Option: Letter

SAE 574 Net-Centric Systems Architecting and Engineering
Units: 3 Terms Offered: FaSp In-depth examination of the technical design approaches, tools, and processes to enable the benefits of net-centric operations in a networked systems-of-systems. Instruction Mode: Lecture Grading Option: Letter

SAE 576 Invention and Technology Development
Units: 3 (Enroll in CE 576)

SAE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SAE 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SAE 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SAE 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SAE 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Course content will be selected each semester to reflect current trends and developments in the field of systems architecting and engineering. Instruction Mode: Lecture Grading Option: Letter

Dornsife in DC

SCDC 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Selected topics offered within the USC Dornsife Washington, D.C. Program. Instruction Mode: Lecture Grading Option: Letter

Screen Scoring

SCOR 403 Introduction to Scoring Movies and Television
Units: 2 Practical composition course covering the unique art, craft, and technology involved in writing and integrating music for animated and live-action visual media. *Prerequisite:* MUCO 133b *Recommended Preparation:* Composition background, MTEC 443 or MTEC 445 Instruction Mode: Lecture Grading Option: Letter

SCOR 405 Introduction to Scoring Video Games
Units: 2 Practical composition course covering the unique art, craft, and technology involved in composing and integrating video-game music. *Prerequisite:* MUCO 133b *Recommended Preparation:* Composition background, MTEC 443 or MTEC 445 Duplicates Credit in former MUCO 445 Instruction Mode: Lecture Grading Option: Letter

SCOR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: max 12 Individual research and readings. Not available for graduate credit. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

SCOR 499 Special Topics
Units: 2, 3, 4 Max Units: 8 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

SCOR 501 Individual Instruction
Units: 1, 2 Max Units: 08 Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

SCOR 502 Individual Instruction in Advanced Screen Scoring
Units: 1, 2 Max Units: 4 Individual instruction and review of students' work. Selected composers, orchestrators, filmmakers, and other important industry collaborators offer their insights on scoring and career building. Duplicates Credit in former MUCO 520 and MUCO 545 Instruction Mode: Lecture, Lab Grading Option: Letter

SCOR 503a Advanced Scoring for Motion Pictures and Television
Units: 2 Scoring principles involved in designing, timing, and composing scores for video projects, including documentaries, animated, and live-action projects. Will also include composing for live recording sessions. Duplicates Credit in former MUCO 440a Instruction Mode: Lecture Grading Option: Letter

SCOR 503b Advanced Scoring for Motion Pictures and Television
Units: 2 Scoring principles involved in designing, timing, and composing scores for video projects, including documentaries, animated, and live-action projects. Will also include composing for live recording sessions. *Prerequisite:* SCOR 503a Duplicates Credit in former MUCO 440b Instruction Mode: Lecture Grading Option: Letter

SCOR 504a Orchestral Scoring
Units: 2 Explores the sounds of and notations for the major orchestral instruments; provides instruction on implementation of those instruments in scoring and orchestrating for the screen. Duplicates Credit in former MUCO 443a Instruction Mode: Lecture Grading Option: Letter

SCOR 504b Orchestral Scoring
Units: 2 Explores the sounds of and notations for the major orchestral instruments; provides instruction on implementation of those instruments in scoring and orchestrating for the screen. *Prerequisite:* SCOR 504a Duplicates Credit in former MUCO 443b Instruction Mode: Lecture Grading Option: Letter

SCOR 505a Advanced Game Scoring and Integration
Units: 2 Explores more sophisticated principles and techniques involved in the unique aspects of composing and integrating music for video games. Duplicates Credit in former MUCO 540a Instruction Mode: Lecture Grading Option: Letter

SCOR 505b Advanced Game Scoring and Integration
Units: 2 Explores more sophisticated principles and techniques involved in the unique aspects of composing and integrating music for video games. *Prerequisite:* SCOR 505a Duplicates Credit in former MUCO 540b Instruction Mode: Lecture Grading Option: Letter

SCOR 506 Applied Techniques in Contemporary Scoring
Units: 2 Explores the most recent artistic and technological innovations in film/television scoring, and includes creating cues from adapted themes. Duplicates Credit in former MUCO 522b Instruction Mode: Lecture Grading Option: Letter

SCOR 507 Studio Conducting and Contemporary Score Analysis
Units: 2 Study of two distinct areas: 1) The methods and protocols involved in conducting scoring sessions; and 2) Analysis of innovative scores from current television- and feature- films. Instruction Mode: Lecture Grading Option: Letter

SCOR 511a History of Film Scoring
Units: 2 Examines the evolution of movie music from 1920s to present. Includes recorded interviews with the most significant film composers and film clips of their work. Duplicates Credit in former MUCO 442a Instruction Mode: Lecture Grading Option: Letter

SCOR 511b History of Film Scoring
Units: 2 Examines the evolution of movie music from 1920s to present. Includes recorded interviews with the most significant film composers and film clips of their work. *Prerequisite:* SCOR 511a Duplicates Credit in former MUCO 442b Instruction Mode: Lecture Grading Option: Letter

SCOR 512 Entrepreneurialism for the Screen Composer
Units: 2 Addresses challenges facing emerging screen composers, including negotiating deals; establishing a studio, production budgets, and a publishing business; tracking royalties; licensing music; and engaging representation. Instruction Mode: Lecture Grading Option: Letter

SCOR 521a Recording, Mixing and Editing for the Screen Composer
Units: 2 Addresses the need for modern-day screen composers to produce and digitally record, sweeten, mix, and edit much of their own music. Duplicates Credit in former MUCO 560a Instruction Mode: Lecture Grading Option: Letter

SCOR 521b Recording, Mixing and Editing for the Screen Composer
Units: 2 Addresses the need for modern-day screen composers to produce and digitally record, sweeten, mix, and edit much of their own music. *Prerequisite:* SCOR 521a Duplicates Credit in former MUCO 560b Instruction Mode: Lecture Grading Option: Letter

SCOR 523a Advanced Screen Scoring Technology
Units: 2 Explores sophisticated principles and applications of technologies for screen scoring, including the use of synthesizers, samplers, and sequencers. Duplicates Credit in former MUCO 523a Instruction Mode: Lecture Grading Option: Letter

SCOR 523b Advanced Screen Scoring Technology
Units: 2 Explores sophisticated principles and applications of technologies for screen scoring, including the use of synthesizers, samplers, and sequencers. *Prerequisite:* SCOR 523a Duplicates Credit in former MUCO 523b Instruction Mode: Lecture Grading Option: Letter

SCOR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the Master's Degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC. Instruction Mode: Lecture Grading Option: Credit/No Credit

SCOR 599 Special Topics
Units: 2, 3, 4 Max Units: max 8 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

SCOR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Stem Cell Biology and Regenerative Medicine

SCRM 511 Developmental Biology and Human Embryology
Units: 4 Terms Offered: Fa Survey of anatomical, cellular and molecular processes that underlie human development and congenital malformations, with discussion of other species for comparison. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture Grading Option: Letter

SCRM 513 Stem Cells and Regenerative Medicine
Units: 4 Terms Offered: Fa

A comprehensive investigation of embryonic, fetal and adult stem cells and the application of stem cell biology to treat disease. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture Grading Option: Letter

SCRM 515 Bringing Stem Cells to the Clinic
Units: 4 Terms Offered: Sp Lectures addressing the business, legal, ethical, manufacturing and regulatory aspects involved in moving stem cells or related product into clinical practice. *Recommended Preparation:* SCRM 513 Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture Grading Option: Letter

SCRM 517 Historical and Contemporary Stem Cell Research
Units: 2 Terms Offered: Sp Historical and contemporary stem cell research using hematopoietic stem cells as a model system. *Prerequisite:* SCRM 513 Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Letter

SCRM 519 Historical and Contemporary Research: Neural Stem Cells
Units: 2 Terms Offered: Sp Focuses on historic achievements in stem cell research and how contemporarily, research and its related technological advances have fostered breakthroughs the understanding of NSCs. *Recommended Preparation:* SCRM 513 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

SCRM 521 Historical and Contemporary Research: Tissue Development Engineering
Units: 2 Terms Offered: Sp Focuses on the components of cell, molecular biology, and basic tissue development to comprehend its uses within the realm of synthetic biology and cellular/tissue engineering. *Recommended Preparation:* SCRM 513 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

SCRM 522L Biological Imaging in Stem Cell Research
Units: 2 Terms Offered: Sp Theory and practice of using microscopy and flow cytometry in stem cell biology, including sample preparation, digital processing and data analysis. *Concurrent Enrollment:* SCRM 524L Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

SCRM 524L Culture and Differentiation of Human Pluripotent Stem Cells
Units: 2 Terms Offered: Sp Classroom and laboratory experience in the techniques for deriving, culturing and differentiating human pluripotent stem cells (hPSCs) and related cell types. *Concurrent Enrollment:* Concurrent enrollment: SCRM 522 Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SCRM 525 Tools and Techniques in Stem Cell Biology
Units: 2 Max Units: 10 Terms Offered: Fa Introduces students to classical and cutting-edge techniques used to assess stem cells and regenerating systems. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine master students Instruction Mode: Lecture Grading Option: Letter

SCRM 555 Writing About Stem Cell Biology and Regenerative Medicine
Units: 1 Terms Offered: Fa Instruction in writing for various audiences on topics related to stem cell biology and regenerative medicine. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors Instruction Mode: Lecture Grading Option: Letter

SCRM 574 Stem Cell and Developmental Biology Seminar Series
Units: 1 Terms Offered: FaSp (Enroll in DSR 574)

SCRM 580 SCRM External Speaker Seminar Series
Units: 2 Max Units: 8.0 Terms Offered: FaSp Reading and discussion of recent papers by the SCRM speaker of the week, and attendance at the speaker's seminar. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture, Discussion Grading Option: Letter

SCRM 590 Independent Research
Units: 1, 2, 3, 4 Max Units: 16.0 Independent research conducted under the guidance of faculty in the Department of Stem Cell Biology and Regenerative Medicine. *Prerequisite:* SCRM 511, SCRM 513, SCRM 515, SCRM 522, SCRM 524, SCRM 555, SCRM 580. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

SCRM 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. *Recommended Preparation:* Completion of at least 14 of the required credits for the M.S. degree in Stem Cell Biology and Regenerative Medicine; enrollment in SCRM 590 either concurrent or prior to this course Registration Restriction: Open only to master students in Stem Cell Biology and Regenerative Medicine Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

SCRM 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. *Prerequisite:* SCRM 594a *Recommended Preparation:* Completion of at least 14 of the required credits for the M.S. degree in Stem Cell Biology and Regenerative Medicine; enrollment in SCRM 590 either concurrent or prior to this course Registration Restriction: Open only to master students in Stem Cell Biology and Regenerative Medicine Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

SCRM 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. *Prerequisite:* SCRM 594b *Recommended Preparation:* Completion of at least 14 of the required credits for the M.S. degree in Stem Cell Biology and Regenerative Medicine; Enrollment in SCRM 590 either concurrent or prior to this course Registration Restriction: Open only to master students in Stem Cell Biology and Regenerative Medicine Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

SCRM 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Selected topics in Stem Cell Biology and Regenerative Medicine. Instruction Mode: Lecture Grading Option: Letter

SCRM 610 Current Topics in Regenerative Medicine
Units: 1 Terms Offered: Sp (Enroll in DSR 610)

SCRM 620 Current Topics in Stem Cell Biology and Organogenesis
Units: 1 Terms Offered: Fa (Enroll in DSR 620)

Slavic Languages and Literatures

SLL 020 Course in Reading Russian
Units: 2 For graduate students wishing to use Russian as a scholarly tool. Emphasis on basic grammar and reading skills. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 025 Course in Reading Russian
Units: 2 Continuation of SLL 020. Reading of authentic materials from Russian press and students' areas of interest. *Prerequisite:* SLL 020. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 110g Russia in the Modern Era
Units: 4 Terms Offered: FaSp Key moments in the development of Russian culture since its westernization in the early eighteenth century to the present day. Focus on works of literature, art and other products of the culture that have significantly influenced Russian self-understanding as well as the ways in which Russians perceive the rest of the world. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

SLL 122 Elementary Polish I
Units: 4 Structure of the language, pronunciation, basic communication, and reading in modern Polish. Instruction Mode: Lecture Grading Option: Letter

SLL 130a Elementary Czech
Units: 4 Structure of the language, basic grammar, pronunciation, and oral communication. Readings in Czech; discussion of Czech history and culture. Instruction Mode: Lecture Grading Option: Letter

SLL 130b Elementary Czech
Units: 4 Continuation of SLL 130a. *Prerequisite:* SLL 130a. Instruction Mode: Lecture Grading Option: Letter

SLL 152 Elementary Polish II
Units: 4 Continuation of SLL 122. *Prerequisite:* SLL 122. Instruction Mode: Lecture Grading Option: Letter

SLL 199 Chess and Critical Thinking
Units: 2 Analysis of significant chess games, reflecting societal attitudes toward science, competition, art, gender, psychology, politics, and technology. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 210 Masterpieces of the Russian Short Story
Units: 4 Critical reading of selected masterpieces of the Russian short story; works by Gogol, Turgenev, Dostoevsky, Tolstoy, Babel, Pasternak, Solzhenitsyn, and others. In English. Instruction Mode: Lecture Grading Option: Letter

SLL 222 Readings in Polish Literature I
Units: 4 Continuation of elementary Polish and introduction to outstanding works in Polish literature. *Prerequisite:* SLL 122 and SLL 152. Instruction Mode: Lecture Grading Option: Letter

SLL 252 Readings in Polish Literature II
Units: 4 Continuation of SLL 222. *Prerequisite:* SLL 222. Instruction Mode: Lecture Grading Option: Letter

SLL 255 Business Russian
Units: 4 Language and culture course for intermediate Russian level students interested in business. Prepares students to communicate in Russian-speaking business settings in a linguistically sensitive manner. *Prerequisite:* SLL 220 . Instruction Mode: Lecture Grading Option: Letter

SLL 270a Russian for Native Speakers
Units: 4 For native Russian speakers who cannot read or write Russian. Emphasis on essentials of grammar, vocabulary, and orthography, and the reading and writing of simple texts in Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 270b Russian for Native Speakers
Units: 4 Continuation of SLL 270a. Instruction Mode: Lecture Grading Option: Letter

SLL 299 Chess — Advanced Thinking Techniques
Units: 2 Development of advanced understanding of the game of chess. Critical analysis of games and of the problem-solving techniques applicable in various game situations. *Prerequisite:* SLL 199. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 300 The Russian Novel
Units: 4 The rise of the novel as the dominant form in Russian literature of the 19th century. Major works by Gogol, Turgenev, Dostoevsky, Tolstoy, and others. In English. Instruction Mode: Lecture Grading Option: Letter

SLL 301 Russian Literary Avant-Garde
Units: 4 Russian modernism and the avant-garde: development of modern sensibility in literature and the arts from 1880 to 1930. Readings in Chekhov, Sologub, Bely, Mayakovsky, and others. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

SLL 302g Modern Russian Literature
Units: 4 Survey of the major developments in Russian literature during the 20th century, from modernism to the post-Soviet era. Readings in English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

SLL 303 Contemporary Russian Literature
Units: 4 Developments in Russian Literature from the 1960s to the present. Literature of moral resistance directed against official cultural models. In English. Instruction Mode: Lecture Grading Option: Letter

SLL 321 Russian Culture
Units: 4 Survey of Russian civilization from the beginnings to the Soviet period focusing on major cultural and artistic trends. *Prerequisite:* four semesters of Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 330gp Russian Thought and Civilization
Units: 4 Russian cultural identity from its beginnings until today. The Eastern Orthodox tradition, its traumatic confrontation with Western culture, and their continuous interaction. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter, Discussion

SLL 340 Intercultural Communication in Russian
Units: 4 Advanced language training focusing on specific issues of communication with Russians. Analysis and translation of literary texts. Advanced syntax. Conducted in Russian. *Prerequisite:* SLL 250 ; *Recommended Preparation:* SLL 120 , SLL 150 , SLL 220 . Instruction Mode: Lecture Grading Option: Letter

SLL 344g Tolstoy: Writer and Moralist
Units: 4 Tolstoy's major works in the context of his ethical views. Readings and lectures in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture Grading Option: Letter

SLL 345g Literature and Philosophy: Dostoevsky
Units: 4 Dostoevsky's novels as psychological and philosophical analyses of modern alienated man. Readings in Dostoevsky and selections from Gide, Kafka, Camus, and Sartre. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture Grading Option: Letter

SLL 346 Russian Drama and the Western Tradition
Units: 4 Representative plays from the 18th century to the present. Development of the Russian theater in the European context. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

SLL 348g The Novels of Vladimir Nabokov
Units: 4 Survey of Vladimir Nabokov's novels written in Europe and America from the 1920s–1960s. Primary focus on the structure of the novels and their themes of art and emigration. Readings in English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

SLL 370 Advanced Russian for Native Speakers
Units: 4 For students with basic oral proficiency in Russian who need to develop native fluency in an array of genres and situations. Emphasis on advanced grammar, reading (literary and scholarly texts), written expression (scholarly, administrative, and business genres), spelling, and punctuation. Instruction Mode: Lecture Grading Option: Letter

SLL 378 Modern Russian Art
Units: 4 Changing concepts of aesthetic value as expressed in the development of 19th and 20th century Russian art (painting and architecture). Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS-378

SLL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SLL 397 Literature and Film in Eastern European Historical Experience
Units: 4 Exploration of key moments in the recent historical experience of Eastern Europe through close readings of literature and film. Taught in English. Instruction Mode: Lecture Grading Option: Letter

SLL 465 Seminar in Russian Studies
Units: 4 Max Units: 12.0 Readings and discussion in Russian of current topics in Russian culture, politics and society. Content varies each time offered. *Prerequisite:* SLL 250 . Instruction Mode: Lecture Grading Option: Letter

SLL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

SLL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

SLL 500 Topics in Advanced Russian
Units: 2 Max Units: 8.0 Study of Russian required for graduate work and professional activities. *Prerequisite:* four years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 501 Proseminar in Russian Literature
Units: 3 Introduction to graduate study of Russian literature: research methods, bibliography, transliteration, development of critical writing skills. Instruction Mode: Lecture Grading Option: Letter

SLL 510 Old Church Slavonic
Units: 3 Study of the earliest recorded Slavic language; linguistic interpretation of original texts; knowledge of a Slavic language or general linguistics will be helpful. Instruction Mode: Lecture Grading Option: Letter

SLL 512 History of the Russian Language
Units: 3 Phonetic, morphological, syntactical changes from common Slavic to the present. Russian literary language; influence of 19th century Russian authors and old church Slavic on contemporary Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 514 Structure of Modern Russian: Phonology
Units: 3 Articulatory phonetics, phonemics, morphophonemics, and intonational patterns of modern Russia. *Prerequisite:* three years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 515 Russian Linguistics
Units: 3 Terms Offered: FaSp Overview of contemporary linguistic theory with focus on the Russian language. Instruction Mode: Lecture Grading Option: Letter

SLL 516 Structure of Modern Russian: Morphology
Units: 3 Essential issues in current linguistic description of the syntax and morphology of modern Russian. Considers word order, negation, verbal aspect. Instruction Mode: Lecture Grading Option: Letter

SLL 523x Methods of Teaching Russian as a Foreign Language
Units: 2 Terms Offered: FaSp Introduces future Assistant Lecturers to the communicative method of teaching Russian and focuses on theories and methods of teaching the language, as well as key concepts of second language acquisition. Registration Restriction: Open only to doctoral students in Slavic Languages and Literatures Credit Restriction: Not available for degree credit Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 530 Early Russian Literature and Culture (11th–17th Centuries)
Units: 3 Major monuments of medieval Russian literature examined in their cultural, literary, and theological context, with special emphasis on issues of genre. Focus on problems of Russian cultural identity and Russia's complex relationship to Byzantine and Western traditions. *Prerequisite:* SLL 510 and SLL 514. Instruction Mode: Lecture Grading Option: Letter

SLL 532 18th Century Russian Literature
Units: 3 Major works and genres of the 18th century. The development of a "modern" literary tradition, focusing on problems of Russia's indigenization of Western literary movements (classicism and sentimentalism). Instruction Mode: Lecture Grading Option: Letter

SLL 542 Symbolism
Units: 3 Russian symbolist literature; cultural and philosophical background of this late 19th and early 20th century movement. *Prerequisite:* three years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 544 Russian Short Story
Units: 3 Pushkin, Gogol, Dostoevsky, Turgenev, Tolstoy, Chekhov. *Prerequisite:* three years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 545 19th Century Russian Poetry
Units: 3 Analysis of major works of 19th century Russian poetry in the context of developing aesthetic principles and cultural history. *Prerequisite:* SLL 501. Instruction Mode: Lecture Grading Option: Letter

SLL 546 The Russian Novel
Units: 3 Genre of the novel as exemplified in the works of one or more Russian authors. Readings from Gogol, Turgenev, Tolstoy, Dostoevsky, and others. *Prerequisite:* three years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 548 History of Russian Literary Criticism
Units: 3 History and principles of literary criticism in Russia with attention to major periods and movements from the early 19th century through the Formalists. Instruction Mode: Lecture Grading Option: Letter

SLL 550 Russian Modernism
Units: 3 "Russian Modernism" subsumes theoretical ideas, practical achievements, and stylistic movements which contributed to Russia's cultural renaissance between ca. 1890 and ca. 1925. *Prerequisite:* SLL 340. Instruction Mode: Lecture Grading Option: Letter

SLL 555 Soviet Literature I (1917–1953)
Units: 3 The course surveys the major writers and literary schools of Soviet literature in the crucial period from the Revolution to the death of Stalin. Instruction Mode: Lecture Grading Option: Letter

SLL 557 Soviet Literature II (1953–present)
Units: 3 De-Stalinization of Soviet culture, the reappropriation of Russia's literary past, and new directions in contemporary literature. Instruction Mode: Lecture Grading Option: Letter

SLL 575 Socialist Realism
Units: 3 The course examines the origins, doctrine, and ideology of socialist realism, the predominant, and officially prescribed, aesthetic of Soviet literature. Instruction Mode: Lecture Grading Option: Letter

SLL 584 Russian Fiction and the West
Units: 3 A survey of major Russian fiction in the context of Western European literary movements from the late 18th through late 19th centuries. The course presumes the students' basic acquaintance with the major monuments. Instruction Mode: Lecture Grading Option: Letter

SLL 585 20th Century Russian Literary Criticism
Units: 3 Relationship between practical and theoretical literary criticism: Formalism and Structuralism, Sociological school, and Bakhtin; theoretical approaches applied to specific literary texts. Instruction Mode: Lecture Grading Option: Letter

SLL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

SLL 650 Seminar in Russian Literature
Units: 3 Max Units: 9.0 Detailed study of single literary period, movement or genre; two or more selected authors; specific school of literary criticism. May be repeated, with departmental permission, if content of the seminar is different. *Prerequisite:* three years of college Russian; *Recommended Preparation:* one year of graduate study. Instruction Mode: Lecture Grading Option: Letter

SLL 660 Seminar on a Single Author or Work
Units: 3 Max Units: 9.0 Theme varies from year to year. An author or major work will be selected for intensive study; research paper required. May be repeated, with departmental permission, if content of the seminar is different. *Prerequisite:* three years of college Russian; *Recommended Preparation:* one year of graduate study. Instruction Mode: Lecture Grading Option: Letter

SLL 665 Seminar in Russian Culture and the Arts
Units: 3 Max Units: 9.0 Subject varies from year to year. A trend or major figure will be studied in its cultural and artistic contexts. May be repeated, with departmental permission, if content of the seminar is different. *Prerequisite:* three years of college Russian; *Recommended Preparation:* one year of graduate study. Instruction Mode: Lecture Grading Option: Letter

SLL 670 Seminar in Eastern European Cinema
Units: 3 Max Units: 09 Terms Offered: FaSp Topics in Eastern European cinema selected for intensive study. May be repeated with varying content. *Recommended Preparation:* two years of graduate study Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

SLL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SLL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SLL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SLL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SLL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Sociology

SOCI 100gm Los Angeles and the American Dream
Units: 4 Los Angeles as a metaphor for the American Dream, exploring the city's history and potential futures, including economic opportunity, social justice, spatial organization, and environmental sustainability. Satisfies Old General Education in Category VI: Social Issues Duplicates Credit in the former AMST 100gm and GEOG 100gm. Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 142gm Diversity and Racial Conflict
Units: 4 Terms Offered: FaSp Introduction to the causes and effects of contemporary race relations in a diverse U.S. society.

Exploration of racial conflict at the personal and institutional levels. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 150gm Social Problems
Units: 4 Terms Offered: Fa Analysis of factors in current American social problems: crime, delinquency, prostitution, family disorganization, race relations, mental illness. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 155gm Immigrant America
Units: 4 Terms Offered: FaSp Examination of the immigrant experience in the United States. Comparative analysis of social context of migration, formation of immigrant communities, and social integration of immigrants. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 169gm Changing Family Forms
Units: 4 Terms Offered: FaSp The peculiarity of the "modern" Western family system in historical and cross cultural perspective; focus on the "postmodern" family crisis in the United States. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 200gm Introduction to Sociology
Units: 4 Basic concepts of sociology with special reference to group life, social institutions, and social processes. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 210g Science, Technology, and Social Conflict
Units: 4 Science and technology change society and how we understand ourselves. In turn, social struggles influence science. We will explore the interplay between these forces. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 215g Sociology of Wall Street
Units: 4 Terms Offered: FaSp Examines Wall Street as a: market for allocating investment; arbiter of prices; place to work; and a powerful force directing the activities of corporations everywhere. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 220gm Questions of Intimacy
Units: 4 Terms Offered: FaSp Analysis of conditions of intimacy and intimate personal relationships as lenses for understanding social inequalities of race, social class, gender, sexuality, and nation. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 225gw Sociology of Health and the Body
Units: 4 Terms Offered: FaSp Investigation of health as a social category and the varied ways that social and cultural factors shape bodies and health. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 242g Sociology, Demography and Health
Units: 4 Terms Offered: FaSpSm Sociological and demographic concepts focusing on the causes of disease, health and wellness. Empirical analysis of population composition and its connection to health. *Prerequisite:* BISC 120Lg or BISC 121Lg or BISC 220Lg or BISC 221Lg *Recommended Preparation:* Prepares pre-health students for sociology portion of the MCAT. Registration priority given to pre-health students Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 250gmw Grassroots Participation in Global Perspective
Units: 4 Theory and history behind the ideal of "the local, grassroots volunteer": a direct link between theory and research using Los Angeles as a case study. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 255g Sociology of Globalization
Units: 4 Terms Offered: FaSp This course examines globalization through social and economic processes and its consequences for social conflict, economic development, human rights, social movements, and national identity. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 270g Sociological Theory
Units: 4 Terms Offered: FaSp Historical and contemporary approaches to sociological theory; analysis of conceptual frameworks applied to the study of society and social interaction. *Prerequisite:* SOCI 200gm Satisfies New General Education in Category C: Social Analysis Duplicates Credit in former SOCI 370 Instruction Mode: Lecture Grading Option: Letter

SOCI 275 Sociology of Everyday Life
Units: 4 The social philosophy of understanding everyday life; describing and analyzing forms of interaction, emotions, knowledge, and the social self.

SOCI 305m Sociology of Childhood
Units: 4 Terms Offered: FaSp Social construction of childhood; children's social relations and cultures; issues of childcare, poverty, violence and children's rights; effects of children on adults. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 310 Gender and Social Justice
Units: 4 Terms Offered: FaSp (Enroll in SWMS 310)

SOCI 313L Sociological Research Methods
Units: 4 Terms Offered: FaSp Logic of theory construction, research design, elementary data collection and analysis. *Prerequisite:* SOCI 200gm Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 314Lg Analyzing Social Statistics
Units: 4 Terms Offered: FaSpSm Sociological measurement, univariate description, elementary correlation, introduction to statistical inference. *Prerequisite:* SOCI 200gm Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 325 Applied Social Research Methods
Units: 4 Terms Offered: FaSp Use quantitative or qualitative analysis skills to study major social issues using large existing survey data sets or qualitative methods. Become conversant in describing data to a variety of audiences. *Prerequisite:* SOCI 200gm and SOCI 270 and SOCI 313L and SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 335 Society and Population
Units: 4 Terms Offered: FaSp World population trends and their consequences: determinants of fertility, mortality and migration; development of elementary models of population change. *Prerequisite:* SOCI 200gm and SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 336 Health, Gender and Ethnicity
Units: 4 Terms Offered: Sp (Enroll in SWMS 336)

SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy
Units: 4 Importance of organizations in social life; techniques for using and changing organizations; examination of strategies for building and sustaining nonbureaucratic organizations. Instruction Mode: Lecture Grading Option: Letter

SOCI 342m Race Relations
Units: 4 Terms Offered: FaSp Past and present relations between the White majority and minoritized groups; conflict vs. assimilation perspectives. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 345 Social Institutions
Units: 4 Cultural and interactional aspects of social institutions as complex social systems; religious, political, industrial, and familial institutions.

SOCI 350 Social Exclusion, Social Power and Deviance
Units: 4 Terms Offered: FaSp Current theories of origin, distribution and control of deviant behavior; examination of processes involved in the career deviance of drug addicts, alcoholics, sexual deviants, gamblers and mentally disordered. *Prerequisite:* SOCI 200gm and SOCI 270g

Instruction Mode: Lecture Grading Option: Letter

SOCI 351 Public Policy and Juvenile Justice
Units: 4 Terms Offered: FaSp Past and current theories of youth crime; gangs and other forms of youth deviance; the changing response of the police, courts and public to these behaviors. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 353 Public Policy and Criminal Justice
Units: 4 Terms Offered: FaSp Nature and trends in crime, policing, courts, and correctional agencies in relation to past, current and prospective changes in society. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 355m Immigrants in the United States
Units: 4 Social construction of historical and contemporary immigration to the United States, including causes of migration, immigration policies and the socioeconomic integration of immigrants. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 356m Mexican Immigrants in Sociological Perspective
Units: 4 Effects of class, global inequality, legal status, gender, racial/ethnic and language differences in distinguishing Mexican immigrant populations from the U.S.-born population; differentiation among Mexican immigrants. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 357m Latino Politics
Units: 4 (Enroll in AMST 357)

SOCI 360m Social Inequality: Class, Status and Power
Units: 4 Terms Offered: FaSp Inequalities in wealth, prestige and power in the United States; the American class structure and the extent of upward mobility in that structure. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 362 Global and Transnational Sociology
Units: 4 Terms Offered: FaSp Examines key issues in global and transnational sociology. Globalization is the empirical phenomenon where social, economic, and political interconnectedness across countries impacts the world. Instruction Mode: Lecture Grading Option: Letter

SOCI 369 The Family in a Changing Society
Units: 4 Changing family patterns; personality development; family unity, predicting success in marriage; the family in transition; crises such as economic changes, death, divorce; family reorganization. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 376m Contemporary Issues in Asian American Communities
Units: 4 Survey of current social and political issues facing Asian American communities with emphasis on Los Angeles region; design and implementation of community-based research projects. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-376

SOCI 379gm Mixing and Matching: Intermarriage in 21st Century
Units: 4 Terms Offered: Sp (Enroll in JS 379)

SOCI 382 Judaism as an American Religion
Units: 4 (Enroll in JS 382)

SOCI 386m Men and Masculinity
Units: 4 (Enroll in SWMS 385)

SOCI 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SOCI 402 Human Trafficking
Units: 4 Terms Offered: FaSp Interrogates the social construction of the legal category "human trafficking," examining the ideological foundations, the social contentions and political issues surrounding the issue. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 402

SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Politics
Units: 4 Terms Offered: FaSpSm Theory, practice, and history of civic life. Examines communication, personal obligation, collective imagination, and political representation, in grassroots, state-sponsored, and non-governmental organization-sponsored civic associations around the world. Instruction Mode: Lecture Grading Option: Letter

SOCI 410 The Sociology of Popular Culture
Units: 4 From the entertainment capital of the world, course surveys sociological research on artistic producers and critical theories of the connections between popular culture and society. Instruction Mode: Lecture Grading Option: Letter

SOCI 425 Social Movements: Power, Resistance and Political Dynamics
Units: 4 Terms Offered: FaSp When do groups mobilize to defend or resist power? Explores collective mobilization including student protest, minority rights and labor movements, the alt-right and revolutions. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 429 Immigration, Work and Labor
Units: 4 Terms Offered: FaSp Examination of the experiences of racial minorities in the labor market, niche concentration, the effects of globalization on labor migration, entrepreneurship, discrimination, and minorities in white-collar occupations. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 430m Work and the Workplace
Units: 4 Contrasting views of work in contemporary societies; technological change in the workplace; opportunity, inequality, conflict, and alienation in different occupations. Instruction Mode: Lecture Grading Option: Letter

SOCI 431 Cities
Units: 4 Terms Offered: FaSp Organization of urban society, including such topics as segregation, urban decay, local politics, residential change and community conflict. Duplicates Credit in former SOCI 331 Instruction Mode: Lecture Grading Option: Letter

SOCI 432m Racial and Ethnic Relations in a Global Society
Units: 4 Terms Offered: FaSp Examines race/ethnic relations with U.S. and selected countries from a global perspective, causes/social effects of globalization on people's lives, U.S. attitudes and political policies. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 432

SOCI 435m Women in Society
Units: 4 Terms Offered: FaSp Women today in the labor force, in politics, and in the family. Past and contemporary attempts to expand the position of women in society. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 435

SOCI 445 Political and Social Theory
Units: 4 Max Units: 08 Terms Offered: FaSp Classical and contemporary theories of power, inequality, sociability, symbols and language in market, state, political and civic organizations. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum
Units: 4 Terms Offered: FaSp Internship in a Non-Governmental Organization (NGO). Students will conduct sociological research on issues surrounding NGOs and the work they do. *Prerequisite:* (SOCI 250gmw or SOCI 408 or IR 371 or PPD 371) and (SOCI 313L or SOCI 314Lg) Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

SOCI 460 Key Issues in Contemporary International Migration
Units: 4 Terms Offered: FaSp Overview of contemporary patterns of international migration and its implications for receiving and sending countries, with a special emphasis on immigration to the United States. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 464 Sociology of Gender and Work
Units: 4 Terms Offered: FaSp Examination of gender inequality in the U.S. labor market; work-family conflict; employer remedies; comparative social policy. *Prerequisite:* SOCI 200gm and SOCI 270g Instruction Mode: Lecture Grading Option: Letter

SOCI 465 Visual Sociology of the City and Its Residents
Units: 4 Terms Offered: FaSpSm Students examine images of urban America and use the camera to produce visual representation in their analysis of social relations. *Prerequisite:* SOCI 200gm and SOCI 270g *Corequisite:* SOCI 313L Duplicates Credit in former SOCI 365 Instruction Mode: Lecture Grading Option: Letter

SOCI 468 Sociology of Religion
Units: 4 (Enroll in REL 468)

SOCI 470 Social Change in Low-Income Countries
Units: 4 Theories and case studies on social, economic, political, and cultural development and change in the Third World: Latin America, Asia, or Africa. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 472 Health, Disease, Language and Culture: Guatemala
Units: 3 Terms Offered: Sm Studies health, illness, disease, culture, language and social-economic burdens that affect Guatemala. Students will be immersed into day-to-day life, studying from practitioners in the field. Instruction Mode: Lecture Grading Option: Letter

SOCI 475 Medical Sociology
Units: 4 Social and cultural factors in causation of disease, health care utilization and health care delivery. Instruction Mode: Lecture Grading Option: Letter

SOCI 480 The Sociology of Risk and Disaster
Units: 4 Terms Offered: FaSp Is there such a thing as a "natural" disaster? Examination of both natural and technological disasters, and exploration of the centrality of risk in industrialized societies. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

SOCI 494 Sociology Honors Seminar I
Units: 4 Terms Offered: Fa Advanced seminar involving extensive reading, research and discussions. Selected subjects; offered in fall only and restricted to honors students. Acceptance into the Honors Program. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 495 Sociology Honors Seminar II
Units: 4 Terms Offered: Sp Seminar in workshop form to accompany completion of Senior Honors Thesis under faculty guidance. Acceptance into Honors Program. *Prerequisite:* SOCI 313, SOCI 494. Instruction Mode: Lecture Grading Option: Letter

SOCI 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 An interdisciplinary examination of selected emerging issues. Instruction Mode: Lecture Grading Option: Letter

SOCI 500 Sociology Professional Seminar
Units: 2 Terms Offered: FaSp Introduces students to the theoretical questions and methodological approaches that comprise the discipline of sociology. Experts in each subfield share their latest research with students. Registration Restriction: Open only to doctoral Sociology majors Instruction Mode: Lecture Grading Option: Letter

SOCI 510 Sociological Theory I
Units: 4 Terms Offered: Fa Developments in sociological theory from the discipline's 19th century origins to World War II. Instruction Mode: Lecture Grading Option: Letter

SOCI 511 Sociological Theory II
Units: 4 Developments in sociological theory from World War II to the present. Duplicates Credit in former SOCI 610. Instruction Mode: Lecture Grading Option: Letter

SOCI 520 Qualitative Research Methods
Units: 4 Terms Offered: Fa Seminar in epistemologies, ethics, and techniques of qualitative research. Critical reading and practice in social observation, interviewing, fieldwork, and research design. Preparation of IRB proposal. Instruction Mode: Lecture Grading Option: Letter

SOCI 521 Quantitative Methods and Statistics
Units: 4 Terms Offered: Fa Introduction to the logic and methods of quantitative analysis in sociology; covers the basic elements of designing and research, summarizing and exploring patterns in data, and making generalizations about populations based on characteristics of samples. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 525 Sociology Proseminar: Approaches to Sociological Research
Units: 4 Terms Offered: FaSp Graduate students begin their customized literature reviews and develop a paper that will frame the research they pursue in the empirical paper requirement. Instruction Mode: Lecture Grading Option: Letter

SOCI 554 Women in Global Perspective
Units: 4 (Enroll in SWMS 554)

SOCI 560 Feminist Theory
Units: 4 (Enroll in SWMS 560)

SOCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOCI 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOCI 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Seminar in selected topics in sociology. Instruction Mode: Lecture Grading Option: Letter

SOCI 620 Advanced Methods – Qualitative Research
Units: 4 Terms Offered: FaSp Seminar and practicum in conducting and interpreting original qualitative research. *Prerequisite:* SOCI 520. Duplicates Credit in former SOCI 524. Instruction Mode: Lecture Grading Option: Letter

SOCI 621L Quantitative Methods and Statistics II
Units: 4 Terms Offered: Sp Casual modeling and the inter-relationships among social phenomena: covers the basic elements of casual inference and generalizability, linear regressions analysis, and categorical data analysis. *Prerequisite:* SOCI 521 Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 622L Advanced Methods – Quantitative Research
Units: 4 Terms Offered: FaSp Advanced research methodology in survey technique, evaluation research, instrument construction, and demographic analysis. Duplicates Credit in former SOCI 523 Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 625 Demographic Methods
Units: 4 Terms Offered: FaSp Procedures and techniques for the collection, evaluation and analysis of demographic data; census and vital registration systems; basic measures of demographic components and the construction of life tables and population projections. *Prerequisite:* SOCI 521 Duplicates Credit in former SOCI 540 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SSCI 625

SOCI 628 Theories of Aging
Units: 4 (Enroll in GERO 628)

SOCI 640 Sociology of Gender and Sexuality
Units: 4 Terms Offered: FaSp Approaches to gender and sexuality within sociology and social theory, highlighting contemporary empirical research on sexualities. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former SOCI 530. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-640

SOCI 642 Sex and Gender in Society
Units: 4 Terms Offered: FaSpSm The social organization of gender in the contexts of work, families, intimacy, sexuality, reproduction, violence. Variations by race, ethnicity, social class. Processes of social change. Duplicates Credit in former SOCI 552. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-642

SOCI 643 Sociology of Labor
Units: 4 Terms Offered: FaSp Viewing labor and labor movements from a macro/meso/micro perspective. Examination in the formation of labor markets, global economy, organization of work, conditions of work, movements. Instruction Mode: Lecture Grading Option: Letter

SOCI 644 Population Trends: Public and Private Policies
Units: 4 Terms Offered: FaSp World and national population trends; causes and implications for economic, health, and social policies. Duplicates Credit in former SOCI 544. Instruction Mode: Lecture Grading Option: Letter

SOCI 645 Seminar in World Population Problems
Units: 4 Terms Offered: FaSp Demographic characteristics of the major regions of the world; social, economic, and political implications of population trends and methods of demographic analysis. *Prerequisite:* 335g. Duplicates Credit in former SOCI 545. Instruction Mode: Lecture Grading Option: Letter

SOCI 646 Economic Sociology
Units: 4 Terms Offered: FaSp Classical/ neoclassical economic models of human action, sociological alternatives, the history of the large corporation, sociological models of production/labor/financial markets... and the role of economic institutions in the larger society. Instruction Mode: Lecture Grading Option: Letter

SOCI 647 Political Sociology: Politics, Symbols and Everyday Life
Units: 4 Terms Offered: FaSp Political power, conflict and apathy; public symbols, debate and discourse; nationalism; relations between politics, provision of social services and economics in comparative and historical perspective. Duplicates Credit in former SOCI 537. Instruction Mode: Lecture Grading Option: Letter

SOCI 648 Fertility Control Policies
Units: 4 Terms Offered: FaSp Fertility control policies, and their consequences, including family planning and other pronatalist and antinatalist programs. Duplicates Credit in former SOCI 548 Instruction Mode: Lecture Grading Option: Letter

SOCI 649 Migration Policies
Units: 4 Terms Offered: FaSp Analysis of migration and population redistribution; policies affecting such migration and redistribution. Duplicates Credit in former SOCI 549. Instruction Mode: Lecture Grading Option: Letter

SOCI 651 Seminar in Social Stratification
Units: 4 Terms Offered: FaSp Critique of research literature and research methods in the area of social class and social stratification; major theories and theoretical implications of current research. Duplicates Credit in former SOCI 551. Instruction Mode: Lecture Grading Option: Letter

SOCI 653 Seminar in Science and Technology Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Introduction to key concepts and theories in the interdisciplinary field of Science and Technology Studies. Duplicates Credit in former SOCI 532. Instruction Mode: Lecture Grading Option: Letter

SOCI 654 Social Movements
Units: 4 Terms Offered: FaSp Theories explaining collective action and the outcomes of those struggles. Instruction Mode: Lecture Grading Option: Letter

SOCI 655 Seminar in Race Relations
Units: 4 Terms Offered: FaSp Current racial problems in the United States and other countries; critiques of literature on race relations. Duplicates Credit in former SOCI 555. Instruction Mode: Lecture Grading Option: Letter

SOCI 656 Social Demography
Units: 4 Terms Offered: FaSp Theoretical perspectives of population, historical and contemporary accounts of population trends and statistics, and the latest research on the causes and consequences of demographic processes. *Recommended Preparation:* enrollment in a PhD program Instruction Mode: Lecture Grading Option: Letter Crosslisted as SSCI 656

SOCI 657 Sociology of Culture
Units: 4 Terms Offered: FaSpSm Cultural theories and forms of cultural analysis appropriate for sociological research; critical examination of theory and research on how culture relates to social structure, social inequality, politics, institutions, and everyday interaction. *Recommended Preparation:* SOCI 510 or prior undergraduate or graduate coursework in social science or communication studies. Duplicates Credit in former SOCI 535. Instruction Mode: Lecture Grading Option: Letter

SOCI 658 Sociology of Health and Medicine
Units: 4 Terms Offered: FaSp Analyze social causes of sickness, study medical power, the social constructions of health/ illness, examine medicine as a site of sociological action and struggle. Instruction Mode: Lecture Grading Option: Letter

SOCI 659 Critical Theories of Race and Culture
Units: 4 Terms Offered: FaSp (Enroll in COMM 657)

SOCI 667 Seminar in Social Deviance
Units: 4 Terms Offered: FaSp Deviance and social rules in groups and communities; contemporary social policies involving ethnic, cultural, and social factors. Duplicates Credit in former SOCI 566. Instruction Mode: Lecture Grading Option: Letter

SOCI 669 Seminar in Family Sociology
Units: 4 Terms Offered: FaSp Origins and consequences of historical change and variation between groups in family structures and processes, relationships, well-being and connections with other social institutions. Instruction Mode: Lecture Grading Option: Letter

SOCI 670 Seminar in Organizational Analysis
Units: 4 Terms Offered: FaSp Literature evaluation, theory building, and research in the area of large-scale organizations and other types of institutionalized groups. Duplicates Credit in former SOCI 550. Instruction Mode: Lecture Grading Option: Letter

SOCI 671 Urban Sociology
Units: 4 Terms Offered: FaSp Examination of theories and research on cities in the United States, examining issues such as politics, race, development, and inequality. Registration Restriction: Open only to graduate students. Duplicates Credit in former SOCI 571. Instruction Mode: Lecture Grading Option: Letter

SOCI 675 Seminar in Immigration
Units: 4 Terms Offered: FaSpSm Survey of key theoretical approaches and relevant issues in immigration studies. Themes include: transationalism, globalization, gendered migration, segmented assimilation, immigrant labor markets, social incorporation and citizenship. Duplicates Credit in former SOCI 575. Instruction Mode: Lecture Grading Option: Letter

SOCI 680 Writing for Publication in Sociology
Units: 4 Terms Offered: Sp Prepares graduate students to publish in peer reviewed journals. *Prerequisite:* SOCI 620 or SOCI 622L Instruction Mode: Lecture Grading Option: Credit/No Credit

SOCI 685 Seminar in Aging
Units: 4 Terms Offered: FaSp Research seminar to review identification of problems, issues of theory, and methodology and implications for research designs. Duplicates Credit in former SOCI 580. Instruction Mode: Lecture Grading Option: Letter

SOCI 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOCI 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Social Work

SOWK 200xm Institutional Inequality in American Political and Social Policy
Units: 4 Historic and philosophical roots of inequality for minority groups in the United States and implications for public policy. Credit Restriction: Not available for major credit. Instruction Mode: Lecture Grading Option: Letter

SOWK 324 Juvenile Justice in America
Units: 4 Terms Offered: FaSp The historical and current context of America's juvenile justice system and its influence on children, youth and families. Instruction Mode: Lecture Grading Option: Letter

SOWK 350 Adolescent Gang Intervention
Units: 4 The incidence of gangs (particularly in the Los Angeles area), gang interventions, and policies developed to address the growing gang situation. Instruction Mode: Lecture Grading Option: Letter

SOWK 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only.

Instruction Mode: Lecture Grading Option: Letter

SOWK 417 Introduction to Substance Use Disorders and Recovery
Units: 4 Terms Offered: FaSp Casual exploration of substance related and behavioral addictive disorders. Evidence-based and practice informed treatment models for vulnerable individuals, groups and families. Instruction Mode: Lecture Grading Option: Letter

SOWK 424 Community Experience in Juvenile Justice Environments
Units: 4 Terms Offered: FaSp Provides in-class and on-site community experiences to increase knowledge and understanding of youth experience in a range of social environments focused on juvenile justice. Instruction Mode: Lecture Grading Option: Letter

SOWK 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in various specialty areas within social work. Instruction Mode: Lecture Grading Option: Letter

SOWK 506 Human Behavior and the Social Environment
Units: 3 The person-in-environment, bio-psycho-social perspective is the lens through which theories of personality, family, group, organization, community, culture and their interactions are explored. Duplicates Credit in the former SOWK 503 and SOWK 505 . Instruction Mode: Lecture Grading Option: Letter

SOWK 535 Social Welfare
Units: 3 Structure and operation of current American social welfare programs (social policy analysis). *Prerequisite:* the former SOWK 534 . Instruction Mode: Lecture Grading Option: Letter

SOWK 536 Policy and Advocacy in Professional Social Work
Units: 3 A study of the complex and interconnecting systems of policy, programs and communities that directly and indirectly impact Social Workers' clients' lives. Duplicates Credit in the former SOWK 534 . Instruction Mode: Lecture Grading Option: Letter

SOWK 544 Social Work Practice With Individuals, Families, and Groups
Units: 3 Principles underlying generic social work practice with emphasis on working with individuals, families, and groups. Duplicates Credit in SOWK 543 and SOWK 545 . Instruction Mode: Lecture Grading Option: Letter

SOWK 546 Science of Social Work
Units: 3 Introduction to the role of scientific inquiry in advancing social work goals. Inspires students to include science in their social work identity and professional decision-making. Duplicates Credit in SOWK 562 . Instruction Mode: Lecture Grading Option: Letter

SOWK 588 Integrative Learning for Social Work Practice
Units: 2 Integrative learning organized as a small group educational environment that incorporates field experiences, case vignettes, and dialogical inquiry through a Problem Based Learning framework. Duplicates Credit in former SOWK 587a and SOWK 587b. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 589a Applied Learning in Field Education
Units: 3 Supervised field education where students learn and apply evidence-based interventions and clinical skills in practice labs and social work settings. *Concurrent Enrollment:* SOWK 544. Duplicates Credit in SOWK 586a . Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 589b Applied Learning in Field Education
Units: 3 Supervised field education where students learn to apply coursework concepts while practicing in a field setting that aligns with students' academic department. *Prerequisite:* SOWK 589a . *Concurrent Enrollment:* SOWK 588. Duplicates Credit in SOWK 586b . Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 599 Special Topics
Units: 1, 2, 3, 4 Max Units: 13.0 Instruction Mode: Lecture Grading Option: Letter

SOWK 601 Advanced Theories and Interventions with Children and Adolescents
Units: 3 Advances students' knowledge and clinical skills working with children and adolescents. Emphasis on problems affecting children, including developmental derailments and disruptions. Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 602 Advanced Theories and Clinical Interventions with Families
Units: 3 Advances students' knowledge and clinical skills working with diverse urban families experiencing various stressors. Exploration and application of a range of family therapy models. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 544 or SOWK 545) Registration Restriction: Open only to master's Social Work students Instruction Mode: Lecture Grading Option: Letter

SOWK 605 Human Development and Mental Health
Units: 3 Understanding problem-producing behaviors and their ramifications on individuals, families and groups that comprise the clientele in mental health settings. Required for students in Mental Health concentration. Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 607 Feminist Theory, Social Action, and Social Work: Philippines
Units: 4 Terms Offered: Sm Understanding and awareness of the political, economic, social, and cultural contexts through a feminist perspective, using the Philippines as a case study. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 608 Research and Critical Analysis for Social Work with Children and Families
Units: 3 Critical analysis and application of various data, information, and evidence to understand client problems and service needs, identify appropriate interventions, and evaluate practice decisions. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Duplicates Credit in SOWK 603 . Instruction Mode: Lecture Grading Option: Letter

SOWK 609 Introduction to Social Work Practice with Children, Youth and Families
Units: 3 Understanding development of children and families from birth to adolescence and the developmental difficulties from an ecological perspective. Assessment/engagement of families and Interventions are introduced. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 610 Social Work Practice with Children and Families Across Settings
Units: 3 Terms Offered: Other Theory and principles underlying social work in host settings and non-specialty sector settings with a primary emphasis on working with Children, Youth, and Families. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 611 Leadership and Management in Social Work
Units: 3 Methods and principles of leadership and management applied to social work practice, understood as policy, management and clinical practice in the non-profit sector, health and human service organizations, and non-traditional social work settings. Registration Restriction: Open only to master students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 612 Assessment and Diagnosis of Mental Disorder
Units: 3 Assessment of mental disorders, and the rationale and organization of the system for diagnosis. Emphasis is on developing differential diagnostic skills. Instruction Mode: Lecture Grading Option: Letter

SOWK 613 Social Work Practice with Children and Families in Early and Middle Childhood
Units: 3 Provides understanding of the development of problems in early childhood, and skills for engagement, assessment, intervention, and evaluation of effectiveness for treatment of these problems. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 614 Social Work Practice in School Settings
Units: 3 Based on ecosystems perspectives, this course examines policies, theories and principles of social work practice in school settings. Instruction Mode: Lecture Grading Option: Letter

SOWK 615 Brief Therapy and Crisis Intervention
Units: 3 Theory and multimodal approaches for brief therapy and crisis intervention with

diverse clientele in a range of mental health and health settings. Instruction Mode: Lecture Grading Option: Letter

SOWK 616 Clinical Practice with Older Adults
Units: 3 Developmental tasks of adulthood and later life, as well as assessment and intervention for problems and disorders associated with aging. Instruction Mode: Lecture Grading Option: Letter

SOWK 617 Substance Related and Behavioral Addictive Disorders and Recovery
Units: 3 Causal exploration of substance related and behavioral addictive disorders. Evidence-based and practice informed treatment models for vulnerable individuals, groups and families. Instruction Mode: Lecture Grading Option: Letter

SOWK 618 Systems of Recovery from Mental Illness in Adults
Units: 3 Terms Offered: FaSpSm Focus on the multi-level impact of mental illness on adults and families. Evidence-based interventions promoting increased quality of life and stability are emphasized. Instruction Mode: Lecture Grading Option: Letter

SOWK 619 Social Work in Public Child Welfare Settings
Units: 3 This advanced seminar will provide tools to enhance the practitioner's response to the special challenges (substance abuse, HIV/AIDS, domestic violence) in public child welfare. Instruction Mode: Lecture Grading Option: Letter

SOWK 620 Social Work Practice With Transitional Youth
Units: 3 Terms Offered: FaSpSm Students will be introduced to policies affecting transitional youth and use a biopsychosocial perspective to work with them on macro, meso, and micro levels. Duplicates Credit in former SOWK 525. Instruction Mode: Lecture Grading Option: Letter

SOWK 621 Social Work Practice with Adolescents, Young Adults and their Families
Units: 3 Intervention with adolescents, young adults and addressing their developmental problems, challenges and solutions. Engagement and evidence based intervention in working with youth will be covered. *Prerequisite:* SOWK 506 and SOWK 544 and SOWK 608 and SOWK 609 and SOWK 610 Registration Restriction: Open only to Masters students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 622 Threat Assessment and Management
Units: 3 Terms Offered: FaSpSm Provides an overview to students with an interest in violence prevention and crisis response. Instruction Mode: Lecture Grading Option: Letter

SOWK 623 Social Work in Early Care and Education Settings
Units: 3 Provides tools to enhance social work practice skills supporting young children and their families, and preparation for leadership in early care and education settings. Instruction Mode: Lecture Grading Option: Letter

SOWK 624 Social Work in Juvenile Justice Settings
Units: 3 Provides orientation to the context and operations of juvenile justice systems, and advanced skills for social work practitioners working with youth, families and communities. Instruction Mode: Lecture Grading Option: Letter

SOWK 625 Evaluation of Research: Mental Health
Units: 3 Range of research conducted in mental health; evaluation of selected research reports and their application to social work practice. Required for students in Mental Health concentration. Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 626 Social Conflict, Empowerment and Creative Practice in Israel
Units: 4 Terms Offered: Sm The summer global immersion program in Israel focuses on understanding social problems and alleviating them through empowerment approaches and the utilization of expressive practices. Instruction Mode: Lecture Grading Option: Letter

SOWK 627 Policy and Macro Practice in Child, Youth and Family Services
Units: 3 Provides context and preparation for social work practitioners holding policy, management and macro practice roles in communities and organizations serving children, youth and families. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 629 Research and Evaluation for Community, Organization and Business Environments
Units: 3 Research/evaluation skills and critical analysis of data information systems to inform decision making to improve effectiveness of social work practice in community, organizations and business. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Instruction Mode: Lecture Grading Option: Letter

SOWK 630 Diversity, Social Justice, and Culturally Competent Social Work Practice
Units: 3 Introduction to diversity and social justice in the context of social work practice. Enhance cultural competence by raising awareness of one's own values/assumptions/biases. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 631 Advanced Theories and Clinical Interventions in Health Care
Units: 3 Evaluation of theory, best practices, emerging issues, and skill development in health settings; interaction among cultural, socioeconomic, and organizational factors. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 544 or SOWK 545) Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 633 Life in the US Military: Foundations of Practice in Military Social Work
Units: 3 Examines the experience of military service, including challenges and theoretical and empirical foundations of military social work clinical practice. *Prerequisite:* SOWK 506 and SOWK 536 Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 634 Violence Against Women: A Transnational Perspective
Units: 3 Terms Offered: FaSpSm Broad understanding of violence against women within a global context, moving beyond the examination of violence as a phenomenon in order to effect social change. *Prerequisite:* SOWK 506 and SOWK 536 Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Duplicates Credit in former SOWK 522 Instruction Mode: Lecture Grading Option: Letter

SOWK 635 Research and Evaluation for Social Work with Adults and Older Adults
Units: 3 Critical analysis and application of health and mental health research evidence to inform, enhance and strengthen social work practice with adults and aging populations with a focus on evaluating published research, identifying and interpreting available sources of data, appraising practical measures/assessments and selecting appropriate evidence-based interventions. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to masters students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 637 Assessing Wellness to Improve Recovery in Integrated Care
Units: 3 Assessing and promoting wellness and recovery, interacting systems of mind, brain, and body. Evidence-based integrated care interventions in a new era of health care reform. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 638 Policy in Integrated Care
Units: 3 Analysis of policies and health care delivery with focus on implications for social workers and their clients in settings with adults, families, and older adults. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Duplicates Credit in SOWK 636 . Instruction Mode: Lecture Grading Option: Letter

SOWK 639 Policy Advocacy and Social Change
Units: 3 Analysis of efforts to improve local human services organizations and agencies with consideration of political, social, demographic and organization contexts. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 640 Clinical Practice with the Military Family
Units: 3 Theoretical and practical

approaches to clinical practice with military families. Overview of common social issues in the military system and demands on the family dynamic. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 641 Clinical Practice with Service Members and Veterans
Units: 3 Needs of service members/ veterans within the context of their families/ communities. Approaches to treatments with goal of advancing knowledge of best practices and current evidence-based models. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 643 Social Work Practice in Integrated Care Settings
Units: 3 Social work processes and skills required for the implementation of short-term interventions in medical, behavioral health and integrated care settings with individuals, families and groups. *Prerequisite:* SOWK 544 and SOWK 637 Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 644 Explanatory Theories of Health and Mental Health
Units: 3 Behavioral health theory course that integrates theories of health and mental health and builds on the content from the Human Behavior and Social Environment course. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 645 Clinical Interventions: Evidence Based Practice in Health and Mental Health Settings
Units: 3 Social work processes from intake to termination; emphasis on clinical skills required for social work practice in a broad spectrum of health and mental health settings. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 647 Advanced Practice with Complex Social Work Cases
Units: 3 Introduction to advanced practice concepts essential to understanding engagement, assessment and diagnosis with complex social work cases from a meta-framework perspective. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 635 and SOWK 637 and SOWK 638 and SOWK 643 and SOWK 644 Registration Restriction: Open only to master students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 648 Management and Organizational Development for Social Workers
Units: 3 Methods and principles of management focusing on health and human service organizations, including strategic management, financial analysis, and innovative project development in social work. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 650 Military and Veteran Policy and Program Management
Units: 3 Understanding the development and implementation of military and veteran policy and programs including family advocacy, prevention of sexual assault, suicide, alcohol/substance use and homelessness. *Prerequisite:* SOWK 534 or SOWK 536 Registration Restriction: Open only to Masters students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 651 Clinical Psychopharmacology for Social Workers
Units: 3 Terms Offered: FaSpSm Understanding major psychoactive drugs used in treatment of psychological and behavioral disorders in behavioral and primary care medical settings. Theoretical/ practical approaches to treatment are examined. *Prerequisite:* SOWK 506 Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 652 Social Work Practice in Workplace Settings
Units: 3 Social Work services designed to improve and/or maintain the productivity and healthy functioning of individuals in the workplace. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to Masters Students in Social Work Duplicates Credit in SOWK 671 Instruction Mode: Lecture Grading Option: Letter

SOWK 653 Social Work with Older Adults
Units: 3 Terms Offered: FaSpSm Integrates foundation and advanced knowledge and skill for practice with and in behalf of older adults. Instruction Mode: Lecture Grading Option: Letter

SOWK 654 National Immersion in Washington, DC: Child Development and Social Policy
Units: 3 Terms Offered: Sp A short study in Los Angeles and Washington, DC, addressing the development and change of Federal social policy concerning child development, especially as it pertains to local programs and services for children and their families. Priority enrollment given to currently enrolled MSW students. Instruction Mode: Lecture Grading Option: Letter

SOWK 655 Global Immersion in Military Culture: U.S. Forces Abroad
Units: 4 Terms Offered: Sm This course will enhance students' understanding of the delivery of human services on overseas military installations. Instruction Mode: Lecture Grading Option: Letter

SOWK 656 National Military Immersion in Washington, DC: Military and Veterans Policy and Practice
Units: 3 Terms Offered: Sp A short study at the campus, online, and in Washington, DC addressing policies and programs for military members, veterans, and their families. Priority enrollment given to currently enrolled MSW students. *Prerequisite:* SOWK 536 and SOWK 544 Instruction Mode: Lecture Grading Option: Letter

SOWK 657 Social Work Practice with Native American Children, Families and Communities: National Immersion
Units: 3 Terms Offered: Sp Understanding and applying social work practice with Native American children, families and communities through a community immersion experience on Indian Reservation. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 658 Organizational Practice and Development in Business Environments
Units: 3 Prepares students for organizational practice and program development in business environments, emphasizing organizational change initiatives, employee program development and corporate social responsibility initiatives. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Duplicates Credit in SOWK 673 . Instruction Mode: Lecture Grading Option: Letter

SOWK 659 Pathways to Immigration: Global Immersion to Mexico
Units: 3 Terms Offered: Sp Understanding of immigration issues in Southern California via an immersion experience to expose students to the realities that immigrants from Mexico and Central America face. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 660 Health Care Delivery Systems: Planning for Health and Social Services
Units: 3 Evaluating health care delivery systems in the U.S. and internationally including community social capital, health disparities, access to care, and policy implications for diverse populations. Instruction Mode: Lecture Grading Option: Letter

SOWK 663 Clinical Practice with Couples
Units: 3 Examination of major models and diverse intervention strategies to ameliorate common presenting problems of couples. *Prerequisite:* SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 664 Consultation, Coaching and Social Entrepreneurship
Units: 3 Expanding roles that social workers play within both non-profit and for profit corporations. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 and SOWK 536) Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 665 Grant Writing and Program Development for Social Workers
Units: 3 Grant writing and program development that are generalized to any settings and relevant to direct and macro social work practice expertise. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to master students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 666 Domestic and Intimate Partner Abuse
Units: 3 Recognition of domestic and intimate partner abuse and examination of effective intervention measures and preventive methods. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 668 Social Work and Law
Units: 3 Examination of roles, opportunities, and concerns for the practice of social work in the structures and procedures of the law. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 669 Managing Change and Organization Development
Units: 3 Conceptual framework and practical skills needed to design, implement and evaluate effective change and organization development programs. *Prerequisite:* SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 670 Global Dimensions in Social Policy and Social Work Practice
Units: 3 Exploration and critique of how political, economic, cultural, religious and environmental factors impact social welfare policies, social work practice, and social development globally. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open to Masters Students in the Suzanne Dworak-Peck School of Social Work. Instruction Mode: Lecture Grading Option: Letter

SOWK 672 Social Work and Business Settings
Units: 3 Terms Offered: FaSpSm Examining the roles social workers play in business, how their skills integrate and support business practice, and how the profession can impact internal/external business environments. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Instruction Mode: Lecture Grading Option: Letter

SOWK 674 Human Sexuality in Clinical Social Work Practice
Units: 3 Explores physiological, psychological, and sociocultural variables associated with sexual identity, sexual orientation, and sexual behavior to increase student understanding and appreciation for human sexual behavior. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 675 Play Therapy in Social Work with Children and Adolescents
Units: 3 Advances student theoretical knowledge and clinical practice skills in working with children, adolescents, and their families and explores the process of child psychotherapy. *Prerequisite:* (SOWK 503 and SOWK 543 and SOWK 545) or (SOWK 506 and SOWK 544) Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work. Instruction Mode: Lecture Grading Option: Letter

SOWK 676 Psychopharmacology for Therapists and Counselors
Units: 1 Terms Offered: FaSpSm Overview of various classes of basic psychotherapeutic medications. Useful to social workers, counselors, therapists, and other individuals who counsel and treat mentally ill patients. Instruction Mode: Lecture Grading Option: Letter

SOWK 677 Mental Health Practice with Children and Adolescents
Units: 3 The assessment and treatment of children with serious emotional disturbance, including the service delivery models and policies that influence service delivery. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 678 Child Abuse and Neglect: Intervention and Treatment
Units: 3 Terms Offered: FaSpSm Advanced practice course focusing on interventions with and treatment of complex family systems where the effects of child maltreatment are the presenting problems. *Prerequisite:* SOWK 506 and SOWK 536 Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 679 Organizational Group Behaviors and Interventions
Units: 3 Emphasizing group and organizational dynamics, this course provides an understanding of human behavior in work-related environments, and prepares students for mezzo practice in these settings. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 . Instruction Mode: Lecture Grading Option: Letter

SOWK 680 Social Work Spanish for Culturally Competent Services
Units: 3 Integration of cross-cultural practice skills with Spanish language development through the class instruction and practice development. *Prerequisite:* SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 681 Managing Diversity in a Global Context
Units: 3 Interdisciplinary approach to innovative practices that make the workplace more inclusive and productive. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 682 Spirituality, Religion, and Faith in Clinical Practice
Units: 3 Examination of diverse spiritual and religious traditions. Spiritually-sensitive treatment approaches applied to psychological and spiritual clinical problems of individuals, couples, and families. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 683 Hypnosis Social Work Practice
Units: 3 Examination of major theoretical and practice applications of hypnosis in social work practice and development of a beginning level of competency. *Prerequisite:* SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 684 Community Practice for Social Innovation
Units: 3 Working effectively within marginalized, underserved populations and diverse community settings on their wicked, consistent, and complex issues by providing innovative and sustainable solutions. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 685 Working with Adolescents: Practice, Systems and Advocacy
Units: 3 Enhance knowledge and skill in working with adolescents involved in the child welfare, juvenile justice and other systems. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open to Masters Students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 687 Media in Social Work
Units: 3 Creation of short documentaries for social change. Techniques in media production, strategies for media outreach, and development of media literacy skills to deconstruct media messages. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to MSW students Instruction Mode: Lecture Grading Option: Letter

SOWK 688 School Violence
Units: 3 Examines theoretical, empirical and practice-based literature on school violence including how students' physical well-being, academic functioning, social relations, and emotional and cognitive development are affected. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to Master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 690a Research
Units: 1, 2, 3, 4 Intensive individual study of specific problems. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 690b Research
Units: 1, 2, 3, 4 Intensive individual study of specific problems. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 692 Loss, Grief and Bereavement
Units: 3 Focus on the experiences of loss, death and bereavement as it is viewed by individuals, families and loved ones. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to Master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 694 Group Psychotherapy in Mental Health Settings
Units: 3 Focus on group therapy for clinical social workers as practiced in various mental health settings. The entire process of group development is examined. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to Master students in the Suzanne Dworak-PecK School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 696 LGBT Psycho/Social/Political Issues
Units: 3 Terms Offered: FaSpSm Overview of clinical, social and political issues with which social workers should be familiar when working with lesbian, gay, bisexual and transgender clients. *Prerequisite:* SOWK 506 and SOWK 536 Registration Restriction: Open only to Master Students in the USC Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 698a Integrative Learning for Advanced Social Work Practice
Units: 1 Advanced integrative learning that incorporates field experiences, evidenced-based interventions, case vignettes and dialogical inquiry through a Problem Based Learning framework. *Prerequisite:* SOWK 588 and SOWK 589b *Concurrent Enrollment:* SOWK 699a Registration Restriction: Open only to Master students in Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 698b Integrative Learning for Advanced Social Work Practice
Units: 1 Advanced integrative learning builds on 698a by incorporating field experiences, case/best practices consultations, and dialogical inquiry on micro, mezzo, and macro practice levels. *Concurrent Enrollment:* SOWK 699b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 699a Advanced Applied Learning in Field Education
Units: 4 Advanced supervised field education where students practice social work skills and apply evidence-based interventions, including some that are specific to their academic department. *Prerequisite:* SOWK 588 and SOWK 589a and SOWK 589b. *Concurrent Enrollment:* SOWK 698a. Duplicates Credit in SOWK 686a . Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 699b Advanced Applied Learning in Field Education
Units: 4 Advanced supervised field education where students practice social work skills and apply evidence-based interventions, including some that are specific to their academic department. *Prerequisite:* SOWK 699a. *Concurrent Enrollment:* SOWK 698b. Duplicates Credit in SOWK 686b . Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 702 Theories of Human Behavior in the Contexts of Social Environments
Units: 3 A focus on human behavior in interaction with the social environment; major paradigms including general systems theory, ego psychology, and role theories are examined. Instruction Mode: Lecture Grading Option: Letter

SOWK 703 Explanatory Theories for Larger Social Systems
Units: 3 Theories of organizational and community behavior are examined in relation to their influence on the development of social services. Instruction Mode: Lecture Grading Option: Letter

SOWK 704 Strategic Innovations for the Grand Challenges
Units: 3 Grand Challenge initiatives and interventions from diverse perspectives are explored. Multidisciplinary strategies of innovation are analyzed to effect broad-based opportunities and barriers to change. Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 705 Leading Public Discourse
Units: 3 Leading public discourse for the purposes of increasing civic engagement and public participation, building broad based public support and enabling competencies. *Prerequisite:* SOWK 704 and SOWK 706 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 706 Leading and Managing Large Complex Systems
Units: 3 Examining large scale national, state and local intervention programs as well as modeling potential organizational redesign to improve service delivery strategies. Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 707 Financial Management for Social Change
Units: 3 Senior financial management and planning in human service organizations, emphasizing fiscal approaches that focus on strategy, including how to maximize revenue, control costs, allocate resources, improve decision-making and support successful social programs and disruptive social change. *Prerequisite:* SOWK 704 and SOWK 706 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 710 Preparatory Scholarship for Capstone
Units: 3 Design and develop an innovative, feasible, logical, and defensible Grand Challenge Capstone Project; consider contextual issues, and enhance innovation and communication skills *Prerequisite:* SOWK 704 and SOWK 711 and SOWK 723 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 711 Design Laboratory for Social Innovation I
Units: 3 Integrates design thinking with a norms-driven approach for social innovation. Students will diagnose social norms and apply design-thinking techniques to develop design criteria. *Corequisite:* SOWK 704 Registration Restriction: Open only to doctoral students in USC School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 712 Residency I
Units: 3 Terms Offered: Sm Five-day campus based residency in the third semester of the DSW program designed to bring students together for a series of presentations and workshops by 'thought leaders' of the Grand Challenges of Social Work. *Prerequisite:* SOWK 704 and SOWK 711 and SOWK 723 *Corequisite:* SOWK 705 and SOWK 710 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 713 The Application of Implementation Science
Units: 3 Introduction to doctoral level research and evaluation, introducing concepts of effectively using literature, formulating a problem for research and effectively identifying a research or evaluative approach. *Prerequisite:* SOWK 704 and SOWK 706 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 714 Executive Leadership: Leaders as Maestros
Units: 3 The Leader/Maestro Concept enlarges the student from a virtuoso perspective - individual performance - to include an organizational performance in leading, creating and measuring change. *Prerequisite:* SOWK 704 and SOWK 706 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 720 Communication and Influence for Social Good
Units: 3 Explores how communication and new information technology influence decision-makers and the general public to address the Grand Challenges in the interest of the public good. *Prerequisite:* SOWK 704 and SOWK 705 and SOWK 706 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 721 Data Driven Decision Making in Social Services
Units: 3 Practical introduction to using quantitative administrative data to identify trends, track performance, evaluate programs and drive decision making. *Prerequisite:* SOWK 704 and SOWK 706 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 722 Implementing Your Capstone and Re-envisioning Your Career
Units: 3 Culminates in the completion of a fully implementable Grand Challenge capstone project and a plan that re-envisions career pathways conducive to launching the project. *Prerequisite:* SOWK 705 and SOWK 710 and SOWK 711 and SOWK 723 *Corequisite:* SOWK 724 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 723 Design Laboratory for Social Innovation II
Units: 3 Continues the exploration of design thinking and norms-driven innovation. Students will design and test innovative solutions through the creation of prototypes and design labs. *Prerequisite:* SOWK 704 and SOWK 706 and SOWK 711 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 724 Residency II
Units: 3 Terms Offered: Sm Campus-based residency in the final semester of the DSW program bringing students together to present their Capstone Projects to different professional audiences. *Prerequisite:* SOWK 704 and SOWK 705 and SOWK 706 and SOWK 707 and SOWK 710 and SOWK 711 and SOWK 712 and SOWK 713 and SOWK 714 and SOWK 721 and SOWK 723 *Corequisite:* SOWK 720 and SOWK 722 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 725a Preparatory Scholarship for Capstone
Units: 2 Terms Offered: FaSpSm Design and develop an innovative, feasible, and defensible Capstone Project focusing on a selected Grand Challenge for Social Work. Credit granted on acceptance of capstone project. *Prerequisite:* SOWK 704 and SOWK 705 and SOWK 706 and SOWK 707 and SOWK 711 and SOWK 713 and SOWK 714 and SOWK 720 and SOWK 721 and SOWK 723 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

SOWK 725b Preparatory Scholarship for Capstone
Units: 2 Terms Offered: FaSpSm Refine a fully implementable, innovatively designed Grand Challenge Capstone Project. Future-focused on garnering support, piloting and launching students' capstone prototype. Credit granted on acceptance of capstone project. *Prerequisite:* SOWK 725a Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

SOWK 725c Preparatory Scholarship for Capstone
Units: 2 Terms Offered: FaSpSm Complete a fully implementable, innovatively designed Grand Challenge Capstone Project. Future-focused on garnering support, piloting and launching students' capstone project. Credit granted on acceptance of capstone project. *Prerequisite:* SOWK 725b Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: In Progress to Credit/No Credit

SOWK 733 Policy Analysis and Advocacy in a Comparative Social Policy Context
Units: 3 Examination of the evolution of American and other welfare states in selected nations. Analysis of global welfare institutions. Engaging in policy analysis in a comparative context. Instruction Mode: Lecture Grading Option: Letter

SOWK 743 Theories for Practice with Small Systems
Units: 3 Early practice theories and their historical roots are examined. Implications for evolving current practice theories with individuals, families, and groups are discussed. Instruction Mode: Lecture Grading Option: Letter

SOWK 744 Theories for Practice with Large Systems
Units: 3 Examination of the development and utility of theories, models and approaches to social work community and administrative practice. Instruction Mode: Lecture Grading Option: Letter

SOWK 760L Introduction to Social Work Statistics
Units: 3 Foundation course covering univariate and bivariate descriptive and inferential statistics. Required lab covering basic computer skills and utilization of statistical software. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOWK 761L Multiple Regression for Social Work Research
Units: 3 Multivariate statistical methods including descriptive and inferential statistics, parametric and non-parametric tests of hypotheses; correlation, analysis of variance, multiple regression, and factor analysis; utilization of computer programs for statistical analysis. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOWK 762 Social Work Research Methods I
Units: 3 Models of research, the nature of inquiry, and the research process including problem formulation, measurement, designs, sampling and data sources. *Prerequisite:* doctoral standing. Instruction Mode: Lecture Grading Option: Letter

SOWK 763 Social Work Research Methods II: Issues in Research for Social Work Practice
Units: 3 Research methods to provide students with advanced methodological knowledge in two areas related to social work practice: psychotherapy outcome research and program research. *Prerequisite:* SOWK 762. Instruction Mode: Lecture Grading Option: Letter

SOWK 764 Advanced Multivariate Statistics
Units: 3 Introduction to single equation statistical modeling using limited dependent variables (categorical and ordered categorical). Methods are drawn from statistics and econometrics. Instruction Mode: Lecture Grading Option: Letter

SOWK 765 Writing Successful Dissertation Research Grants
Units: 3 Terms Offered: FaSp Prepares doctoral students to write and submit applications to obtain extramural funding to support their dissertation research. Students will learn about opportunities and eligibility requirements for federal and foundation supported dissertation research grants, how grants are reviewed and scored once submitted, and how to write successful proposals. Recommended preparation: Completion of a qualitative or mixed methods course is preferred. *Prerequisite:* SOWK 702 and SOWK 703 and SOWK 761 and SOWK 762 and SOWK 763 and SOWK 764 *Recommended Preparation:* Completion of a qualitative or mixed methods course is preferred Instruction Mode: Lecture Grading Option: Letter

SOWK 770 Introduction to Qualitative and Mixed Research Methods
Units: 3 Overview of the use of qualitative and mixed methods in social, clinical and health services research. Instruction Mode: Lecture Grading Option: Letter

SOWK 781 Guided Teaching Experience
Units: 2 Mentorship with a member of the teaching faculty; discussions of curriculum design; observation; preparation and delivery of selected course sessions. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 785 Guided Research Internship
Units: 2 Research practicum designed to provide students with handson practical experience with an ongoing faculty research project. *Prerequisite:* SOWK 763. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Spanish

SPAN 020x Spanish for Reading Knowledge
Units: 0 Preparation for the ETS standardized examination, with readings related to the student's major area. Offered

upon sufficient demand. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 120 Spanish I
Units: 4 For students with limited proficiency in Spanish. Practice in listening comprehension, oral communication, elementary reading and writing. *Prerequisite:* Spanish placement exam. Instruction Mode: Lecture Grading Option: Letter

SPAN 150 Spanish II
Units: 4 Continuation of SPAN 120; increased emphasis on listening comprehension, oral communication, reading, and writing. *Prerequisite:* SPAN 120. Instruction Mode: Lecture Grading Option: Letter

SPAN 220 Spanish III
Units: 4 Continuation of SPAN 150; intensive work in listening comprehension, oral communication, reading and writing, with emphasis on free expression; readings related to Hispanic culture and civilization. *Prerequisite:* SPAN 150. Instruction Mode: Lecture Grading Option: Letter

SPAN 231x Business Spanish: Job Search
Units: 2 Terms Offered: FaSp Four-skills language and culture course. Students create culturally appropriate professional dossiers, execute job searches in Spain/Latin America; engage in face-to-face and phone interviews in Spanish. *Prerequisite:* SPAN 220 Registration Restriction: Not open to Spanish majors Duplicates Credit in SPAN 250x Instruction Mode: Lecture Grading Option: Letter

SPAN 232x Business Spanish: Business Culture
Units: 2 Terms Offered: FaSp Four-skills language and culture course. Students engage in research about the culture of business practices in Spain/Latin America; write/present company profiles, including NGOs, in Spanish. *Prerequisite:* SPAN 220 Registration Restriction: Not open to Spanish majors Duplicates Credit in SPAN 250x Instruction Mode: Lecture Grading Option: Letter

SPAN 233x Business Spanish: Case Studies
Units: 2 Terms Offered: FaSp Four-skills language and culture course. Students read/analyze Spanish-language case studies and present their own case studies orally and in writing in Spanish. *Prerequisite:* SPAN 220 Registration Restriction: Not open to Spanish majors Duplicates Credit in SPAN 250x Instruction Mode: Lecture Grading Option: Letter

SPAN 240 Spanish IV
Units: 4 Terms Offered: FaSp Intensive review of Spanish grammar with emphasis on four skills. Audiovisual materials and readings related to Hispanic culture and civilization. *Prerequisite:* SPAN 220. Instruction Mode: Lecture Grading Option: Letter

SPAN 245 Spanish Through Social Issues in Costa Rica
Units: 4 Terms Offered: Sm (Costa Rica Summer Program only). Intensive review of Spanish grammar with emphasis on four skills. Audiovisual materials, guest speakers, and readings related to the history and culture of Costa Rica. *Concurrent Enrollment:* SPAN 220 Instruction Mode: Lecture Grading Option: Letter

SPAN 250x Spanish for Business Communication
Units: 4 Four-skills language and culture course for intermediate-high Spanish students interested in Business/Communications. Prepares students to communicate in the Spanish-speaking commercial market in a linguistically sensitive manner. *Prerequisite:* SPAN 240. Instruction Mode: Lecture Grading Option: Letter

SPAN 260 Advanced Spanish: Arts and Sciences
Units: 4 Terms Offered: FaSpSm Development of students' oral and writing skills using literary and scientific materials; grammar review. *Prerequisite:* SPAN 220. Duplicates Credit in the former SPAN 266. Instruction Mode: Lecture Grading Option: Letter

SPAN 261 Advanced Spanish: Society and the Media
Units: 4 Terms Offered: FaSpSm Analysis of cultural issues in the Spanish-speaking world. Discussions, presentations, writing assignments, and grammar instruction designed to improve students' proficiency in Spanish. *Prerequisite:* SPAN 220. Duplicates Credit in the former SPAN 265. Instruction Mode: Lecture Grading Option: Letter

SPAN 270 Spanish for Heritage Speakers
Units: 4 Terms Offered: FaSp Culture-based course designed for Spanish speakers not formally trained in the language. Review language and grammar and hone presentational skills. *Prerequisite:* SPAN 220 *Recommended Preparation:* Heritage profile Duplicates Credit in SPAN 260 Instruction Mode: Lecture Grading Option: Letter

SPAN 280x Conversational Spanish
Units: 2 Max Units: 4.0 Terms Offered: FaSp Discussions of short films, cultural and literary texts and other activities designed to improve conversational skills. *Prerequisite:* SPAN 220. Instruction Mode: Lecture Grading Option: Letter

SPAN 290gp Introduction to Latin American and Iberian Studies
Units: 4 Introduction to the cultural history of Spain, Portugal and Latin America with a focus on literature and visual works from the early-modern period to the twenty-first century. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

SPAN 301 Introduction to Literature and Film
Units: 4 Terms Offered: FaSpSm Introduction to critical reading and interpretation of poetry, narrative fiction, drama, and film from Spain and Latin America. *Prerequisite:* SPAN 260 and SPAN 261 Instruction Mode: Lecture Grading Option: Letter

SPAN 302 Screen Cultures: From Film to the Internet
Units: 4 Terms Offered: FaSp A survey of Spanish and Latin American cinema from the silent film era to the present, acquainting students with various critical and theoretical approaches to cinema studies. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 *Recommended Preparation:* SPAN 301 Instruction Mode: Lecture Grading Option: Letter

SPAN 304 The Art of Fiction
Units: 4 Terms Offered: FaSp A survey of Spanish and Latin American fiction from the Middle Ages to the present, acquainting students with various critical and theoretical approaches to narrative. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Instruction Mode: Lecture Grading Option: Letter

SPAN 306 Performance from Street to Stage
Units: 4 Terms Offered: FaSp A survey of Spanish and Latin American plays from the Middle Ages to the present, acquainting students with various critical and theoretical approaches to drama. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Duplicates Credit in former SPAN 305 Instruction Mode: Lecture Grading Option: Letter

SPAN 308 The Art of Poetry
Units: 4 Terms Offered: FaSp A survey of Spanish and Latin American poetry from the Middle Ages to the present, acquainting students with various critical and theoretical approaches to verse. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Instruction Mode: Lecture Grading Option: Letter

SPAN 310 Structure of Spanish
Units: 4 Terms Offered: FaSp A systematic study of the structure of Spanish. Topics include fundamental aspects of the sound system; word classes; sentences and their meaning; linguistic change and variation; standard and colloquial usage. *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 311 Advanced Spanish Through Contemporary Issues: Oral Emphasis
Units: 4 Terms Offered: Sm (Summer sessions abroad.) Advanced Spanish with emphasis on grammar and oral communication. *Recommended Preparation:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 315 Advanced Grammar and Translation
Units: 4 Terms Offered: FaSp Contrastive study of Spanish and English structures designed to explore the similarities and differences between the two languages and to familiarize students with translation techniques. Emphasis on a variety of text types with the aim of increasing linguistic and cultural appreciation of the Spanish language. *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 316x Spanish for the Professions
Units: 4 Terms Offered: FaSp The language and culture of a particular area of study or profession, such as medicine and healthcare, political and social sciences, business and the law. Limited to 4 units for major or minor credit. *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 318x Creative Writing in Spanish
Units: 4 Terms Offered: FaSp

An introduction to the art and craft of creative writing in Spanish with a focus on narrative fiction; writing workshop, literary readings. *Prerequisite:* SPAN 260 or SPAN 261 Instruction Mode: Lecture Grading Option: Letter

SPAN 320 Politics, Thought, Society
Units: 4 Terms Offered: FaSp Introduction to the study of Iberian and Latin American cultural patterns through readings on such topics as history, gender, ethnicity, and politics. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Duplicates Credit in former SPAN 360 and former SPAN 370 Instruction Mode: Lecture Grading Option: Letter

SPAN 321 Sounds, Images, Objects
Units: 4 Terms Offered: FaSp Introduction to the study of Iberian and Latin American cultural forms through readings on the visual arts, cinema, architecture, and music. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Duplicates Credit in former SPAN 360 and former SPAN 370 Instruction Mode: Lecture Grading Option: Letter

SPAN 341 Advanced Conversation and Culture
Units: 4 Conversation based on study of Spanish art and architecture. Field trips. Instruction Mode: Lecture Grading Option: Letter

SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages
Units: 4 Terms Offered: FaSp Selected readings from 1040 to 1499 examining the rich cultural diversity of the Iberian Middle Ages in the symbiosis of Christian, Moslem and Jewish traditions. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Duplicates Credit in former SPAN 377 and former SPAN 450. Instruction Mode: Lecture Grading Option: Letter

SPAN 352 The Transatlantic Golden Age: New Worlds Real and Imagined
Units: 4 Terms Offered: FaSp Selected readings from 1500 to 1700 exploring Renaissance and baroque visions of the classical and new worlds. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 372 Modern and Contemporary Latin American Fiction
Units: 4 Terms Offered: FaSp Study of major trends in Latin American fiction from the 1930s to the present with a focus on narrative experimentation. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 373 Modern and Postmodern Spanish Fiction
Units: 4 Terms Offered: FaSp An exploration of the literary and filmic narratives of contemporary Spain focusing on the major historical and cultural movements of the 20th century. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Duplicates Credit in former SPAN 378. Instruction Mode: Lecture Grading Option: Letter

SPAN 375 Latin American Cultural and Literary Theory
Units: 4 (Enroll in COLT 375) Satisfies New General Education in B Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

SPAN 380g Literature of Mexico
Units: 4 Principal writers and their works from Colonial times to the present. Non-majors may write assignments in English. *Recommended Preparation:* advanced comprehension of oral and written Spanish. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

SPAN 381 Narco-World
Units: 4 Sp *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 382 The Aesthetics of Violence in Latin America
Units: 4 Terms Offered: Fa An exploration of representations of violence and violent representations in Latin American narrative, poetry, music, and film. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 383 Mexican Noir
Units: 4 Terms Offered: FaSp Comparative study of the noir form in Mexico through readings in literature and cinema, with attention on questions of modernity, technology, politics and gender. Taught in Spanish. *Prerequisite:* (SPAN 260 and SPAN 261) or (SPAN 265 and SPAN 266) Instruction Mode: Lecture Grading Option: Letter

SPAN 385 The Culture of Food in Hispanic Los Angeles
Units: 4 Terms Offered: FaSp Experiential learning and project-based course designed to familiarize students with the food culture of Hispanic Los Angeles. Students create Spanish language blogs about their experiences. *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SPAN 391 Introduction to Contemporary Spanish Literature (USC Madrid Center)
Units: 4 Readings in contemporary Spanish literature. Includes lectures by recognized Spanish writers and scholars. Instruction Mode: Lecture Grading Option: Letter

SPAN 395 Visualizing Cuba: Arts, Politics and Society in Today's Cuba
Units: 4 Terms Offered: Sp Examines Cuban contemporary culture and society through the analysis of visual arts, literature, music and dance. Instruction Mode: Lecture Grading Option: Letter

SPAN 396 Oaxaca and Oaxacalifornia: Food, Culture, Art and Migration
Units: 4 Terms Offered: Sp Explore Oaxaca's mountains, beaches, villages and capital city; first hand experience in culture, traditional food, street artists and agricultural systems. Instruction Mode: Lecture Grading Option: Letter

SPAN 405 History of the Spanish and Portuguese Languages
Units: 4 Development of sounds, forms, words, meanings and structures from their origins to modern Spanish and Portuguese. *Prerequisite:* SPAN 310 or SPAN 315. Instruction Mode: Lecture Grading Option: Letter

SPAN 412 Spanish Rhetoric and Style
Units: 4 Terms Offered: FaSp Close grammatical and rhetorical analysis of a variety of text types (general, literary, technical, journalistic) as the basis for practice in advanced written and oral expression as well as translation. *Prerequisite:* SPAN 310 or SPAN 315. Instruction Mode: Lecture Grading Option: Letter

SPAN 413m Social and Geographic Varieties of Spanish
Units: 4 Terms Offered: Fa Historical, social, and cultural elements represented in the dialectal diversity of the Spanish language; fieldwork in bilingual communities in the United States. Majors prepare assignments in Spanish, non-majors in English. Conducted in Spanish and English. *Prerequisite:* reading knowledge of Spanish. Instruction Mode: Lecture Grading Option: Letter

SPAN 420 Spanish Language Acquisition
Units: 4 Terms Offered: FaSp A study of the bilingual acquisition of Spanish and English by children, and of Spanish as a second language by adults; focus on linguistic, psychological and social factors. *Prerequisite:* SPAN 310 or SPAN 315. Instruction Mode: Lecture Grading Option: Letter

SPAN 455 Picaresque Itineraries: Empire and Its Discontents
Units: 4 Terms Offered: FaSp A study of the rise of the picaresque novel in Spain and Latin America as a medium for social, political, and cultural criticism. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 460 Don Quijote: Text and Film
Units: 4 Terms Offered: FaSpSm A close reading of Cervantes' masterpiece and analysis of film adaptations of the novel. *Prerequisite:* SPAN 301. Instruction Mode: Lecture Grading Option: Letter

SPAN 462 Literary Cartographies of Latin America and Spain, 1810–1898
Units: 4 Terms Offered: FaSp Comparative analysis of Spanish and Latin American literatures with a focus on trans-Atlantic relations and the rise of such movements as romanticism, realism, and modernismo. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 464 Introduction to Contemporary Spanish Theatre
Units: 4 (Madrid Center only) Historical evolution of the contemporary Spanish theatre; readings of dramatic texts supported by attendance at live stage performances. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 465 Cultural Perspectives of the Iberian Peninsula
Units: 4 Terms Offered: Sm (Madrid Summer Program) Study of cultural plurality in the Iberian Peninsula. *Recommended Preparation:* SPAN 260 or SPAN 261.

Instruction Mode: Lecture Grading Option: Letter

SPAN 466 Argentina, Society and the Arts
Units: 4 Terms Offered: Sm Study of the arts in the cultural landscape of Argentina and in the context of developments in Europe, Latin America and the United States. *Recommended Preparation:* SPAN 260 or SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 469 Immigration in Spain
Units: 4 Terms Offered: Sm Sociopolitical issues of immigration in Spain, including economic impact, legal evolution, history, geographic location, and culture. *Prerequisite:* SPAN 220; *Recommended Preparation:* SPAN 260 or SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 470 Literature and Media in Latin America
Units: 4 (Enroll in COLT 470)

SPAN 471 Postdictatorship Spanish and Latin American Cinema
Units: 4 Terms Offered: Fa A study of the historical, cultural and political context of post-dictatorship Spanish and Latin American cinema by focusing on debates on memory and trauma. Taught in Spanish. Instruction Mode: Lecture Grading Option: Letter

SPAN 472 The Sixties in Latin America
Units: 4 Terms Offered: Fa Study of the explosive Latin American cultural formations of the sixties (literary boom, third cinema, protest song, theories of armed struggle). *Prerequisite:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 481 Literature and Popular Culture
Units: 4 Terms Offered: FaSp An examination of popular culture and literary genres with an emphasis on the evolving canons and identities of Latin America and Spain. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 482 Literature and the City
Units: 4 Terms Offered: FaSp An examination of the literary representations of urban spaces and cultures within the context of Iberian, Latin American, and U.S. Latino societies. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 483 Gender and Sexuality
Units: 4 Terms Offered: FaSp An examination of gender, sexuality, and power in Iberian and Latin American literatures and cultures. Conducted in Spanish. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308 Instruction Mode: Lecture Grading Option: Letter

SPAN 484 Studies in Visual and Material Culture
Units: 4 Terms Offered: FaSp An examination of the role of visual and material culture in cultural and social context in the Hispanic world, focusing on a selected time period and geographical region. *Recommended Preparation:* SPAN 260 and SPAN 261 if taken for Spanish major credit. Instruction Mode: Lecture Grading Option: Letter

SPAN 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

SPAN 495 Seminar for Majors and Minors
Units: 4 Two options: (1) Study of a major work or writer, a principal literary theme or movement; or (2) a selected topic in Spanish language and linguistics. *Recommended Preparation:* two courses in the upper division in the same area as the seminar topic (i.e., language or literature). Instruction Mode: Lecture Grading Option: Letter

SPAN 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

SPAN 501 Cultural Narratives of Spain and Latin America
Units: 4 Theoretical and methodological approaches to cultural narratives in Spanish and Latin American literary and cultural studies. Instruction Mode: Lecture Grading Option: Letter

SPAN 511 Techniques and Procedures of Teaching Spanish as a Second Language
Units: 3 Practical classroom application of language teaching methods; evaluation of available textbooks; critique of master classes. Instruction Mode: Lecture Grading Option: Letter

SPAN 513 Spanish Morphology and Phonology
Units: 3 Terms Offered: FaSp A survey of research on the interaction between Spanish morphology and phonology in light of critical readings and discussion of selected studies as contributions to the general theory of grammar. Duplicates Credit in former SPAN 512. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-513

SPAN 514 Spanish Syntax
Units: 3 Terms Offered: FaSp A survey of Spanish syntax in the light of critical readings and discussion of selected studies and their comparative contribution to grammatical theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-514

SPAN 515 Spanish Grammar in Discourse
Units: 3 Terms Offered: FaSp Semantic and pragmatic approaches to the analysis of the structure of Spanish sentences and discourse. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-515

SPAN 516 Historical Aspects of Spanish and Portuguese
Units: 3 Terms Offered: FaSp Processes of language change in the development of the Spanish and Portuguese languages from their origin in spoken Latin to their modern stage. Instruction Mode: Lecture Grading Option: Letter

SPAN 517 Spanish Applied Linguistics
Units: 3 Terms Offered: FaSp Modern theories of first and second language acquisition and their application to Spanish. Instruction Mode: Lecture Grading Option: Letter

SPAN 518 Spanish Sociolinguistics
Units: 3 Terms Offered: FaSp Principles of sociolinguistics and dialectology: sociolinguistic patterns in the Hispanic languages. Instruction Mode: Lecture Grading Option: Letter

SPAN 525 Medieval and Early Modern Spanish World
Units: 4 Max Units: 8.0 Study of literature and other cultural artifacts pertaining to the Middle Ages in Spain and the early modern world in both Spain and the Americas. Instruction Mode: Lecture Grading Option: Letter

SPAN 529 The Transatlantic 19th Century
Units: 4 Max Units: 8.0 Study of authors, texts and literary and cultural currents in Spain and Latin America in the 19th century. Instruction Mode: Lecture Grading Option: Letter

SPAN 539 20th and 21st Century Spanish Literature and Culture
Units: 4 Max Units: 8.0 Study of cultural currents, authors, literary texts, films and other media in Spain in the 20th and 21st centuries. Instruction Mode: Lecture Grading Option: Letter

SPAN 545 20th and 21st Century Latin American Literature and Culture
Units: 4 Max Units: 8.0 Study of cultural currents, authors, literary texts, films and other media in Latin America in the 20th and 21st centuries. Instruction Mode: Lecture Grading Option: Letter

SPAN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 592 Practicum in Teaching Spanish
Units: 2 Approaches and techniques in the teaching of Spanish and/or Portuguese as a second language. Registration Restriction: Open only to Master and Doctoral students in Comparative Literature, Comparative Culture in Literature and Studies (Spanish and Latin American Studies), Linguistics (Hispanic Linguistics) and Spanish. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 596 Research Methods in Spanish Linguistics
Units: 3 Examination of various research methods as applied to the study of the Spanish language; mechanics of organizing, conducting and presenting research in Spanish linguistics. Instruction Mode: Lecture Grading Option: Letter

SPAN 602 Seminar in Spanish and Latin American Critical Theory
Units: 4 Max Units: 8.0 Major developments in literary criticism in Spain and Latin America from the early modern period to the present. Instruction Mode: Lecture Grading Option: Letter

SPAN 603 Seminar in the Cultural History of Spain and Latin America
Units: 4 Max Units: 8.0 Literary and cultural currents in Spain and Latin America, with varying focus on genres, periods, movements and problems. Instruction Mode: Lecture Grading Option: Letter

SPAN 604 Seminar in Gender and Sexuality in Spain and Latin America
Units: 4 Max Units: 8.0 Construction and representation of gender and sexuality in Spanish and Latin American literature and culture. Instruction Mode: Lecture Grading Option: Letter

SPAN 606 Seminar in Visual Culture in Spain and Latin America
Units: 4 Max Units: 8.0 Major currents in film and other media in Spain and Latin America. Instruction Mode: Lecture Grading Option: Letter

SPAN 650 Topics in Spanish and Latin American Literature and Culture
Units: 4 Max Units: 8.0 Study of topics in Spanish and Latin American literature and culture across periods, genres and nations. Instruction Mode: Lecture Grading Option: Letter

SPAN 652 Seminar on a Major Topic in Hispanic Linguistics
Units: 3 Max Units: 9.0 Terms Offered: FaSp Analysis of selected topics of current interest as reflected primarily in the most recent literature. Instruction Mode: Lecture Grading Option: Letter

SPAN 672 Seminar in Spanish Morphophonology
Units: 3 Max Units: 9.0 Terms Offered: FaSp Selected topics in Spanish morphology and phonology. Instruction Mode: Lecture Grading Option: Letter

SPAN 674 Seminar on Spanish Syntax and Semantics
Units: 3 Max Units: 9.0 Terms Offered: FaSp Detailed analysis of topics in modern Spanish syntax and semantics. Instruction Mode: Lecture Grading Option: Letter

SPAN 676 Seminar in Diachronic Aspects of the Hispanic Languages
Units: 3 Max Units: 9.0 Terms Offered: FaSp In-depth analysis of a particular topic in the historical development of the Hispanic languages. Instruction Mode: Lecture Grading Option: Letter

SPAN 677 Seminar in Spanish Applied Linguistics
Units: 3 Terms Offered: FaSp Critical study and analysis of major issues related to the teaching and learning of Spanish as a first or a second language. Instruction Mode: Lecture Grading Option: Letter

SPAN 678 Seminar in Hispanic Sociolinguistics
Units: 3 Max Units: 9.0 Terms Offered: FaSp Selected topics in Hispanic sociolinguistics: social and geographic language varieties, language contact, discourse analysis, synchronic variation and processes of change in Spanish. Instruction Mode: Lecture Grading Option: Letter

SPAN 700 Colloquium in Hispanic Literature and Linguistics
Units: 1 Max Units: 3.0 Discussion and presentation of papers on a variety of topics in the areas of Hispanic language and literature. *Prerequisite:* any 600 level Spanish seminar. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 790 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Spatial Sciences Institute

SSCI 135g Maps in the Digital World
Units: 4 Terms Offered: FaSp The role of formal reasoning, abstract representation and empirical analysis in building maps for sharing knowledge across the physical, life and social sciences and humanities. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

SSCI 165Lgw Sustainability Science in the City
Units: 4 Terms Offered: FaSp The influence of sustainability science on public policy and vice versa in the context of social/ethical theories, analytical methods and solutions. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 201 Principles of GeoDesign
Units: 4 Terms Offered: FaSp Foundations of geodesign combining place-making, design, collective action, and the science of location-based information to improve human interaction with the functioning of the Earth. Instruction Mode: Lecture Grading Option: Letter

SSCI 214g Human Populations and Natural Hazards
Units: 4 Terms Offered: FaSp Introduction to the complex relationship between human development and natural hazards, which are increasingly causing damage and displacement to human populations throughout the world. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

SSCI 220L Spatial Data Collection Using Drones
Units: 4 Terms Offered: FaSp Develop the requisite knowledge and practical skills to source, analyze, and produce GIS and simulation-based projects with unmanned aerial systems-derived data. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 265Lg The Water Planet
Units: 4 Terms Offered: FaSpSm An exploration of earth's water, ranging from water properties, chemistry, and pollution, to groundwater dynamics, watershed processes, and oceanic-atmospheric circulation. Implications for past and future societies. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 301L Maps and Spatial Reasoning
Units: 4 Terms Offered: Fa Role of maps and spatial reasoning in the production and use of geographic information for representing and analyzing human and environmental activities and events. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 311 Global Geodesign Studio - Europe
Units: 4 Terms Offered: Sm Critical and spatial thinking while engaged in classroom and field settings to propose geodesign strategies that address a societal challenge in an Amsterdam neighborhood. *Prerequisite:* SSCI 201 and SSCI 301L and SSCI 382L Instruction Mode: Lecture Grading Option: Letter

SSCI 312 Global Geodesign Studio - Asia
Units: 4 Terms Offered: Sm Examination of geodesign applications in locations throughout Asia and utilization of these experiences to interrogate applications of geodesign and how they might be applied in the United States. *Prerequisite:* ARCH 203 and ARCH 303 Instruction Mode: Lecture Grading Option: Letter

SSCI 313 Global Geodesign and Stakeholder Engagement
Units: 2 Terms Offered: FaSp Concepts, practices and contexts of public engagement and their importance to the geodesign process. *Recommended Preparation:* SSCI 201 Instruction Mode: Lecture Grading Option: Letter

SSCI 314 Comparative Sustainability Theory and Practice for Geodesign
Units: 2 Terms Offered: FaSp Use of sustainability theory and practice to compare various geodesign practices; application to specific locations around the world to promote a sustainable global environment. *Recommended Preparation:* SSCI 201 Instruction Mode: Lecture Grading Option: Letter

SSCI 340 Community Health Scan
Units: 4 Terms Offered: FaSpSm The social context of health and its determinants; the uses of data analysis; community capacity building, and the impact of policy on community health improvement. Duplicates Credit in former MDA 350 Instruction Mode: Lecture Grading Option: Letter

SSCI 350 International GeoDesign
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive living-learning research and field experience in Los Angeles and abroad; application of GeoDesign strategies to local societal challenges. Instruction Mode: Lecture Grading Option: Letter

SSCI 381 Statistics for the Spatial Sciences
Units: 4 Terms Offered: FaSp Conceptual foundations and techniques of statistics and how they can be used with geographic data to produce actionable information across spatial science domains. Instruction Mode: Lecture Grading Option: Letter

SSCI 382L Geographic Information Science: Spatial Analytics
Units: 4 Terms Offered: Sp The various ways in which geography can be used to acquire, represent, organize, analyze, model and visualize information. Laboratories are organized around ArcGIS software suite. *Prerequisite:* SSCI 301L Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 383L Geographic Information Science: Geospatial Modeling and Customization
Units: 4 Terms Offered: Sp Fundamentals of spatial modeling and remote sensing and how to use GIS customization and programming to streamline complex spatial analysis and modeling workflows. *Prerequisite:* SSCI 301L and SSCI 382L Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 397 Spatial Sciences Internship
Units: 2, 3, 4 Max Units: 12 Terms Offered: FaSpSm Intensive experience in local public agency, private firm, or nonprofit agency engaged in applied geospatial analysis, modeling and mapping work. Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 401L Geospatial Intelligence
Units: 4 Terms Offered: Fa Introduction to basic geospatial intelligence knowledge and related practical applications that assist in informing decision-making in a variety of human security settings. *Recommended Preparation:* IR 381 and SSCI 301L Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 402 Geospatial Technology Management for Sustainability Science
Units: 4 Terms Offered: FaSp Principles and techniques for leveraging geospatial technologies and information in support of sustainability, with emphasis on coupling human and natural systems for global sustainable development. *Prerequisite:* (SSCI 165Lgw or SSCI 265Lg) and SSCI 301L Instruction Mode: Lecture Grading Option: Letter

SSCI 412L GeoDesign Practicum
Units: 4 Terms Offered: FaSp Application of design concepts, planning protocols and spatial analysis skills to a complex planning or design problem sponsored by a local public, private or not-for-profit client in a studio setting. *Prerequisite:* ARCH 403, PPD 425, SOCI 314, SSCI 483 . Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ARCH-412, PPD-412

SSCI 420 Human Security and Geospatial Intelligence Practicum
Units: 4 Terms Offered: FaSp Create conceptual solutions for a real-world human security and geospatial intelligence issue by developing a problem set and recommended solution to the same. *Prerequisite:* SSCI 401L *Recommended Preparation:* SSCI 301L Instruction Mode: Lecture Grading Option: Letter

SSCI 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

SSCI 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Intensive study of selected topics or regions. Instruction Mode: Lecture Grading Option: Letter

SSCI 572 GIS and Landscape Architecture
Units: 2 Terms Offered: Fa The use of GIS, spatial analysis, modeling, and 2- and 3-D mapping to support landscape architecture projects that span multiple spatiotemporal scales. Instruction Mode: Lecture Grading Option: Letter

SSCI 574 Spatial Econometrics
Units: 4 Terms Offered: FaSpSm Introduction to the theoretical foundations, methods, and software systems for spatial econometrics using a variety of use cases. *Recommended Preparation:* SSCI 583 Instruction Mode: Lecture Grading Option: Letter

SSCI 575 Spatial Data Science
Units: 4 Terms Offered: FaSp Introduce the spatial data scientific approach to issues and present a holistic generalizable analysis pipeline. *Prerequisite:* SSCI 581 Instruction Mode: Lecture Grading Option: Letter

SSCI 576 Remote Sensing Applications and Emerging Technologies
Units: 4 Terms Offered: FaSpSm Explore ways remote sensing systems provide geospatial information that is relevant, accurate, timely, accessible, appropriately formatted and cost-effective. *Recommended Preparation:* SSCI 581 Instruction Mode: Lecture Grading Option: Letter

SSCI 577 Human Security and Disaster Management
Units: 4 Terms Offered: FaSpSm The relationship between human security (population growth, urbanization, conflict) and disasters, both man-made and natural, where complex emergencies are impactful to human populations. Instruction Mode: Lecture Grading Option: Letter

SSCI 578 The Practice of Geospatial Leadership
Units: 4 Terms Offered: Sm The geospatial value proposition and the qualities and skills leaders will need to help their geospatial information management groups and organizations achieve success. *Recommended Preparation:* SSCI 581. Instruction Mode: Lecture Grading Option: Letter

SSCI 579 Geospatial Intelligence Tradecraft
Units: 4 Terms Offered: FaSpSm Typical geospatial intelligence tasks and their use in military operations, national and homeland security, international relief work and disaster management. *Recommended Preparation:* SSCI 581. Instruction Mode: Lecture Grading Option: Letter

SSCI 581 Concepts for Spatial Thinking
Units: 4 Terms Offered: Sp The unique characteristics and importance of spatial information as they relate to the evolving science, technology, and applications of Geographic Information Systems. Duplicates Credit in the former GEOG 581. Instruction Mode: Lecture Grading Option: Letter

SSCI 582 Spatial Databases
Units: 4 Terms Offered: FaSpSm Design, implementation, and interrogation of relational, object-oriented and other types of geospatial databases. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 582. Instruction Mode: Lecture Grading Option: Letter

SSCI 583 Spatial Analysis and Modeling
Units: 4 Terms Offered: Sm Provides the knowledge and skills necessary to investigate the spatial patterns which result from social and physical processes operating at or near the Earth's surface. *Recommended Preparation:* SSCI 581 Duplicates Credit in former GEOG 583 Instruction Mode: Lecture Grading Option: Letter

SSCI 585 Geospatial Technology Project Management
Units: 4 Terms Offered: FaSm Concepts, principles, and use of project management tools and the people issues encountered running GIS projects. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 585. Instruction Mode: Lecture Grading Option: Letter

SSCI 586 GIS Programming and Customization
Units: 4 Terms Offered: FaSp Design, coding, and implementation of GIS-based software and models using the Python programming language. *Recommended Preparation:* SSCI 582. Duplicates Credit in former GEOG 586. Instruction Mode: Lecture Grading Option: Letter

SSCI 587 Spatial Data Acquisition
Units: 4 Terms Offered: FaSpSm Role of global positioning systems, maps, geocoding, and other kinds of sensors as geospatial data sources. Includes field data acquisition excursion on Catalina Island. *Recommended Preparation:* SSCI 581. Duplicates Credit in former GEOG 587. Instruction Mode: Lecture Grading Option: Letter

SSCI 588 Remote Sensing for GIS
Units: 4 Terms Offered: SpSm Principles of remote sensing, satellite systems, and role of remote sensing data in GIS applications. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 588. Instruction Mode: Lecture Grading Option: Letter

SSCI 589 Cartography and Visualization
Units: 4 Terms Offered: Sp Principles of visual perception, spatial cognition and cartographic design and their contributions to the maps, animations, virtual reality and multimedia displays produced with modern GIS. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 589. Instruction Mode: Lecture Grading Option: Letter

SSCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree in cognate fields. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 591 Web and Mobile GIS
Units: 4 Terms Offered: Sm Design and implementation of locally served and cloud-based geospatial web applications. Construction of web maps, mashups and Volunteered Geographic Information interfaces. *Recommended Preparation:* SSCI 581 Duplicates Credit in former GEOG 591 Instruction Mode: Lecture Grading Option: Letter

SSCI 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SSCI 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SSCI 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SSCI 595 Applied Geospatial Intelligence Problem Solving
Units: 2 Terms Offered: FaSpSm Provides hands-on problem solving opportunity that requires knowledge and GEOINT skills to provide an informed recommendation involving a variety of human security settings. *Prerequisite:* SSCI 577 and SSCI 588 and SSCI 579 and SSCI 581 *Corequisite:* SSCI 585 Instruction Mode: Lecture Grading Option: Letter

SSCI 596 Internship in Spatial Sciences
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Part-time or full-time practical work experience in the student's field of study at an off-campus facility under faculty direction. Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminar in selected topics in the spatial sciences. Instruction Mode: Lecture Grading Option: Letter

SSCI 600 The Geography of Life and Death
Units: 4 Terms Offered: Fa Meaning and significance of place and role of social, natural, and built environments in disease occurrence in different places and populations. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

SSCI 601a Population, Health and Place Research Practicum
Units: 2 Max Units: 4 Terms Offered: Sm The use of population science, public health, and spatial science theory and practice to advance our understanding of one or more aspects of human well-being. *Prerequisite:* SSCI 600 Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

SSCI 601b Population, Health and Place Research Practicum
Units: 2 Max Units: 4 Terms Offered: Sm The use of population science, public health, and spatial science theory and practice to advance our understanding of one or more aspects of human well-being. *Prerequisite:* SSCI 601a Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

SSCI 625 Demographic Methods
Units: 4 Terms Offered: FaSp (Enroll in SOCI 625)

SSCI 656 Social Demography
Units: 4 Terms Offered: FaSp (Enroll in SOCI 656)

SSCI 680 Advanced Spatial Computing
Units: 4 Terms Offered: FaSpSm The role of spatial computing in understanding the world, in knowing and communicating our relationships to specific places, and for navigating through those places. Instruction Mode: Lecture Grading Option: Letter

SSCI 681 Advanced Quantitative Methods for Population, Health and Place
Units: 4 Terms Offered: FaSp Fundamentals of temporal and spatiotemporal data analysis; modern methods for evaluating, managing, and visualizing spatiotemporal data; hands-on use cases. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

SSCI 683 Principles of Spatial Data Analysis
Units: 4 Terms Offered: Sp The theoretical foundations and techniques of spatial analysis and the ways in which they have been used to identify spatial processes and patterns. *Recommended Preparation:* Enrollment in a USC PhD Program. Instruction Mode: Lecture Grading Option: Letter

SSCI 684 Spatial Modeling with GIS
Units: 4 Terms Offered: Sp An introduction to spatial models identifying the key issues influencing the success of these models in simulating key social and environmental processes and health exposures. Instruction Mode: Lecture Grading Option: Letter

SSCI 693 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Principles of pedagogy for teaching the liberal arts, focusing on issues and technologies for spatial thinking. Required for first-semester teaching assistants in spatial sciences. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the doctoral degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SSCI 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SSCI 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SSCI 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SSCI 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

Sophomore Seminars

SSEM 200 Sophomore Seminar
Units: 1, 2 Terms Offered: FaSp and Special Sessions Special seminar courses for sophomores; limited to 18 students; topics will vary; Instruction Mode: Lecture Grading Option: Credit/No Credit

Oral Surgery

SURG 501 Oral Surgery
Units: 2 Introduction to surgical dentistry, armamentarium and procedures; exodontics; infection; post operative care; repair of bone and soft tissue; acute injury; cysts, sinuses, nerve injury, biopsy. Instruction Mode: Lecture Grading Option: Letter

SURG 562a Clinic: Oral Surgery I
Units: 0 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 562b Clinic: Oral Surgery I
Units: 0 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 562c Clinic: Oral Surgery I
Units: 1 Supervised clinical experience in health history, surgical evaluation,

extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: Letter

SURG 563a Clinic: Oral Surgery II
Units: 0 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 563b Clinic: Oral Surgery II
Units: 0 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 563c Clinic: Oral Surgery II
Units: 1 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: Letter

SURG 564a Clinic: Hospital Oral Surgery
Units: 0 Observation of inpatient and outpatient oral and maxillofacial surgery, participation in clinic care of patients with dento-alveolar pathology, introduction to management of medically compromised patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 564b Clinic: Hospital Oral Surgery
Units: 0 Observation of inpatient and outpatient oral and maxillofacial surgery, participation in clinic care of patients with dento-alveolar pathology, introduction to management of medically compromised patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 564c Clinic: Hospital Oral Surgery
Units: 0 Observation of inpatient and outpatient oral and maxillofacial surgery, participation in clinic care of patients with dento-alveolar pathology, introduction to management of medically compromised patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 564d Clinic: Hospital Oral Surgery
Units: 1 Observation of inpatient and outpatient oral and maxillofacial surgery, participation in clinic care of patients with dento-alveolar pathology, introduction to management of medically compromised patient. Instruction Mode: Lecture Grading Option: Letter

SURG 611a Oral and Maxillofacial Surgery
Units: 0 More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 611b Oral and Maxillofacial Surgery
Units: 0 More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 611c Oral and Maxillofacial Surgery
Units: 4 More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Letter

SURG 701a Seminar: Advanced Oral Surgery
Units: 2 Problems in advanced oral surgery and hospital oral surgery including student presentations and critique of clinical cases. Instruction Mode: Lecture Grading Option: Letter

SURG 701b Seminar: Advanced Oral Surgery
Units: 2 Problems in advanced oral surgery and hospital oral surgery including student presentations and critique of clinical cases. Instruction Mode: Lecture Grading Option: Letter

SURG 702a Seminar: Review of the Oral Surgery Literature
Units: 2 Critical analysis of recent oral surgery and other related literature. Instruction Mode: Lecture Grading Option: Letter

SURG 702b Seminar: Review of the Oral Surgery Literature
Units: 2 Critical analysis of recent oral surgery and other related literature. Instruction Mode: Lecture Grading Option: Letter

SURG 708a Orthognathic Surgery
Units: 2 Terms Offered: Fa Surgical planning and treatment of patients with skeletal deformities. Instruction Mode: Lecture Grading Option: Letter

SURG 708b Orthognathic Surgery
Units: 2 Terms Offered: Sp Surgical planning and treatment of patients with skeletal deformities. Instruction Mode: Lecture Grading Option: Letter

SURG 721 Surgical Anatomy
Units: 2 Intensive review of anatomy relevant to the practice of oral surgery. Includes dissections and animal surgery. Instruction Mode: Lecture Grading Option: Letter

SURG 761a Clinic: Advanced Oral Surgery
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical evaluation and surgical treatment of dento-alveolar disease in out-patient clinic. Instruction Mode: Lecture Grading Option: Letter

SURG 761b Clinic: Advanced Oral Surgery
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical evaluation and surgical treatment of dento-alveolar disease in out-patient clinic. Instruction Mode: Lecture Grading Option: Letter

SURG 761c Clinic: Advanced Oral Surgery
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical evaluation and surgical treatment of dento-alveolar disease in out-patient clinic. Instruction Mode: Lecture Grading Option: Letter

SURG 761d Clinic: Advanced Oral Surgery
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical evaluation and surgical treatment of dento-alveolar disease in out-patient clinic. Instruction Mode: Lecture Grading Option: Letter

SURG 763a Clinic: Advanced Hospital Oral Surgery and Anesthesia
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Surgical treatment of patients and service in medical anesthesia at the LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

SURG 763b Clinic: Advanced Hospital Oral Surgery and Anesthesia
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Surgical treatment of patients and service in medical anesthesia at the LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

SURG 763c Clinic: Advanced Hospital Oral Surgery and Anesthesia
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Surgical treatment of patients and service in medical anesthesia at the LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

SURG 763d Clinic: Advanced Hospital Oral Surgery and Anesthesia
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Surgical treatment of patients and service in medical anesthesia at the LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

Gender and Sexuality Studies

SWMS 105g Identity Development of the Contemporary Female
Units: 4 Terms Offered: Fa Exploration of identity development in terms of social, political, and cultural constructs; examination of collegiate athletics and the contributions of women of color. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

SWMS 106g Identity Development of the Contemporary Male
Units: 4 Terms Offered: Sp Exploration of identity development in terms of social, political and cultural constructs; examination of collegiate athletics and the contributions of men of color. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

SWMS 210gmw Social Analysis of Gender
Units: 4 Terms Offered: FaSp Multidisciplinary survey of gender assumptions in relation to sexuality, mental health, social and political relations, and artistic expression. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as POSC 210, PSYC 210

SWMS 212gp Introduction to Gender and Sexuality: American Perspectives
Units: 4 Terms Offered: Sp Examination of how gender and sexuality have been constructed, experienced and legislated. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

SWMS 215gw Introduction to Gender and Sexuality: International Perspectives
Units: 4 Terms Offered: Fa History and theory of global feminist movements; case studies in bodily autonomy; labor rights; gender justice. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SWMS 219gp Introduction to Feminist Theory
Units: 4 Terms Offered: Fa Emergence of feminist thought from the Enlightenment to the present; historical development of female subjectivity; advancement of women's rights; feminisms from alternative ideological perspectives. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Duplicates Credit in former SWMS 301 Instruction Mode: Lecture Grading Option: Letter

SWMS 221g Introduction to Queer Theory
Units: 4 Terms Offered: Sp Genealogies of queer theory, from psychoanalytic theories to feminism and post-structuralism; evolving concepts of gender; relation to social justice, resistance and power. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

SWMS 227gp Death and Gender in Urban Contexts
Units: 4 Terms Offered: Sp Experiential course examining how beliefs about mortality are produced by history, gender, culture, and context; how the handling of death shapes urban society. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

SWMS 300 Women in Antiquity
Units: 4 (Enroll in CLAS 300)

SWMS 305 Childhood, Birth and Reproduction
Units: 4 (Enroll in ANTH 305)

SWMS 306 Contemporary Issues in LGBTQ Studies
Units: 4 Terms Offered: FaSp Interdisciplinary analysis of LGBTQ issues; examination of the intersections of gender and sexuality with social class, race, religion and nationality. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 215gw or SWMS 221g Instruction Mode: Lecture Grading Option: Letter

SWMS 308 Advanced Gender Theory
Units: 4 Terms Offered: FaSp Contemporary debates and research in three areas: health bodies, science technologies; feminist/queer analytics in media and representation; critical approaches to race, culture and power. *Prerequisite:* (SWMS 210gmw or SWMS 212gp or SWMS 215gw) and (SWMS 219gp or SWMS 221g) Instruction Mode: Lecture Grading Option: Letter

SWMS 310 Gender and Social Justice
Units: 4 Terms Offered: FaSp Exploration of the ways in which developments and policies, including neoliberalism, the carceral state, and economic precarity, are connected and gendered. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 215gw or SWMS 219gp or SWMS 221g Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI 310

SWMS 311 Gender and Sexuality Studies: Internship
Units: 2, 4, 8 Max Units: 08 Terms Offered: FaSpSm Intensive experience with gender-focused community organizations; analysis of relationships between organizations and feminist and queer theory. Registration Restriction: Open only to Dornsife College students Instruction Mode: Lecture Grading Option: Letter

SWMS 316 Gender and Global Issues
Units: 4 (Enroll in IR 316)

SWMS 321 Gender and Judaism
Units: 4 (Enroll in JS 321)

SWMS 324 Women in Medieval and Renaissance Europe
Units: 4 (Enroll in COLT 324)

SWMS 325 The Science of Sex Differences: A Gender and Sexuality Studies Approach
Units: 4 Terms Offered: Fa Critical examination of sex and gender in science using a multidisciplinary gender and sexuality studies approach. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 215gw or SWMS 219gp or SWMS 221g Duplicates Credit in former SWMS 225 Instruction Mode: Lecture Grading Option: Letter

SWMS 330m Culture, Gender and Politics in South Asia
Units: 4 (Enroll in ANTH 330)

SWMS 335 Gender, Religion, and Sexuality
Units: 4 (Enroll in REL 335)

SWMS 336 Health, Gender and Ethnicity
Units: 4 Terms Offered: Sp Cross-cultural notions of the body, health, and healing; historic and cultural variability of ideas of reproduction, birth, sexuality, mental illness and disability. *Prerequisite:* SWMS 210gmw or SWMS 219gp or SWMS 221g Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 336, SOCI 336

SWMS 337 The LGBTQ Revolution and the Media
Units: 4 Terms Offered: Irregular (Enroll in COMM 337)

SWMS 344m Sexual/Textual Diversity
Units: 4 Terms Offered: FaSp (Enroll in ENGL 344m)

SWMS 349 Women and the Law
Units: 4 Terms Offered: Fa Discussion of the relationship between women and the law in light of feminist jurisprudence, U.S. Supreme Court decisions and cross-cultural perspectives. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 215gw or SWMS 219gp or SWMS 221g Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC 349

SWMS 350g Gender and Sexuality in Renaissance Italy
Units: 4 Terms Offered: FaSp (Enroll in ITAL 350g)

SWMS 355 Transgender Studies
Units: 4 Terms Offered: Sp Analysis of transgender behaviors, from androgyny and transvestism to transexuality. Discussion of changing laws, representations, medical standards, and social attitudes towards transgender and intersex people. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 215gw or SWMS 219gp or SWMS 221g Instruction Mode: Lecture Grading Option: Letter

SWMS 358 U.S. Gay and Lesbian History
Units: 4 Terms Offered: Sp Exploration of shifting social organization and cultural meanings of same-sex desire and cross-gender behaviors in the U.S., primarily during the 20th century. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 221g Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 358

SWMS 367 Gender and Creative Labor
Units: 4 Terms Offered: Fa Exploration of contemporary labor issues from feminist and gender studies perspectives. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 215gw or SWMS 219gp or SWMS 221g Instruction Mode: Lecture Grading Option: Letter

SWMS 370 Sex, Love, and Marriage: An Introduction to Kinship
Units: 4 Terms Offered: Sp (Enroll in ANTH 370)

SWMS 372 Human Sexuality
Units: 4 (Enroll in PSYC 372)

SWMS 374gm Women Writers in Europe and America
Units: 4 Terms Offered: Sp (Enroll in COLT 374gm)

SWMS 375 Women and Gender in China: Past and Present
Units: 4 (Enroll in EALC 375)

SWMS 378 Gender and Sexuality in Literary Theory
Units: 4 (Enroll in COLT 377)

SWMS 380 Sex and Gender in Anthropological Perspective
Units: 4 (Enroll in ANTH 380)

SWMS 381 Sex, Power, and Politics
Units: 4 (Enroll in POSC 381)

SWMS 383 French Women Writers
Units: 4 Terms Offered: FaSp (Enroll in FREN 383)

SWMS 385m Men and Masculinity
Units: 4 Interdisciplinary examination of social, personal meanings of masculinity; variety of male experience by social class, race, sexuality and age; emerging masculinities of the future. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 215gw or SWMS 219gp or SWMS 221g Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 385, SOCI 386

SWMS 389 Gender, Sexuality and Food Cultures in the U.S.
Units: 4 Terms Offered: Sp Exploration of food, eating, production, sustainability, access, and culture from a multidisciplinary perspective. Instruction Mode: Lecture Grading Option: Letter

SWMS 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SWMS 392 Junior Seminar in Gender and Sexuality Studies
Units: 4 Terms Offered: Sp Research methods in gender and sexuality studies scholarship; study of feminist, queer and post-colonial epistemologies. *Prerequisite:* SWMS 308 Instruction Mode: Lecture Grading Option: Letter

SWMS 395m Gender, Media and Communication
Units: 4 (Enroll in COMM 395)

SWMS 402 Human Trafficking
Units: 4 Terms Offered: FaSp (Enroll in SOCI 402)

SWMS 410 Senior Seminar in Gender and Sexuality Studies
Units: 4 Terms Offered: Fa Application of gender and sexuality research methods to individual student projects with an emphasis on feminist, queer and post-colonial scholarship. *Prerequisite:* SWMS 392 Instruction Mode: Lecture Grading Option: Letter

SWMS 412 Gender, Sexuality and Media
Units: 4 Max Units: max 8 (Enroll in CTCS 412)

SWMS 425 Queer Los Angeles
Units: 4 Terms Offered: Sp Interdisciplinary study of queer Los Angeles through examination of histories, memoirs, essays, fiction, poetry, documentaries, narrative films and local archives. *Prerequisite:* SWMS 210gmw or SWMS 212gp or SWMS 215gw or SWMS 221g Instruction Mode: Lecture Grading Option: Letter

SWMS 430 Gender and Sexuality in Korean Literature and Culture
Units: 4 (Enroll in EALC 430)

SWMS 434m Women and Aging: Psychological, Social and Political Implications
Units: 4 Terms Offered: FaSpSm (Enroll in GERO 435)

SWMS 435m Women in Society
Units: 4 (Enroll in SOCI 435)

SWMS 442m Women's Spaces in History: "Hussies," "Harems," and "Housewives"
Units: 4 (Enroll in ARCH 442)

SWMS 445 Studies in Gender and Feminism
Units: 4 (Enroll in FREN 445)

SWMS 456 Women in International Development
Units: 4 (Enroll in POSC 456)

SWMS 467 Gender and the News Media
Units: 4 (Enroll in JOUR 467)

SWMS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Independent research and readings. Instruction Mode: Lecture Grading Option: Letter

SWMS 492 Gender and Sexuality Studies: Honors Thesis
Units: 4 Terms Offered: Sp Writing of the honors thesis; for students in the Gender and Sexuality Studies Honors Program. *Recommended Preparation:* SWMS 410 Registration Restriction: Open only to Gender and Sexuality Studies majors Instruction Mode: Lecture Grading Option: Letter

SWMS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Study of a selected problem, period, or theme through interdisciplinary approaches. Instruction Mode: Lecture Grading Option: Letter

SWMS 504 Theories of Race, Class and Gender
Units: 4 Max Units: 12 Terms Offered: FaSpSm (Enroll in ENGL 504)

SWMS 516 Seminar: Feminist Theory and Communication
Units: 4, 2 years Terms Offered: Sp (Enroll in COMM 516)

SWMS 553 Race, Gender and Sexuality
Units: 4 (Enroll in AMST 553)

SWMS 554 Women in Global Perspective
Units: 4 Women and immigration, employment, and household and family relations in the context of the global economy; women's social and political movements in diverse cultural contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 554, POIR 554, SOCI 554

SWMS 556 Seminar on Women and the Family in China
Units: 4 (Enroll in EALC 556)

SWMS 560 Feminist Theory
Units: 4 Terms Offered: FaSpSm History of feminist theory and major perspectives of current feminist theory: liberal feminism, socialist/Marxist feminism, radical feminism, psychological feminism, spiritual feminism, and ecological feminism. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EDHP 560, POIR 560, SOCI 560

SWMS 567 Body, Power and Politics
Units: 4 Terms Offered: FaSp (Enroll in AMST 567)

SWMS 588 Seminar in Gay, Lesbian, Bisexual and Transgender Studies
Units: 4 Interdisciplinary cross-cultural, historical, psychological, sociological, and contemporary political perspectives on female and male homosexual eroticism, and the emergence of gay, lesbian, bisexual, and transgender identities. Instruction Mode: Lecture Grading Option: Letter

SWMS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree in cognate fields. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SWMS 593 Practicum in Teaching Gender Studies
Units: 2 Terms Offered: Fa Basic principles of gender studies pedagogy, emphasizing practical applications and the importance of career-long skill development. Required for first-semester teaching assistants in gender studies. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

SWMS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminar in selected topics relating to gender and feminism. Instruction Mode: Lecture Grading Option: Letter

SWMS 610 Research and Proposal Writing in Gender and Sexuality Studies
Units: 4 Terms Offered: Sp Foundations of designing a dissertation research project in gender and sexuality studies; guidance with preparation of dissertation research proposal. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

SWMS 621 Gender Discrimination
Units: 1, 2, 3, 4 Terms Offered: FaSp (Enroll in LAW 621)

SWMS 623 Family Law
Units: 3 or 4 (Enroll in LAW 623)

SWMS 630 Studies in Gender
Units: 4 Max Units: max 12 (Enroll in ENGL 630)

SWMS 640 Sociology of Gender and Sexuality
Units: 4 Terms Offered: FaSp (Enroll in SOCI 640)

SWMS 642 Sex and Gender in Society
Units: 4 (Enroll in SOCI 642)

Dramatic Arts

THTR 101 Introduction to Acting
Units: 4 Terms Offered: FaSp Study of diverse genres and disciplines of acting; fundamental techniques necessary for performance; scene study from contemporary text. Instruction Mode: Lecture Grading Option: Letter

THTR 105 Introduction to Screen Acting
Units: 2 Terms Offered: FaSp Introduction to the theoretical and foundational practices, techniques and strategies specific to screen acting in relation to the basic dynamics of acting for the stage. *Prerequisite:* THTR 252a or THTR 120aL Instruction Mode: Lecture Grading Option: Letter

THTR 115a Movement I
Units: 2 Terms Offered: Fa Basic training for the actor's body for expression and communication. Awareness and control through mind-body techniques. *Corequisite:* THTR 120a and THTR 140a Registration Restriction: Open only to Theatre (Acting) majors Duplicates Credit in former THTR 115 Instruction Mode: Lecture Grading Option: Letter

THTR 115b Movement I
Units: 2 Terms Offered: Sp Basic training for the actor's body for expression and communication. Awareness and control through mind-body techniques. *Prerequisite:* THTR 115a *Concurrent Enrollment:* THTR 120b and THTR 140b Duplicates Credit in former THTR 115 Instruction Mode: Lecture Grading Option: Letter

THTR 120aL Acting I
Units: 2 Terms Offered: Fa Basic principles and techniques of acting through theatre games and improvisation. Introduction to contemporary texts, basic characterization and cold reading techniques. Registration Restriction: Open only to Acting and Musical Theatre majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

THTR 120b Acting I
Units: 2 Terms Offered: Sp Basic principles and techniques of acting through theatre games and improvisation. Introduction to contemporary texts, basic characterization and cold reading techniques. *Prerequisite:* THTR 120aL Instruction Mode: Lecture Grading Option: Letter

THTR 121ax Fundamentals of Acting
Units: 2 Terms Offered: FaSp The elements

of the actor's imaginative skills. Instruction Mode: Lecture Grading Option: Letter

THTR 121bx Fundamentals of Acting
Units: 2 Terms Offered: FaSp Continuation of THTR 121a. Instruction Mode: Lecture Grading Option: Letter

THTR 122 Improvisation and Theatre Games
Units: 2 Max Units: 4.0 Terms Offered: FaSp Individual and group exercise to free the actor physically and emotionally and to stimulate creativity, imagination, and self-expression. Instruction Mode: Lecture Grading Option: Letter

THTR 124ax Character Acting
Units: 2 Terms Offered: FaSp Concentration of imaginative processes which develop the individual characteristics of a dramatic role. Instruction Mode: Lecture Grading Option: Letter

THTR 124bx Character Acting
Units: 2 Terms Offered: FaSp Continuation of THTR 124a. Instruction Mode: Lecture Grading Option: Letter

THTR 125 Text Studies for Production
Units: 4 Terms Offered: Fa Focuses on the questions, artistic choices, methodologies, and approaches of an actor/director/designer in the preparation of a production score prior to rehearsal. Instruction Mode: Lecture Grading Option: Letter

THTR 130 Introduction to Theatrical Production
Units: 2 Terms Offered: FaSp Introduction to the nonperformance areas of theatrical production (administrative, design, and technical fields) through hands-on participation in USC productions. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 131a Advanced Theatrical Production
Units: 2 Terms Offered: FaSp Advanced understanding of non-performance areas of theatrical production (administrative, design, and technical fields) through hands-on participation in USC productions. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 131b Advanced Theatrical Production
Units: 2 Terms Offered: FaSp Advanced understanding of non-performance areas of theatrical production (administrative, design, and technical fields) through hands-on participation in USC productions. *Prerequisite:* THTR 131a Instruction Mode: Lecture, Lab Required Grading Option: Letter

THTR 132a Art of Theatrical Design
Units: 2 Terms Offered: FaSp A guided student exploration of the fundamentals of applied design elements and their use as creative tools in the design process. Instruction Mode: Lecture Grading Option: Letter

THTR 132b Art of Theatrical Design
Units: 2 Terms Offered: FaSp Development of the artistic process and theatrical design vocabulary of the individual within the environment of collaborative storytelling. *Prerequisite:* THTR 132a Instruction Mode: Lecture Grading Option: Letter

THTR 140a Voice I
Units: 2 Terms Offered: Fa Physiological mechanism of voice: breath control, phonation, resonance, articulation of language for the stage; expressive use of stress, intonation and rhythm. *Corequisite:* THTR 115a and THTR 120a Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 140b Voice I
Units: 2 Terms Offered: Fa Physiological mechanism of voice: breath control, phonation, resonance, articulation of language for the stage; expressive use of stress, intonation and rhythm. *Corequisite:* THTR 120b. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 152 Introduction to Scene Study: Contemporary Plays
Units: 2 Terms Offered: FaSp Application and consolidation of the skills, knowledge and techniques acquired in the study of fundamentals of acting encountered in THTR 101. *Prerequisite:* THTR 101 Instruction Mode: Lecture Grading Option: Letter

THTR 195g Theatre on Film
Units: 4 Terms Offered: FaSp Introduction to the theatre and its relationship to society through major plays in film versions. Separate screenings to be arranged. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

THTR 196g Shakespeare on Film
Units: 4 Introduction to the formalized plays of William Shakespeare as texts for performance through reading, viewing and analysis of selected plays in textual and film versions. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

THTR 197g Comedy and Performance
Units: 4 Comedy and Performance traces the history of comedy in performance from its earliest incarnations to the present day. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

THTR 202 The Fundamentals of Comedy
Units: 2 Terms Offered: FaSp Introduction to the fundamental elements of comedy and how to apply those elements to create short, original pieces of comedy in performance and writing. Instruction Mode: Lecture Grading Option: Letter

THTR 213 Corset Construction
Units: 3 Terms Offered: FaSp Design and construct period corsets, along with the materials and terminology needed to sew (machine and hand) corsets. Instruction Mode: Lecture Grading Option: Letter

THTR 215a Movement II
Units: 2 Terms Offered: Fa Training of the actor's body with focus on development of precision and strength. *Prerequisite:* THTR 115 ; *Corequisite:* THTR 220a, THTR 240a. Instruction Mode: Lecture Grading Option: Letter

THTR 215b Movement II
Units: 2 Terms Offered: Sp Training of the actor's body with focus on mask work for the development of precision, strength and expressiveness. *Prerequisite:* THTR 215a; *Corequisite:* THTR 220b, THTR 240b. Instruction Mode: Lecture Grading Option: Letter

THTR 216 Movement for Actors
Units: 2 Terms Offered: FaSp Training and practice in the coordination of the physical apparatus of the actor utilizing various movement techniques through improvisation. Instruction Mode: Lecture Grading Option: Letter

THTR 220a Intermediate Acting I
Units: 2 Terms Offered: FaSp Continuing development of imagination leading to an increased range of dramatic expression through the formalized text of William Shakespeare. *Prerequisite:* THTR 120b. Instruction Mode: Lecture Grading Option: Letter

THTR 220b Intermediate Acting I
Units: 2 Terms Offered: FaSp Continuing development of imagination leading to an increased range of dramatic expression through the formalized text of William Shakespeare. *Prerequisite:* THTR 120b. Instruction Mode: Lecture Grading Option: Letter

THTR 222 Stage Make-up
Units: 2 Terms Offered: FaSp Principles of stage make-up materials and skills allowing the actors to enhance their features and techniques for moderate and extreme aging, injuries, and character roles. Instruction Mode: Lecture Grading Option: Letter

THTR 225g Theatre Across History and Cultures
Units: 4 Terms Offered: FaSp The analysis of a range of plays from different times and cultures with a consideration of the roles of actor, director, dramaturg and designer. *Recommended Preparation:* THTR 125 Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

THTR 230 Communicating Theatrical Design Concepts
Units: 3 Terms Offered: FaSp The visualization and communication of design ideas through free-hand and mechanical drawing, including orthographics, isometrics, perspective, shades and shadows, plans, sections and elevations. Instruction Mode: Lecture Grading Option: Letter

THTR 231 Costume Construction
Units: 3 Terms Offered: FaSp Historical survey, theory and practice in construction of costume. Duplicates Credit in former THTR 231ab Instruction Mode: Lecture Grading Option: Letter

THTR 232 Stage Lighting
Units: 3 Terms Offered: FaSp Theory and practice of theatrical lighting design including electricity, radiant energy, refraction, reflection, absorption, chromatic variation and electronic controls. Instruction Mode: Lecture Grading Option: Letter

THTR 233 Historic Costumes for the Theatre
Units: 3 Terms Offered: FaSp Historical survey, theory and practice of the use of costume in theatrical production; emphasis on period and style. Instruction Mode: Lecture Grading Option: Letter

THTR 236 Stage Sound
Units: 2 Terms Offered: FaSp Basic audio engineering science, how sound is measured, basic transducers and signal flow. Operation of recording and playback equipment used in theatrical sound design/mixing. Instruction Mode: Lecture Grading Option: Letter

THTR 240a Voice II
Units: 2 Terms Offered: FaSp Development of the voice using material which explores the techniques of Shakespeare and his contemporaries. *Prerequisite:* THTR 140b; *Corequisite:* THTR 215a, THTR 220a. Instruction Mode: Lecture Grading Option: Letter

THTR 240b Voice II
Units: 2 Terms Offered: FaSp Development of the voice using material which explores the techniques of Shakespeare and his contemporaries. *Prerequisite:* THTR 140b; *Corequisite:* THTR 215b, THTR 220b. Instruction Mode: Lecture Grading Option: Letter

THTR 241 Methods and Materials
Units: 2 Terms Offered: FaSp Cutting-edge and traditional methods and materials that enhance both the planning stages and realization of the theatrical design. Instruction Mode: Lecture Grading Option: Letter

THTR 250 Camera and Improvisation
Units: 2 Terms Offered: FaSp Understanding on-camera acting and improvisation by creating original material both in front and behind the camera. *Prerequisite:* THTR 220a or THTR 252a Instruction Mode: Lecture Grading Option: Letter

THTR 252a Intermediate Acting I: Drama/Comedy
Units: 2 Terms Offered: FaSp Polishing the actor's skills through analysis and performance applied to the arc of a character. *Prerequisite:* THTR 101 Instruction Mode: Lecture Grading Option: Letter

THTR 252b Intermediate Acting I: Drama/Comedy
Units: 2 Terms Offered: FaSp Polishing the actor's skills through analysis and performance applied to the arc of a character. *Prerequisite:* THTR 252a Instruction Mode: Lecture Grading Option: Letter

THTR 290 Introduction to Medical Clowning
Units: 2 Terms Offered: FaSp Explores the art of clowning in hospitals for the purpose of improving the well-being of those in need. Instruction Mode: Lecture Grading Option: Letter

THTR 295 Theatre in Los Angeles
Units: 2 Terms Offered: FaSp Current state of American theatre, through a study of acting, playwriting, criticism, stage design, lighting, and dramatic styles. Instruction Mode: Lecture Grading Option: Letter

THTR 301 Greek and Roman Theatre
Units: 4 Terms Offered: Fa Examines the function of theatre, production and acting conventions, and the drama of classical Greece and Rome. *Recommended Preparation:* THTR 125, THTR 201 . Duplicates Credit in former THTR 213. Instruction Mode: Lecture Grading Option: Letter

THTR 302 Shakespeare in His World
Units: 4 Terms Offered: Sp The plays and theatre of Shakespeare, the influences on his work and his contemporary world. *Recommended Preparation:* THTR 201 , THTR 210 , THTR 211 . Duplicates Credit in former THTR 214. Instruction Mode: Lecture Grading Option: Letter

THTR 303 Projection Design I
Units: 3 Terms Offered: FaSp Investigation of the projection design process, equipment, multi-media, digital technology concepts and related documentation. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 304 Advanced Medical Clowning
Units: 2 Terms Offered: FaSp Explores the practice of bringing clowns into places of healing (hospitals, trauma sites, etc.) for the purpose of improving the physical and mental well-being of those in need. *Prerequisite:* THTR 290 Instruction Mode: Lecture Grading Option: Letter

THTR 305a Directing
Units: 4 Terms Offered: FaSp Examination of basic directorial principles. Pre-production analysis and rehearsal procedures; relationship of the director to actor; integration of technical aspects of production. *Recommended Preparation:* THTR 101 Instruction Mode: Lecture Grading Option: Letter

THTR 305b Directing
Units: 4 Terms Offered: FaSp Examination of basic directorial principles. Pre-production analysis and rehearsal procedures; relationship of the director to actor; integration of technical aspects of production. *Prerequisite:* THTR 305a before b. Instruction Mode: Lecture Grading Option: Letter

THTR 306 Audio-Drama
Units: 2.0 Develop a basic understanding of the skills required to effectively develop, create, record, edit and market an audio drama. Instruction Mode: Lecture Grading Option: Letter

THTR 307 Comedy in LA
Units: 2 Terms Offered: FaSp Experiential and discussion-based; examines Los Angeles-based live comedy as it continues to evolve, both through text and performance. *Prerequisite:* THTR 202 Instruction Mode: Lecture Grading Option: Letter

THTR 308 Programming for Lighting
Units: 3 Terms Offered: FaSp Strategies and principles in computerized programming for theatrical lighting, emphasizing its applied use in creating kinetic, responsive environments. Instruction Mode: Lecture Grading Option: Letter

THTR 309 Dramaturgy
Units: 4 Terms Offered: FaSp Introduction to dramaturgy and the many functions it serves in the theatre. Focus on basic dramatic theories behind dramaturgy and its applications. *Prerequisite:* THTR 125 and THTR 225g Instruction Mode: Lecture Grading Option: Letter

THTR 310 Comedy and Diversity
Units: 4 Terms Offered: FaSp Issues of diversity are central to the societal function of comedy. Students will explore the techniques, structures and performance of sitcoms, sketch comedy and stand-up. *Recommended Preparation:* THTR 125 and THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 312 LGBTQ Theatre
Units: 4 Terms Offered: FaSp Explores the range and genealogy of LGBTQ theatre and performance across political, historical, and theatrical contexts. *Prerequisite:* THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 313 Comedy of Manners
Units: 4 Terms Offered: FaSp Study of the development of Comedy of Manners, with primary focus on Restoration Comedy of Manners. *Prerequisite:* THTR 225g Instruction Mode: Lecture Grading Option: Letter

THTR 314 Advanced Topics in Modern Drama
Units: 4 Terms Offered: FaSp 20th century realism and the avant-garde. *Prerequisite:* THTR 225g Instruction Mode: Lecture Grading Option: Letter

THTR 315a Physical Theatre I
Units: 2 Terms Offered: FaSp Actor training anchored by rigorous physical movements. Activities include comedy, clowning, juggling, and mask work. Instruction Mode: Lecture Grading Option: Letter

THTR 315b Physical Theatre I
Units: 2 Terms Offered: FaSp Actor training anchored by rigorous physical movements. Activities include comedy, clowning, juggling, and mask work. Instruction Mode: Lecture Grading Option: Letter

THTR 316 Advanced Movement for Actors
Units: 2 Terms Offered: FaSp Advanced physical training for the B.A. actor utilizing various movement techniques through improvisation. *Prerequisite:* THTR 216. Instruction Mode: Lecture Grading Option: Letter

THTR 317 Theatre Clown
Units: 2 Terms Offered: FaSp Introduction to techniques of clown performance and key techniques including complicite, play, looks and drops. *Prerequisite:* THTR 101 Instruction Mode: Lecture Grading Option: Letter

THTR 318 Creating the Hit Podcast
Units: 2 Terms Offered: FaSpSm Develops the ability to create a podcast. Focuses on skills to produce, perform, market and monetize a podcast across a variety of genres. Instruction Mode: Lecture Grading Option: Letter

THTR 320a Intermediate Acting II
Units: 2 Terms Offered: FaSp Further development of range and breadth of performance skills with emphasis on texts of heightened language and style. *Corequisite:* THTR 315a, THTR 340a. Instruction Mode: Lecture Grading Option: Letter

THTR 320b Intermediate Acting II
Units: 2 Terms Offered: FaSp Further development of range and breadth of performance skills with emphasis on texts of heightened language and style. *Corequisite:* THTR 315b, THTR 340b. Instruction Mode: Lecture Grading Option: Letter

THTR 322 Improv 2: Advanced Improv
Units: 2 Terms Offered: FaSp An in depth study of improvised comedy scene work. An exploration of the primary tools and structure for creating improvised scenes and developing characters for stage and screen. *Prerequisite:* THTR 101 or

THTR 122 Instruction Mode: Lecture Grading Option: Letter

THTR 330 Scene Design I
Units: 4 Terms Offered: Fa Historical styles, methods, and dramatic analysis for scene design as applied in contemporary practice. *Recommended Preparation:* THTR 130 or THTR 131b Instruction Mode: Lecture Grading Option: Letter

THTR 331 Costume Design I
Units: 4 Terms Offered: Sp Historical styles, methods, and dramatic analysis in costume design as applied in contemporary practice. Execution of costume designs for assigned works. *Recommended Preparation:* THTR 231 Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 332 Lighting Design I
Units: 4 Terms Offered: FaSp Historical styles, methods and dramatic analysis in lighting design as applied in contemporary practice. *Recommended Preparation:* THTR 130 or THTR 131b Instruction Mode: Lecture Grading Option: Letter

THTR 333 Stage Management I
Units: 3 Terms Offered: Fa Basic skills, including assembly of prompt book, blocking notation, and organizational and communication procedures applied in theatre production. Instruction Mode: Lecture Grading Option: Letter

THTR 335 Scenic Construction
Units: 3 Terms Offered: FaSp Technology, organization, and operation of the theatrical scene shop centered around the proper and safe use of tools, the choosing of materials, and methods of construction. Duplicates Credit in former THTR 131. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 336 Introduction to Sound Design
Units: 3 Terms Offered: FaSp The art and techniques of theatrical sound design. The use of music and ambient sound in theatrical presentations. Design elements as metaphor. Instruction Mode: Lecture Grading Option: Letter

THTR 340a Intermediate Voice
Units: 2 Terms Offered: FaSp Extended development of vocal freedom and range, acquisition of articulate speech. Enhancement of vocal power and resonance, techniques for performing with a dialect. *Concurrent Enrollment: Concurrent enrollment:* THTR 315a, THTR 315b, THTR 320a, THTR 320b. Instruction Mode: Lecture Grading Option: Letter

THTR 340b Intermediate Voice
Units: 2 Terms Offered: FaSp Extended development of vocal freedom and range, acquisition of articulate speech. Enhancement of vocal power and resonance, techniques for performing with a dialect. *Concurrent Enrollment: Concurrent enrollment:* THTR 315a, THTR 315b , THTR 320a, THTR 320b. Instruction Mode: Lecture Grading Option: Letter

THTR 341x Voice for the Non-Theatre Major
Units: 2 Terms Offered: Fa Designed for the non-theatre major focusing on the range, color, texture, and projection of the human voice in a variety of situations. Instruction Mode: Lecture Grading Option: Letter

THTR 342a Basic Voice
Units: 2 Terms Offered: FaSp Examination of the individual voice centering on resonance, tone, flexibility, and support through dramatic selections for transmitting meaning and emotion of character. Instruction Mode: Lecture Grading Option: Letter

THTR 342b Basic Voice
Units: 2 Terms Offered: FaSp Continuation of THTR 342a. Instruction Mode: Lecture Grading Option: Letter

THTR 343 Musical Theatre Audition
Units: 3 Terms Offered: FaSpSm Designed to give students confidence and integrity for auditions in musical theatre. Choosing appropriate material and preparation for the audition and performance. Audition required. Instruction Mode: Lecture Grading Option: Letter

THTR 352a Intermediate Acting II
Units: 2 Terms Offered: FaSp Building and sustaining character with special focus on stylized realism, subtext and heightened language. Multi-cultural text and methodologies. *Prerequisite:* THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 352b Intermediate Acting II
Units: 2 Terms Offered: FaSp Building and sustaining character with special focus on stylized realism, subtext and heightened language. Multi-cultural text and methodologies. *Prerequisite:* THTR 352a Instruction Mode: Lecture Grading Option: Letter

THTR 354 Acting Shakespeare
Units: 2 Terms Offered: FaSp Basic approach to the acting and analysis of the highly formalized texts of William Shakespeare. *Prerequisite:* THTR 101 Instruction Mode: Lecture Grading Option: Letter

THTR 355 Acting for Sitcoms
Units: 2 Terms Offered: FaSpSm Provide an understanding as to how to work in half-hour television and streaming media. *Prerequisite:* THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 365 Playwriting I
Units: 4 Terms Offered: FaSp Essential elements of playwriting through weekly assignments, students' initiative, occasional productions of scenes, and extensive classroom analysis. Instruction Mode: Lecture Grading Option: Letter

THTR 366 Playwriting II
Units: 4 Terms Offered: FaSp Continuation of the work begun in THTR 365. *Prerequisite:* THTR 365. Instruction Mode: Lecture Grading Option: Letter

THTR 380 Immersive Theatre
Units: 2 Terms Offered: FaSp History, principles and practice of Immersive Theatre, one of the most important contemporary movements in the field. *Prerequisite:* THTR 225g and THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

THTR 395m Drama as Human Relations
Units: 4 A focus on American ethnic and multicultural diversity from the perspectives of gender, race, and myth as revealed in plays, film, and other performance media. Instruction Mode: Lecture Grading Option: Letter

THTR 396 God, Drama and Entertainment
Units: 4 Terms Offered: FaSp An exploration of money, power, sex and love in relation to secular and spiritual values represented by contemporary theatre media. Instruction Mode: Lecture Grading Option: Letter

THTR 397 Theatre Practicum
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSpSm Substantive participation in productions sponsored by the school and supervised by the faculty. Instruction Mode: Lecture Grading Option: Letter

THTR 400 Eco-Theatre: Art and Science in Contemporary Plays
Units: 4 Terms Offered: FaSp Explores theatre artists' responses to the growing environmental crisis and provides a model for the intersection of theatre and other disciplines. *Prerequisite:* THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 401 Contemporary Theatre in a Changing World
Units: 4 Terms Offered: FaSp Explores the bold approaches that characterize the best of contemporary theatre, as well as the artists who are groundbreakers in a changing world. *Prerequisite:* THTR 225g Instruction Mode: Lecture Grading Option: Letter

THTR 402 Projection Design II
Units: 3 Terms Offered: FaSp Projection design process, software, equipment, multi-media and digital technology concepts, and related documentation. *Prerequisite:* THTR 131b and THTR 132a and THTR 132b Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 403 The Performing Arts
Units: 4 Terms Offered: FaSp An interdisciplinary inquiry into the aesthetics of the performing arts. Examines a dramatic classic and its adaptation into musical theatre, opera, ballet, and film. Duplicates Credit in the former THTR 303. Instruction Mode: Lecture Grading Option: Letter

THTR 404 Acting Theory
Units: 4 Terms Offered: FaSp Examination of the theoretical foundations of acting as an art form through the reading of primary historical texts. *Prerequisite:* THTR 101 and THTR 125 Instruction Mode: Lecture Grading Option: Letter

THTR 405m Performing Identities
Units: 4 Terms Offered: FaSp This course explores the live performance medium as a creative means of social redress and personal expression. Duplicates Credit in the former THTR 393m. Instruction Mode: Lecture Grading Option: Letter

THTR 406 Theatre on the Edge
Units: 4 Terms Offered: FaSp An exploration of the art of theatre at the edge of possibilities. Instruction Mode: Lecture Grading Option: Letter

THTR 407a Drawing and Rendering for the Theatre
Units: 2 Terms Offered: FaSp Drawing

and rendering techniques appropriate for theatre designers. Drawing and drawing theory. Duplicates Credit in former FA 407ab. Instruction Mode: Lecture Grading Option: Letter

THTR 407b Drawing and Rendering for the Theatre
Units: 2 Terms Offered: FaSp Drawing and rendering techniques appropriate for theatre designers. Drawing and rendering. Duplicates Credit in former FA 407ab. Instruction Mode: Lecture Grading Option: Letter

THTR 408a Dialects
Units: 2 Terms Offered: FaSpSm The study of standard American stage dialect using the international phonetic alphabet. Instruction Mode: Lecture Grading Option: Letter

THTR 408b Dialects
Units: 2 Terms Offered: FaSpSm The study of accents and regional dialects. *Prerequisite:* THTR 408a. Instruction Mode: Lecture Grading Option: Letter

THTR 409 Advanced Drafting: Vectorworks
Units: 3 Terms Offered: FaSp An exploration of computer aided drafting (CAD) software, including drafting standards as achieved with Vectorworks and related software. *Recommended Preparation:* LRI Designs Vectorworks Tutorials Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 410 The Digital Actor
Units: 2 Terms Offered: FaSp Empowers the student to forge a career in acting by managing and utilizing the many facets of social and digital media. *Prerequisite:* THTR 252a and THTR 252b Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 411 The Business of Acting
Units: 2 Terms Offered: FaSp Develops the student's ability to connect and combine managerial, economic and business-related skills with the craft and career of acting. *Prerequisite:* THTR 252a and THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 412 Performing Content
Units: 4 Terms Offered: FaSp Introductory skills for the creation and realization of performance on camera. *Prerequisite:* THTR 480a Registration Restriction: Not open to Freshmen Instruction Mode: Lecture Grading Option: Letter

THTR 413 Writing Your Own Material
Units: 2 Terms Offered: Sp Develop and write one of a range of comic forms learning the discipline, structure necessary in a longer narrative piece. *Prerequisite:* THTR 470 or THTR 474 or THTR 479 or THTR 482 or THTR 483 Instruction Mode: Lecture Grading Option: Letter

THTR 414 Secrets of Storytelling
Units: 2 Terms Offered: FaSp Development of a thorough understanding of story - medium and genre - through script analysis, as they pertain to the practical demands of a working entertainment professional. Instruction Mode: Lecture Grading Option: Letter

THTR 415 Physical Theatre II
Units: 2 Terms Offered: FaSp Advanced Physical Acting focusing on principles of verbal/non-verbal improvisation and communication. Elements of textual analysis, including development of character mask and of the ensemble. *Prerequisite:* THTR 315b Duplicates Credit in former THTR 415ab Instruction Mode: Lecture Grading Option: Letter

THTR 416 Creating Content for the Actor
Units: 2.0 Terms Offered: FaSp Development of skills to create content for stage and screen. Instruction Mode: Lecture Grading Option: Letter

THTR 417 Stage Combat
Units: 2 Terms Offered: FaSp Introduction to safe and effective portrayals of violence for the stage. Training and practice of unarmed stage combat skills. *Recommended Preparation:* THTR 216. Instruction Mode: Lecture Grading Option: Letter

THTR 419 Alexander Technique for Performers
Units: 2 Terms Offered: FaSp Training and practice in the work of F.M. Alexander. A clear and systematic look into the underlying principles that govern human movement. *Prerequisite:* THTR 101 Instruction Mode: Lecture Grading Option: Letter

THTR 420 Senior Project
Units: 2 Terms Offered: Fa Contemporary material from plays and screenplays with an emphasis on individual challenges and problems. *Prerequisite:* THTR 320b Registration Restriction: Open only to Theatre (Acting) majors Duplicates Credit in former THTR 420ab Instruction Mode: Lecture Grading Option: Letter

THTR 421 Public Speaking as Performance: A Course for Non-Actors
Units: 2 Terms Offered: FaSpSm Public speaking approached as performance, using acting techniques to communicate with confidence, clarity and charisma. Instruction Mode: Lecture Grading Option: Letter

THTR 422 Improv 3: Long Form Improvisation
Units: 2 Terms Offered: FaSp Emphasis on Full Length Improvised Performances including the styles of various playwrights, genres of films, "the Harold," improvised plays and musicals. Building on the groundwork of THTR 122 Improvisation and Theatre Games and THTR 322 Improv 2, students apply the techniques to long form unscripted performances. *Prerequisite:* THTR 122 and THTR 322 *Recommended Preparation:* THTR 101 and THTR 483 and THTR 470 Instruction Mode: Lecture Grading Option: Letter

THTR 423 Magic
Units: 2 Terms Offered: FaSp The dramatic art of making an audience believe something is impossible. The history and performance of magic including illusion, mentalism, vanishing, coin and card tricks. Instruction Mode: Lecture Grading Option: Letter

THTR 424 The Stage Artist as Entrepreneur
Units: 2 Terms Offered: FaSp Explores all the tools required to forge a career as a stage artist, with an emphasis on producing new work. *Prerequisite:* THTR 101 and THTR 305a Instruction Mode: Lecture Grading Option: Letter

THTR 425 Dynamics of Technical Theatre
Units: 3 Terms Offered: FaSp Advanced technical direction topics involving the technical analysis and design of moving scenery and theatrical systems. *Prerequisite:* THTR 438 Instruction Mode: Lecture Grading Option: Letter

THTR 426 Being on Screen: A Class for Presenters, Hosts, and Others
Units: 2 Terms Offered: FaSp Exploration of on-camera skills required for presenters, hosts, athletes, public speakers, and others whose careers will include on-screen appearances. Registration Restriction: Not open to Theatre majors Instruction Mode: Lecture Grading Option: Letter

THTR 427 Audition Technique for Film, Television and New Media
Units: 2 Terms Offered: FaSp Develop on-camera auditioning skills for actors at a professional level in a variety of film, television and new media venues. *Prerequisite:* THTR 252b or THTR 320b Instruction Mode: Lecture Grading Option: Letter

THTR 430 Stage Management II
Units: 3 Terms Offered: Sp Application of stage management procedures required in the professional theatre. *Prerequisite:* THTR 333. Instruction Mode: Lecture Grading Option: Letter

THTR 431 Seminar in Theatre Design
Units: 2 Terms Offered: FaSp Research into the application of contemporary topics relevant to theatrical design within the diverse cultural environment of the greater Los Angeles area. Instruction Mode: Lecture Grading Option: Letter

THTR 432a Scene Design II
Units: 3 Terms Offered: FaSp Continuation of THTR 330. Evolution of scene design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 330. Instruction Mode: Lecture Grading Option: Letter

THTR 432b Scene Design II
Units: 3 Terms Offered: FaSp Continuation of THTR 330. Evolution of scene design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 330. Instruction Mode: Lecture Grading Option: Letter

THTR 433a Costume Design II
Units: 3 Terms Offered: FaSp Evolution of costume design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 331. Instruction Mode: Lecture Grading Option: Letter

THTR 433b Costume Design II
Units: 3 Terms Offered: FaSp Evolution of costume design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 331. Instruction Mode: Lecture Grading Option: Letter

THTR 434a Lighting Design II
Units: 3 Terms Offered: FaSp Continuation of THTR 332. Evolution of lighting design through analysis of script, environmental factors and styles. *Prerequisite:* THTR 332 and (THTR 409 or THTR 435) Instruction Mode: Lecture Grading Option: Letter

THTR 434b Lighting Design II
Units: 3 Terms Offered: FaSp Continuation of THTR 332. Evolution of lighting design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 332. Instruction Mode: Lecture Grading Option: Letter

THTR 435 Advanced Theatrical Drafting
Units: 3 Drafting style and complex graphic communication. Emphasis on creating professional plates, developing an individual style and graphic problem solving. Instruction Mode: Lecture Grading Option: Letter

THTR 436 Sound for Theatre
Units: 3 Terms Offered: Fa Introduction to electronic sound and sound reinforcement, including basic equipment, recording, editing, and show operation. *Prerequisite:* THTR 236 or THTR 336 Instruction Mode: Lecture Grading Option: Letter

THTR 437 Scene Painting
Units: 3 Terms Offered: Sp Techniques, materials, and equipment of the scenic artist, including both historic and modern methods. *Recommended Preparation:* paint and drawing experience. Instruction Mode: Lecture Grading Option: Letter

THTR 438 Technical Theatre
Units: 3 Terms Offered: Sp Theory and practice of technical theatre. Emphasis is on technical problem solving and graphic solutions to technical theatre. *Recommended Preparation:* THTR 335 Instruction Mode: Lecture Grading Option: Letter

THTR 439 Stage Properties
Units: 3 Terms Offered: Sp Organization, management, and construction of properties for the theatre. Instruction Mode: Lecture Grading Option: Letter

THTR 440 Advanced Voice: Voice-Over Acting
Units: 2 Terms Offered: Fa Continuation of exercises related to the individual student for the stage including voice-over acting work. *Prerequisite:* THTR 340b Duplicates Credit in former THTR 440a Instruction Mode: Lecture Grading Option: Letter

THTR 441 Advanced Sound Design
Units: 3 Terms Offered: Sp Advanced exploration of theatrical sound design theory and related technology; creative uses of music, sound effects, and audio equipment in modern theatres. *Prerequisite:* THTR 436. Instruction Mode: Lecture Grading Option: Letter

THTR 442 Voice-over Acting
Units: 2 Terms Offered: FaSp Acting techniques, recording studio technology and editing for the field of voice acting and voice-overs. *Prerequisite:* THTR 252a Instruction Mode: Lecture Grading Option: Letter

THTR 443 Production Management
Units: 4 The context and scope of work done by a Theatrical Production Manager. Students will learn about different types of theatrical organizations and how they are structured. *Prerequisite:* THTR 333; *Recommended Preparation:* two units of THTR 397. Instruction Mode: Lecture Grading Option: Letter

THTR 444 Applied Voice: Speech and Text
Units: 3 Terms Offered: Fa Intensive study of speech and voice regarding text, context, environment, dynamics, range, and accent. *Recommended Preparation:* THTR 342a, THTR 342b. Instruction Mode: Lecture Grading Option: Letter

THTR 445 Developing Your Speaking Voice
Units: 2 Terms Offered: FaSpSm Designed to expand the uniqueness of one's own voice in the areas of pitch, power, clarity, and warmth. Instruction Mode: Lecture Grading Option: Letter

THTR 450 Acting on Camera for Network and Cable TV
Units: 4 Terms Offered: Sp Practical application of acting before a camera working on television scenes, both network and cable, directed by School of Cinematic Arts BFA student directors, supervised by both Cinematic Arts and Dramatic Arts Faculty. *Prerequisite:* THTR 320b or THTR 352a Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: Letter

THTR 452 Advanced Acting
Units: 2 Terms Offered: FaSp Focus on advanced acting, theatrical interdisciplinary storytelling styles explored in epic theatre. *Prerequisite:* THTR 352b Duplicates Credit in former THTR 452a and former THTR 452b Instruction Mode: Lecture Grading Option: Letter

THTR 453 Taking it on the Road and Beyond
Units: 4 Terms Offered: Sp Specific instruction to prepare Stage Managers for the rigors and processes of Touring and Opera productions as well as other non-theatrical team-based collaborations in entertainment. *Prerequisite:* THTR 333 and THTR 430 and THTR 443 *Recommended Preparation:* 2 units of THTR 397 Instruction Mode: Lecture Grading Option: Letter

THTR 454 Acting Shakespeare II
Units: 2 Terms Offered: FaSp A continuation and deeper investigation of the analysis and performance of the highly formalized texts of William Shakespeare. *Prerequisite:* THTR 354. Instruction Mode: Lecture Grading Option: Letter

THTR 455 Devised Theatre
Units: 2 Terms Offered: FaSp Collaboration in the creation of short performance pieces, devised through a process of observation, research, writing, critical thinking and improvisation to engage contemporary innovations. Registration Restriction: Open only to Sophomores, Juniors and Seniors Instruction Mode: Lecture Grading Option: Letter

THTR 456 Latinx Theatre
Units: 4 Terms Offered: FaSp Explores the range and genealogy of Latinx theatre and performance from its origins in the last fifty years to the present. *Prerequisite:* THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 457 Film Acting Practicum
Units: 4.0 Terms Offered: FaSp Creating a visual narrative story. Gaining a basic understanding of both the visual and technical components of story telling. *Prerequisite:* THTR 420 Instruction Mode: Lecture Grading Option: Letter

THTR 458 Visiting Artist Workshop
Units: 2 Max Units: 4.0 Terms Offered: FaSp A workshop course taught by the visiting artist holding the George Burns chair. Course topics will be determined by the instructor. Instruction Mode: Lecture Grading Option: Letter

THTR 459 Songwriting for the Musical Theatre
Units: 2 Terms Offered: FaSp Structure, character and intention in songwriting for the musical theatre. Writing for the voice and examination of how form follows content. Portfolio submission required. Instruction Mode: Lecture Grading Option: Letter

THTR 460 Asian and Asian American Theatre: Identity and Aesthetics
Units: 4 Terms Offered: FaSp Explores Asian and Asian American theatre, from the historical to the contemporary, with an aim toward understanding issues of aesthetics, acculturation, and identity. *Prerequisite:* THTR 225g Instruction Mode: Lecture Grading Option: Letter

THTR 464 An Actor's Reel
Units: 2 Terms Offered: FaSp Using original and existing scripted material for film, television and new media students will act, film and edit scenes to form a professional performance reel. *Prerequisite:* THTR 352a or THTR 320a Instruction Mode: Lecture Grading Option: Letter

THTR 465 Playwriting III
Units: 4 Analysis of a full-length play or its equivalent with continued production opportunity. *Prerequisite:* THTR 366. Instruction Mode: Lecture Grading Option: Letter

THTR 466 Playwriting IV
Units: 4 Continuation of the work begun in THTR 465. *Prerequisite:* THTR 465. Instruction Mode: Lecture Grading Option: Letter

THTR 467 Going Viral: Performance for New Media
Units: 2 Terms Offered: FaSp A writing and performance course (partially online) for new media. Students will learn to create original short form and web series content for new media including YouTube, Funny or Die, Periscope and other Internet platforms. Instruction Mode: Lecture Grading Option: Letter

THTR 468 Theatre in Education
Units: 4 Terms Offered: Sp Exploration of the theory and practice of theatre arts in the learning environment. Design and implement projects to support elementary and secondary education. *Recommended Preparation:* THTR 201 , EDUC 200. Instruction Mode: Lecture Grading Option: Letter

THTR 469 Satire and Parody in Performance
Units: 2 Terms Offered: FaSp A survey of the history and implementation of American satire and parody in performance from Mark Twain to Jon Stewart and beyond. Building on the past, students will learn the structures and techniques for parodying and satirizing the contemporary world through writing and performance. Instruction Mode: Lecture Grading Option: Letter

THTR 470 Sketch Comedy for Theatre
Units: 2 A writing-performance workshop in

which the students create, rehearse, and perform original sketch comedy material. Instruction Mode: Lecture Grading Option: Letter

THTR 471 Industry Landscape
Units: 4 Designed to provide the graduating students with opportunity to select, prepare and perform for agents, directors and producers in film, television and theatre. Also includes the study of the business of acting. Instruction Mode: Lecture Grading Option: Letter

THTR 472 Professional Preparation for Actors
Units: 2 Terms Offered: FaSp Introduction to the skills, knowledge, and promotional materials that will enable the student to manage an independent career in the performing arts. *Prerequisite:* THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 473 Sketch Comedy in Performance
Units: 2 Terms Offered: Sp A workshop in the techniques of performing humorous sketches, in collaboration with writers, directors, and technicians in the production of a live sketch comedy show. *Recommended Preparation:* THTR 101, THTR 122, THTR 470. Instruction Mode: Lecture Grading Option: Letter

THTR 474 Introduction to Stand Up Comedy
Units: 2 An introduction to the discipline of conceiving, writing, and creating original Stand Up Comedy routines. Instruction Mode: Lecture Grading Option: Letter

THTR 475 Acting on Camera: The Collaborative Process
Units: 4 Max Units: 08 Terms Offered: FaSp Acting students will learn to develop on-camera acting skills and to collaborate with student directors and cinematographers from the School of Cinematic Arts. *Prerequisite:* THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 476mw African American Theatre, Dance, and Performance
Units: 4 A survey of African American theatre and cultural performance traditions as a reflection of both African American culture and American history. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

THTR 477 Theatre and Therapy
Units: 4 Terms Offered: Fa Explores theatre as a healing art form. Techniques include games, improv, playback theatre, Boal's and Moreno's drama therapy, and Jungian dream theatre to name a few. Work with incarcerated youth, gay/lesbian/bi teens, elderly, disabled and other populations. Instruction Mode: Lecture Grading Option: Letter

THTR 478a Theatre for Youth
Units: 2 Theory and practice of youth theatre, including development and rehearsal of mainstage productions. Emphasis on multicultural and bilingual pieces. Enroll by audition or interview only. Instruction Mode: Lecture Grading Option: Letter

THTR 478b Theatre for Youth
Units: 2 Continuation of a, bringing developed pieces into production for regional K–12. Instruction Mode: Lecture Grading Option: Letter

THTR 479 Solo Performance
Units: 4 Terms Offered: Fa A writing-performance workshop in which students write, develop, and rehearse original, autobiographical and character monologues and perform them at the end of the semester. Instruction Mode: Lecture Grading Option: Letter

THTR 480a Performance for Camera
Units: 2 Terms Offered: FaSpSm Structured to address the dynamics of acting in relation to film/television. Refining the students' understanding of the similarities/differences between acting on stage/film. *Prerequisite:* THTR 252a or THTR 105 Duplicates Credit in former THTR 480 Instruction Mode: Lecture Grading Option: Letter

THTR 480b Performance for Camera
Units: 2 Terms Offered: FaSpSm Continued exploration of acting for film/television. Furthering the student's understanding of the similarities/differences between acting on stage/film. *Prerequisite:* THTR 480a Instruction Mode: Lecture Grading Option: Letter

THTR 481 From The Border to Broadway
Units: 4 Terms Offered: Fa An investigation of the role that Latina/o plays and performances have played in creating and documenting a contemporary American experience of the theatre. Instruction Mode: Lecture Grading Option: Letter

THTR 482 Stand Up 2: Becoming A Pro
Units: 2 Terms Offered: FaSp Interactive performance and writing intensive focusing on creating professional level comedy material plus onstage performance strategies. *Prerequisite:* THTR 474 Instruction Mode: Lecture Grading Option: Letter

THTR 483 Characters of Comedy
Units: 2 Terms Offered: FaSp An in depth study of the performance of archetypal characters of comedy focused on the lineage from commedia to sit-com. Students will create original characters from archetypal forms and explore their relationships in classic and contemporary comedic performance. Instruction Mode: Lecture Grading Option: Letter

THTR 484 Acting in Television Commercials
Units: 2 Terms Offered: FaSm An on-camera, workshop-style introduction to techniques, perspectives and theories unique to performing in television commercials. *Recommended Preparation:* THTR 101 Instruction Mode: Lecture Grading Option: Letter

THTR 485 Advanced Solo Performance
Units: 4 Terms Offered: Sp An advanced writing and performance workshop. Students will write and rehearse an extended personal monologue to be presented at the end of the semester. *Prerequisite:* THTR 479. Instruction Mode: Lecture Grading Option: Letter

THTR 486 Creating Characters
Units: 4 A writing workshop devoted to the creation of living, breathing characters, exploring a range of techniques designed to develop authenticity. Instruction Mode: Lecture Grading Option: Letter

THTR 487 Promotion for the Performing Arts
Units: 4 Terms Offered: Fa Introduction and overview of all aspects of marketing the arts including both non-profit and commercial organizations. Instruction Mode: Lecture Grading Option: Letter

THTR 488mw Theatre in the Community
Units: 4 Terms Offered: Fa Research and actively develop the theory of theatre as a moving political, social, economic and spiritual force of change within the local community. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

THTR 489 Theatre Internship
Units: 2, 3, 4, 5, 6 Terms Offered: FaSpSm Practical experience in the entertainment industry. Instruction Mode: Lecture Grading Option: Letter

THTR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

THTR 491 Theatre Organization and Administration
Units: 4 Terms Offered: Fa Budgets, contracts, box-office procedures, public relations; personnel and executive policies of the school, community, and professional theatre. Instruction Mode: Lecture Grading Option: Letter

THTR 493a Periods and Styles
Units: 2 Terms Offered: FaSp A survey of the influence of historical and cultural events on the evaluation of theatrical styles. Classical to Jacobean. Instruction Mode: Lecture Grading Option: Letter

THTR 493b Periods and Styles
Units: 2 Terms Offered: FaSp A survey of the influence of historical and cultural events on the evaluation of theatrical styles. Restoration to 20th century. Instruction Mode: Lecture Grading Option: Letter

THTR 494 Raising Money for the Arts
Units: 4 Terms Offered: Sp Overview of fundraising techniques for non-profit theatre including grantsmanship, board development, direct mail soliciting, and money raising activities and events. Instruction Mode: Lecture Grading Option: Letter

THTR 495 Experimental Theatre Workshop I
Units: 4 Max Units: 08 Terms Offered: FaSp Guidance and direction in the production of new and experimental plays for a public audience. By audition. Instruction Mode: Lecture Grading Option: Letter

THTR 496 Experimental Theatre Workshop II
Units: 4 Max Units: 8.0 Terms Offered: FaSp Continuation of THTR 495. Enrollment by audition only. Instruction Mode: Lab Grading Option: Letter

THTR 497 Advanced Theatre Practicum
Units: 2 Max Units: 4.0 Terms Offered: FaSp Intensive participation in a production sponsored by the school and supervised by the faculty, to increase and develop artistic growth. *Prerequisite:* THTR 397. Instruction Mode: Lecture Grading Option: Letter

THTR 498 Production Analysis and Performance
Units: 4 Terms Offered: FaSp Investigation and analysis of the work of a major dramatist and his milieu; production of one of his plays. By audition. Instruction Mode: Lecture Grading Option: Letter

THTR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Studies in selected areas of theatre art. Intensive practice in role and script interpretation and its psychological relationship to the audience. Instruction Mode: Lecture Grading Option: Letter

THTR 500 Dramaturgical Perspectives and Approaches
Units: 2 Max Units: 10.0 Investigates art and craft of dramatic writing initiated/completed in other MFA in Dramatic Writing courses or that was submitted as a sample for program entry. Instruction Mode: Lecture Grading Option: Letter

THTR 501 Poetry and Prose into Drama
Units: 4 Max Units: 12 Terms Offered: Sp Plays for the stage shall be written using public-domain poetry and prose as inspiration and source material, complemented with exploring poetry, prose, and varied dramas as context for the student writer. Students should be well-versed in literature, and have written in one or more genres. *Recommended Preparation:* reading poetry and novels Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL 563

THTR 504 The Art of Collaboration and Ensemble
Units: 2 Terms Offered: FaSp An investigation of the role that collaboration plays in making ensemble work. MFA Actors will collaborate with MFA Dramatic Writers in creating an ensemble company. Instruction Mode: Lecture Grading Option: Letter

THTR 505 Staging Community-based Theatre
Units: 3 Terms Offered: Sp Explores the theory and practice of staging community-based popular theatre, including Theatre of the Oppressed, street theatre, witness theatre, agit-prop and festival theatre events. Instruction Mode: Lecture Grading Option: Letter

THTR 506 Advanced Creating Characters
Units: 2 An advanced writing workshop that focuses on continuing development of the crafting of character, centering on depth, breadth, dimensionality, and authenticity. Instruction Mode: Lecture Grading Option: Letter

THTR 507 Casting Director Workshop
Units: 2.0 Terms Offered: FaSp The development and building of auditioning skills for film, television and new media venues. Instruction Mode: Lecture Grading Option: Letter

THTR 510 Writing the Short Drama
Units: 2 Terms Offered: FaSp The art and craft of dramatic writing. In particular exploring its dimensions with regard to character and story development in the ten minute play. Instruction Mode: Lecture Grading Option: Letter

THTR 512 Studies in Dramatic Analysis
Units: 2 Terms Offered: FaSp A skill-based workshop that uses a historical survey of theatre texts to develop critical reading skills along two different tracks: Acting and Dramatic Writing. Instruction Mode: Lecture Grading Option: Letter

THTR 513 Seminar in History of the Theatre
Units: 4 Bibliography, historical evolution, patterns, and techniques of the theatre from primitive to modern times. Instruction Mode: Lecture Grading Option: Letter

THTR 515a Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 515b Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 515c Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. Includes Viewpoints and Clown. *Prerequisite:* THTR 515b Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 515d Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage including a study of Viewpoints and Mask Work. *Prerequisite:* THTR 515c Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 515e Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. *Corequisite:* THTR 480, THTR 540e, THTR 555, THTR 575. Instruction Mode: Lecture Grading Option: Letter

THTR 515f Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. *Corequisite:* THTR 520e, THTR 540f, THTR 597. Instruction Mode: Lecture Grading Option: Letter

THTR 516 Filmmaking for Actors
Units: 2 Terms Offered: FaSp The execution and breakdown of a film project from ideation to completion. Registration Restriction: Open only to USC School of Dramatic Arts students Instruction Mode: Lecture Grading Option: Letter

THTR 520a Advanced Acting
Units: 4 Terms Offered: FaSp Advanced training in acting skills; emphasis upon individual needs. Instruction Mode: Lecture Grading Option: Letter

THTR 520b Advanced Acting
Units: 4 Terms Offered: FaSp Advanced training in acting skills including camera work; emphasis upon individual needs. *Prerequisite:* THTR 520a Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 520c Advanced Acting
Units: 2 Terms Offered: FaSp Advanced training in acting skills; emphasis upon individual needs and solo performance. *Prerequisite:* THTR 520b Instruction Mode: Lecture Grading Option: Letter

THTR 520d Advanced Acting
Units: 4 Terms Offered: FaSp Advanced training in acting skills; emphasis upon individual needs. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 520e Advanced Acting
Units: 2 Terms Offered: FaSp Advanced training in acting skills; includes performing for agents, directors and producers in film, television and theatre. *Prerequisite:* THTR 520d Instruction Mode: Lecture Grading Option: Letter

THTR 521 Engaging Community Narratives
Units: 3 Terms Offered: Fa Provides training for actor/artists who partner with non-actors in community-based theatre projects. Instruction Mode: Lecture Grading Option: Letter

THTR 525 Seminar in Contemporary Theatre
Units: 4 Terms Offered: SpSm Analysis of trends, problems, and the work of major figures in the contemporary theatre. Instruction Mode: Lecture Grading Option: Letter

THTR 526 Seminar in Dramatic Literature
Units: 4 Study and analysis of world drama best representing changes in philosophies, aesthetics, and tastes of audiences. Instruction Mode: Lecture Grading Option: Letter

THTR 527 Writing the Pacific Rim: Global and Western Dramatic Writing
Units: 4 Writing dramatically, utilizing the Pacific Rim and the Western United States as cultural sites of knowledge and as inspirations. Instruction Mode: Lecture Grading Option: Letter

THTR 528 Seminar in Dramatic Analysis
Units: 4 Terms Offered: Fa Drama as a living art; reading, analysis, and discussion of plays which best illustrate principles of effective playwriting. Instruction Mode: Lecture Grading Option: Letter

THTR 529a Textual Studies for Performance
Units: 4 Terms Offered: Fa Close textual reading of dramatic texts as a fundamental tool for rehearsal and performance. Instruction Mode: Lecture Grading Option: Letter

THTR 529b Textual Studies for Performance
Units: 4 Terms Offered: Sp Close textual reading of dramatic texts as a fundamental tool for rehearsal and performance. Instruction Mode: Lecture Grading Option: Letter

THTR 530 Seminar in Dramatic Criticism
Units: 4 Dramatic criticism from the classical Greek period to the modern. Instruction Mode: Lecture Grading Option: Letter

THTR 533 Seminar in the American Theatre
Units: 4, 2 years Terms Offered: SpSm History and literature of the American theatre from its beginning to the present day. Instruction Mode: Lecture Grading Option: Letter

THTR 535 Seminar in Aesthetics of the Theatre
Units: 4 Aesthetic theories which apply to the art of the theatre; emphasis upon acting and play direction. Instruction Mode: Lecture Grading Option: Letter

THTR 540a Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. Instruction Mode: Lecture Grading Option: Letter

THTR 540b Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. Instruction Mode: Lecture Grading Option: Letter

THTR 540c Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. Instruction Mode: Lecture Grading Option: Letter

THTR 540d Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. Instruction Mode: Lecture Grading Option: Letter

THTR 540e Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. *Corequisite:* THTR 515e, THTR 575, THTR 480, THTR 555. Instruction Mode: Lecture Grading Option: Letter

THTR 540f Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances including voice-over work. *Prerequisite:* THTR 540e Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 541 Diction and Dialects
Units: 2 Terms Offered: Fa Fundamentals of speech, diction, dialects and accents, including work in the International Phonetic Alphabet. Instruction Mode: Lecture Grading Option: Letter

THTR 542 Singing for Actors
Units: 2 An introduction to the various facets of singing in theatrical performance. Instruction Mode: Lecture Grading Option: Letter

THTR 544 Embodied Poetics
Units: 2 Terms Offered: Fa Explores the relationship between vocal and physical expression and the spontaneity of human impulse within the community-based context. Instruction Mode: Lecture Grading Option: Letter

THTR 545 Visiting Artists Master Seminar
Units: 4 Terms Offered: Sp A workshop taught by a master visiting artist, concentrating on his/her specific expertise in relation to dramatic writing. Course topics determined by the instructor. *Recommended Preparation:* reading or viewing the work of the visiting master artist. Instruction Mode: Lecture Grading Option: Letter

THTR 550a Seminar in Scene Design
Units: 3 Terms Offered: FaSp Theory and practice of scene design; an intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 550b Seminar in Scene Design
Units: 3 Terms Offered: FaSp Theory and practice of scene design; an intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 552a Seminar in Costume Design
Units: 3 Terms Offered: FaSp Theory and practice of costume design; intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 552b Seminar in Costume Design
Units: 3 Terms Offered: FaSp Theory and practice of costume design; intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 553a Seminar in Lighting Design
Units: 3 Terms Offered: FaSp Theory and practice of lighting design; intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 553b Seminar in Lighting Design
Units: 3 Terms Offered: FaSp Theory and practice of lighting design; intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 554 Visual and Spatial Relationship
Units: 2 Terms Offered: FaSp The illustration and understanding of how space can be used to add emotional undertone, contextual information and strong staging ideas to a production. Instruction Mode: Lecture Grading Option: Letter

THTR 555 Directing Fundamentals
Units: 2 To provide the basic foundations for the conceptualization and execution of works for the stage. Instruction Mode: Lecture Grading Option: Letter

THTR 556a Directing
Units: 2 A seminar/workshop in developing and testing directorial skills: text, design, acting, producing, and communication with an audience. *Prerequisite:* THTR 555. Instruction Mode: Lecture Grading Option: Letter

THTR 556b Directing
Units: 2 A seminar/workshop in developing and testing directorial skills: text, design, acting, producing, and communication with an audience. *Prerequisite:* THTR 556a. Instruction Mode: Lecture Grading Option: Letter

THTR 558a Design for Directors
Units: 2 Basic elements of scenic, costume, props, lighting, sound, and make-up design, as they apply to the art of directing. *Prerequisite:* THTR 555.

THTR 558b Design for Directors
Units: 2 Basic elements of scenic, costume, props, lighting, sound, and make-up design, as they apply to the art of directing. *Prerequisite:* THTR 558a.

THTR 566 Dramatic Writing Studio
Units: 4 Max Units: 24 Terms Offered: FaSp Investigates gestalt of the student dramatic writer's professional development from the empty page and writing fundamentals to the first-draft script, business affairs, and dramaturgical advancement. Instruction Mode: Lecture Grading Option: Letter

THTR 567a Studies in Playwriting
Units: 4 Extensive examination of playwriting, dramaturgical development process, and readings of work toward the completion of professionally promising plays. Instruction Mode: Lecture Grading Option: Letter

THTR 567b Studies in Playwriting
Units: 4 Continued extensive examination of playwriting, dramaturgy, development, and readings of work toward the completion of professionally promising plays. Instruction Mode: Lecture Grading Option: Letter

THTR 568 Popular Theatre for Education and Development
Units: 3 Terms Offered: Sp Theory and practice of Theatre in Education and Theatre for Development as resources for conscientization and liberation of communities at the margins of power. Instruction Mode: Lecture Grading Option: Letter

THTR 570 Acting on Camera: The Collaborative Process
Units: 2 Study of acting methods and techniques for the camera, focusing on collaboration with directors in the realization of screenplays. Instruction Mode: Lecture Grading Option: Letter

THTR 571 Professional Seminar
Units: 2 Terms Offered: Sp Introduction to the world of the professional actor. Instruction Mode: Lecture Grading Option: Letter

THTR 572 Global Dramatic Writing
Units: 4 Terms Offered: FaSp "Tour" of non-European and non-European American cultures with regard to their dramatic subject matter and traditions. Instruction Mode: Lecture Grading Option: Letter

THTR 574a Dramatic Writing Across Media for Playwrights
Units: 2 Terms Offered: Fa Intensive overview of career paths for playwrights in a wide array of media as they exist now, and as new opportunities arise. Duplicates Credit in former THTR 574 Instruction Mode: Lecture Grading Option: Letter

THTR 574b Dramatic Writing Across Media for Playwrights
Units: 2 Terms Offered: Sp Intensive overview of career paths for playwrights in a wide array of media as they exist now, and as new opportunities arise. *Prerequisite:* THTR 574a Duplicates Credit in former THTR 574 Instruction Mode: Lecture Grading Option: Letter

THTR 575 Creative Production Projects
Units: 6 Advanced creative projects for production with emphasis on theatre as a synthesis of the performing arts. Instruction Mode: Lecture Grading Option: Letter

THTR 576 Creative Process for Dramatic Writers
Units: 4 Terms Offered: Sp An advanced writing workshop that focuses on critical and deep development of plays that are the centerpieces of student's thesis portfolios. Instruction Mode: Lecture Grading Option: Letter

THTR 577 Theatre and Therapy for Cultural Fieldwork
Units: 3 Terms Offered: Sp Explores the theory and practice of theatre and therapy in the cultural fieldwork and community

development settings. *Recommended Preparation:* THTR 587. Instruction Mode: Lecture Grading Option: Letter

THTR 578 Theatre of the Oppressed: Theory, Games, and Techniques
Units: 4 Terms Offered: FaSpSm Basic theoretical foundations of game playing for populations at the margins of power. *Recommended Preparation:* THTR 521, THTR 544. Instruction Mode: Lecture Grading Option: Letter

THTR 579 Writing Culture
Units: 3 Terms Offered: FaSpSm Borrows from anthropology, popular/community-based theatre, cultural studies, and literature to provide an array of methodologies and approaches to artistic collaboration across cultures and difference. Instruction Mode: Lecture Grading Option: Letter

THTR 580a Performance with Camera
Units: 2 Terms Offered: FaSp Structured to address the dynamics of acting in relation to film/television. Refining the students' understanding of the similarities/differences between acting on stage/film. Instruction Mode: Lecture Grading Option: Letter

THTR 580b Performance with Camera
Units: 2 Terms Offered: FaSp Structured to address the dynamics of acting in relation to film/television. Refining the students' understanding of the similarities/differences between acting on stage/film. *Prerequisite:* THTR 580a Instruction Mode: Lecture Grading Option: Letter

THTR 586a Applied Theatre Arts: Los Angeles Residency
Units: 2 Terms Offered: FaSp Academic and group process context for students' work in their chosen local internships to help students engage with communities as cultural fieldworkers. Instruction Mode: Lecture Grading Option: Letter

THTR 586b Applied Theatre Arts: Los Angeles Residency
Units: 2 Terms Offered: FaSp Supervisory, logistical, and theoretical container for THTR 586a. Engages students in their curricular experiences in the cultural field in partnership with their community-based organizations. Instruction Mode: Lecture Grading Option: Letter

THTR 587 Liberation Arts and Community Engagement — Theory
Units: 4 Terms Offered: Fa Historical foundations of liberatory movements using expressive arts towards community-based goals of reciprocal and collaborative empowerment, civil rights, psychological or political freedom and justice. Instruction Mode: Lecture Grading Option: Letter

THTR 588 Liberation Arts and Community Engagement — Praxis
Units: 3 Terms Offered: Sp Theory and practice of developing liberatory and Theatre of the Oppressed events, from first community contact to staged public event. *Prerequisite:* THTR 587. Instruction Mode: Lecture Grading Option: Letter

THTR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

THTR 591 Seminar in Producing Theatre
Units: 4 A seminar in the theories and processes of producing theatre (commercial and non-profit).

THTR 592a Participatory Action Research for Community-based Theatre
Units: 2 Terms Offered: FaSp Examination of theories and practices of Participatory Action Research (PAR) to better understand its various forms in community-based contexts using theatre as the research mode. Instruction Mode: Lecture Grading Option: Letter

THTR 592b Participatory Action Research for Community-based Theatre
Units: 2 Terms Offered: Sm Implements the theories and practices of THTR 592a towards the creation of a summative research paper on the local and international applied theatre arts experience. Instruction Mode: Lecture Grading Option: Letter

THTR 593 MFA Project
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Credit awarded upon completion of project. Instruction Mode: Lecture Grading Option: Credit/No Credit

THTR 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

THTR 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

THTR 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

THTR 595a Graduate Playwrights' Workshop
Units: 4 Development of thesis plays utilizing faculty dramaturgical support and involvement of student actors/directors. Includes readings with/without audiences. Simulates professional development process Instruction Mode: Lecture Grading Option: Letter

THTR 595b Graduate Playwrights' Workshop
Units: 4 Continued development of thesis plays in a simulated professional development workshop process utilizing dramaturgy and involvement of student actors/directors. Culminates in staged readings. Instruction Mode: Lecture Grading Option: Letter

THTR 596 Thesis Development and Attainment
Units: 2 Max Units: 10.0 Designed to guide the MFADW student toward refinement of thesis including vision, development, and execution. Instruction Mode: Lecture Grading Option: Letter

THTR 597 Theatre Practicum
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSpSm Preparation, rehearsal, and performance of dramatic works in main stage repertory. Instruction Mode: Lecture Grading Option: Letter

THTR 598 Applied Theatre Arts: International Externship
Units: 2 Supervisory, logistical and theoretical container for students exploring cultural fieldwork in international settings. *Prerequisite:* THTR 588. Instruction Mode: Lecture Grading Option: Letter

THTR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Studies in selected areas of theatre art. Instruction Mode: Lecture Grading Option: Letter

Dramatic Arts Expanded

THTE 201aL Acting for Musical Theatre
Units: 2 Terms Offered: Fa Analysis and investigation of role interpretation and character development by working on two or more scenes from the same play. Introduction of techniques to unlock objectives based on the text. *Prerequisite:* THTR 120b and THTR 125 Registration Restriction: Open only to Musical Theatre students Instruction Mode: Lecture, Lab Required Grading Option: Letter

THTE 201b Acting for Musical Theatre
Units: 2 Terms Offered: Sp Continuation of analysis and investigation of role interpretation and character development by working on two or more scenes from the same play. Introduction of techniques to unlock objectives for character creation. *Prerequisite:* THTE 201aL Registration Restriction: Open only to Musical Theatre students Instruction Mode: Lecture Grading Option: Letter

THTE 203 Speech
Units: 2 Terms Offered: Sp A guided study of dialect acquisition. Registration Restriction: Open only to Musical Theatre students Instruction Mode: Lecture Grading Option: Letter

THTE 300L Script and Score
Units: 2 Terms Offered: Fa Introduction and development of techniques needed to transition from the script to score. Beginning with an exploration of Broadway's "Golden Age" and the examination of Sondheim and his contemporaries. *Prerequisite:* THTR 120aL and THTR 120b and THTR 125 Instruction Mode: Lecture, Lab Required Grading Option: Letter

THTE 301L Script, Score and Choreography
Units: 2 Terms Offered: Sp Study of the musical comedy and the connection between script, score and choreography. *Prerequisite:* THTR 120aL and THTR 120b and THTR 125 Registration Restriction: Open only to Musical Theatre students Instruction Mode: Lecture, Lab Required Grading Option: Letter

THTE 403L Contemporary Scene Into Song
Units: 2 Terms Offered: Fa Exploration of popular music styles and their direct application to professional musical theatre. Registration Restriction: Open only to Musical Theatre juniors and seniors Instruction Mode: Lecture, Lab Required Grading Option: Letter

THTE 406 New Musical Theatre Workshop
Units: 2 Terms Offered: Fa Exploration of the process of collaboration for musical theatre through a series of structured writing exercises to create new works.

Prerequisite: THTR 125 Registration Restriction: Open only to Musical Theatre students Instruction Mode: Lecture, Lab Grading Option: Letter

THTE 407 Building Your Cabaret
Units: 2 Terms Offered: Sp Development of skills needed to create a solo musical cabaret performance. Registration Restriction: Open only to Musical Theatre students Instruction Mode: Lecture Grading Option: Letter

THTE 408L Movie Musical Development
Units: 2 Terms Offered: Sp Survey and analysis of musical films from the 1960s to the present towards the creation of an original musical project. *Prerequisite:* THTR 480a Registration Restriction: Open only to Musical Theatre seniors Instruction Mode: Lecture, Lab Required Grading Option: Letter

Translational Genomics

TRGN 510 Basic Foundations in Translational Biomedical Informatics
Units: 4 Terms Offered: FaSp Translational biomedical informatics analysis of next-generation sequencing genomic data, fundamentals, foundations, and concepts for applied analysis, human ontology, application molecular tools, basic computing. Instruction Mode: Lecture Grading Option: Letter

TRGN 514 Introduction to Human Genomic Analysis Methods
Units: 4 Terms Offered: FaSp Translational next generation sequencing genomics microarrays, RNA-seq, exome sequencing, annotation, transcriptome, ontology, pipelines, variants, expression, methylation. Instruction Mode: Lecture Grading Option: Letter

TRGN 515 Advanced Human Genomic Analysis Methods
Units: 4 Terms Offered: FaSp Molecular biotechnology, genomics, next-generation sequencing, epigenomics, drug discovery, biomarkers, microrarrays, analytical validation, pipelines, molecular analysis. *Prerequisite:* TRGN 510 and TRGN 514 Instruction Mode: Lecture Grading Option: Letter

TRGN 516 Translational Genomics, Applied Databases and Datastructures
Units: 4 Terms Offered: FaSp Genomics, bioinformatics resources, NCBI, portals, databases, datastructures, NoSQL, SQL, big data. *Prerequisite:* TRGN 510 and TRGN 514 Instruction Mode: Lecture Grading Option: Letter

TRGN 520 Translational Biomedical Informatics Capstone Portfolio
Units: 2, 3, 4 Max Units: 04 Terms Offered: FaSpSm Portfolio, translational biomedical informatics, bioinformatics, genomics, application development, web-based application. Registration Restriction: Open only to master students in Translational Biomedical Informatics Program Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 524 Applications of Genomic Technology in Biomedical Research I
Units: 4 Terms Offered: FaSp Molecular biotechnology, genomics, next-generation sequencing, epigenomics, drug discovery, biomarkers, microrarrays, commercialization, microarray analysis, expression, proteomics. Instruction Mode: Lecture Grading Option: Letter

TRGN 525 Applications of Genomic Technology in Biomedical Research II
Units: 4 Terms Offered: FaSp Molecular biotechnology, genomics, next-generation sequencing, epigenomics, drug discovery, biomarkers, microarrays, analytical validation, pipelines, molecular analysis, cloning, stem cells. *Prerequisite:* TRGN 524 Instruction Mode: Lecture Grading Option: Letter

TRGN 526 Clinical Bioinformatics in Genomic Testing
Units: 2 Terms Offered: FaSp Covers basic understandings of clinical bioinformatics methodologies and practices, along with the genomic technologies used for clinical diagnostic purposes. *Recommended Preparation:* Bachelor's degree in biology, healthcare, biochemistry, or related biomedical field Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

TRGN 527 Applied Data Science and Bioinformatics
Units: 4 Terms Offered: FaSp Data science and bioinformatics tools in the study of human health and disease using R and Bioconductor for students from non-quantitative backgrounds. Registration Restriction: Open only to graduate and doctoral students Instruction Mode: Lecture Grading Option: Letter

TRGN 536 Biotechnology Primer
Units: 4 Terms Offered: FaSp Examination of classical and novel techniques used to explore and manipulate gene function and implications for the use of biotechnology in areas of global need. Recommended preparation: two semesters of introductory biology; two semesters of molecular biology and genetics. *Recommended Preparation:* Two semesters of introductory biology; two semesters of molecular biology and genetics Duplicates Credit in former MEDS 536 Instruction Mode: Lecture Grading Option: Letter

TRGN 537 Pathway and Target Discovery
Units: 4 Terms Offered: FaSp Exploration of the process of discovering and developing novel therapeutic treatments. *Recommended Preparation:* Two semesters of Introductory Biology plus two semesters of Molecular Biology, Genetics, or Cell Bio Duplicates Credit in former MEDS 537 Instruction Mode: Lecture Grading Option: Letter

TRGN 538 Seminar in Translational Biotechnology
Units: 2 Terms Offered: FaSp Series of seminars that provide updated views on various sub-specialties in biotechnology. *Recommended Preparation:* Two semesters of Introductory Biology plus two semesters of Molecular Biology, Genetics, or Cell Bio Duplicates Credit in former MEDS 538 Instruction Mode: Lecture Grading Option: Letter

TRGN 539 Translational Biotechnology Practicum
Units: 2, 3, 4 Max Units: 04 Terms Offered: FaSpSm Experiential training based on a project in a biomedical, biotechnology or pharmaceutical setting. *Recommended Preparation:* Students must have completed one core and one elective course of the program prior to enrollment Duplicates Credit in former MEDS 539 Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 540 Translational Biotechnology Capstone Preparation
Units: 1 Terms Offered: FaSpSm Preparation for capstone defense course. Duplicates Credit in former MEDS 540 Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 541 Translational Biotechnology Capstone Defense
Units: 2 Terms Offered: FaSpSm Finalization and defense of capstone project. *Prerequisite:* TRGN 539 and TRGN 540 Duplicates Credit in former MEDS 541 Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 542 Biotechnology-based Therapeutics
Units: 2 Terms Offered: FaSp Covers advanced biotechnology principles and applications. Duplicates Credit in former MEDS 542 Instruction Mode: Lecture Grading Option: Letter

TRGN 543 Biotechnology Entrepreneurship and Commercialization I
Units: 2 Terms Offered: FaSp Global biotechnology industry, idea generation, business plan formulation, intellectual property protection, funding, personnel management including board composition, regulatory body interaction, company exits. Instruction Mode: Lecture Grading Option: Letter

TRGN 544 Biotechnology Entrepreneurship and Commercialization II
Units: 2 Terms Offered: FaSp Advanced discussion: global biotechnology industry, idea generation, business plan formulation, intellectual property protection, funding, personnel management including board composition, regulatory body interaction, company exits. *Prerequisite:* TRGN 543 Instruction Mode: Lecture Grading Option: Letter

TRGN 545 Exploring Chemical and Biological Therapeutic Modalities
Units: 2 Terms Offered: FaSp Turning molecules into drugs and cells into therapeutics. Emphasizing selection, development and optimization of appropriate modalities to target specific key defects in diseases. Instruction Mode: Lecture Grading Option: Letter

TRGN 546 Biotechnology Intellectual Property, Regulatory, and Corporate Law
Units: 2 Terms Offered: FaSp Core concepts in intellectual property law, regulatory law, healthcare law, corporate law, and M&A law to the biopharmaceutical and diagnostic device sectors. Open to students who are pursuing or have already attained graduate degrees (MS, PhD or PharmD) in the bioscience disciplines, or students from professional schools who have college-level bioscience background. Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

TRGN 548 Seminar in Translation and Entrepreneurship in Biomedical Sciences
Units: 1 Max Units: 02 Terms Offered: FaSp Series of seminars that provide updated views on various sub-specialties in translation and entrepreneurship in biomedical sciences. Instruction Mode: Lecture Grading Option: Letter

TRGN 549 Translation and Entrepreneurship in Biomedical Science Capstone Project
Units: 2 Terms Offered: FaSpSm Experiential training based on a project in translation and entrepreneurship in biomedical sciences. Registration Restriction: Open only to TEBS majors Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 550 Communicating Science: Writing
Units: 1 Terms Offered: FaSp Written communication modalities for accurate and effective transmission of scientific information to a wide audience in biomedical, healthcare, and related industries. Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

TRGN 551 Communicating Science: Speaking
Units: 1 Terms Offered: FaSp Verbal communication modalities for accurate and effective transmission of scientific information to a wide audience in biomedical, healthcare, and related industries. Registration Restriction: Open only to graduate and professional students Instruction Mode: Lecture Grading Option: Letter

TRGN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to students enrolled in MS, Translational Biotechnology Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Selected topics in Translational Genomics. Instruction Mode: Lecture Grading Option: Letter

University of Southern California

USC 101 Honors Research Apprenticeship
Units: 1 Max Units: 2.0 Students work directly with faculty on faculty research projects, gain experience in the process of research and thereby contribute to new scholarship. Instruction Mode: Lecture Grading Option: Credit/No Credit

USC 250 The Academic Culture
Units: 2 Terms Offered: FaSp Study the meaning of culture in society, experience the culture of learning on campus, and examine the relationship between the two. Topics will vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

Visual Studies

VISS 501 Introduction to Visual Studies: Methods and Debates
Units: 4 Terms Offered: Fa A critical introduction to the field of visual studies focusing on interdisciplinary approaches to images, objects, and visual technologies as well as key texts and interpretive debates. Registration Restriction: Open only to doctoral students Duplicates Credit in MDA 501 Instruction Mode: Lecture Grading Option: Letter

VISS 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 08 Terms Offered: FaSp Special Topics in Visual Studies. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

Writing Program

WRIT 095x Writing Tutorial
Units: 1 Terms Offered: FaSpSm Individualized instruction in writing to support instruction in WRIT 120. *Concurrent Enrollment:* WRIT 120 Credit Restriction: Not available for degree credit Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 120 Introduction to College Writing
Units: 4 Terms Offered: FaSpSm Intensive instruction and practice in the writing process. Focuses upon the formal conventions and conceptual expectations of college writing, with emphasis upon the grammatical, stylistic, and rhetorical techniques required in successful writing. Limited to and required of students who score below specified level on the USC Writing Examination. Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 121 Introduction to College Writing in a Second Language
Units: 4 Terms Offered: FaSp Intensive instruction and practice in the writing process for non-native speakers of English. Focuses on the formal and conceptual conventions of college writing, with emphasis upon the grammatical, stylistic, and rhetorical techniques required in successful writing. Limited to and required of students who score below specified level on the USC Writing Examination. Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 130 Analytical Writing
Units: 4 Terms Offered: Sp Focuses on analytical and argumentative writing skills requisite to academic and professional writing. Emphasizes logical analysis of texts and other data, effective use of evidence, ethical argumentation, and stylistic and grammatical fluency. Enrollment limited to specified groups of students. Students must achieve a satisfactory score on the verbal portion of the SAT, the USC Writing Examination, or credit for WRIT 120 or WRIT 121 before enrolling in WRIT 130. Instruction Mode: Lecture Grading Option: Letter

WRIT 133 College Writing for International Students
Units: 4 College writing for International Students, emphasizing the expectations of academic discourse in U.S. higher education while drawing upon a context informed by cross-cultural perspectives. *Recommended Preparation:* International Academy course work. Instruction Mode: Lecture Grading Option: Letter

WRIT 150 Writing and Critical Reasoning–Thematic Approaches
Units: 4 Terms Offered: FaSpSm Academic writing, emphasizing analysis and argumentation, rhetorical judgment, critical reasoning, creative insight, the careful use of evidence, ethical perspectives, logical organization, stylistic and grammatical fluency. Duplicates Credit in WRIT 130 and former WRIT 140. Instruction Mode: Lecture Grading Option: Letter

WRIT 320 Inside-Out Writing Workshop
Units: 2 Terms Offered: FaSpSm A writing workshop that allows students to deepen their writing skills while working collaboratively with diverse groups, programs, or populations outside of USC. *Prerequisite:* WRIT 150 or WRIT 130 Instruction Mode: Lecture Grading Option: Letter

WRIT 340 Advanced Writing
Units: 3, 4 Terms Offered: FaSpSm Instruction in writing for various audiences on topics related to a student's professional or disciplinary interests, with some emphasis on issues of broad public concern. *Prerequisite:* WRIT 130 or WRIT 150. Instruction Mode: Lecture Grading Option: Letter

WRIT 380 Writing in Global Contexts
Units: 2, 4 Terms Offered: FaSpSm Integrates global travel with experiential learning as a means of helping students to sharpen their writing and critical reasoning skills. *Prerequisite:* WRIT 150 or WRIT 130 *Recommended Preparation:* WRIT 340 Instruction Mode: Lecture Grading Option: Letter

WRIT 385 Writing Fellows Practicum
Units: 2 Terms Offered: FaSpSm WRIT 340 Practical, hands-on instruction in the teaching of writing in different contexts. *Prerequisite:* WRIT 150 *Recommended Preparation:* WRIT 340 Instruction Mode: Lecture Grading Option: Letter

WRIT 440 Writing in Practical Contexts
Units: 4 Terms Offered: FaSpSm Advanced training in analytical and argumentative writing for particular purposes, in professional and practical contexts. *Prerequisite:* CORE 112 or WRIT 340. Instruction Mode: Lecture Grading Option: Letter

WRIT 450 Advanced Research Writing
Units: 4 Terms Offered: FaSpSm Instruction in writing and research techniques in support of a capstone undergraduate research thesis in the humanities, social sciences, or sciences *Prerequisite:* WRIT 150 and WRIT 340 Registration Restriction: Not open to freshman and sophomore students Instruction Mode: Lecture Grading Option: Letter

WRIT 499 Special Topics
Units: 1, 2, 4 Max Units: 08 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

WRIT 501a Theory and Practice in Teaching Expository Writing
Units: 1 Terms Offered: Fa Pedagogical application of rhetorical and linguistic theory to teaching university-level expository writing. Accompanies supervised teaching. Limited to assistant lecturers and teaching assistants. Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 501b Theory and Practice in Teaching Expository Writing
Units: 1 Terms Offered: Fa Pedagogical application of rhetorical and linguistic theory to teaching university-level expository writing. Accompanies supervised teaching. Limited to assistant lecturers and teaching assistants. Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 540 Writing for Master's Students
Units: 4 Terms Offered: FaSpSm Instruction to prepare Master's students for writing in academic and professional contexts. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Letter

About the Catalogue

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Credits

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